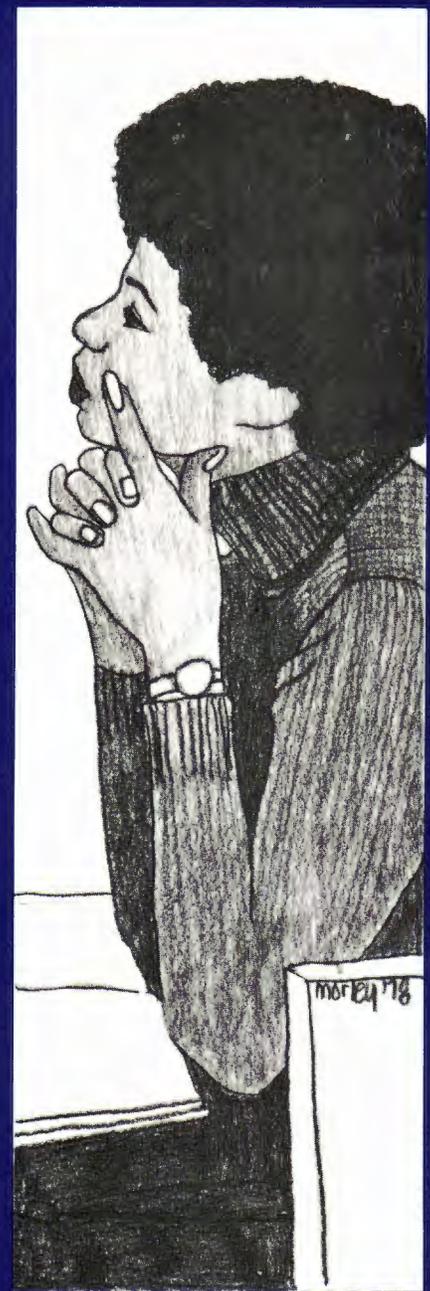
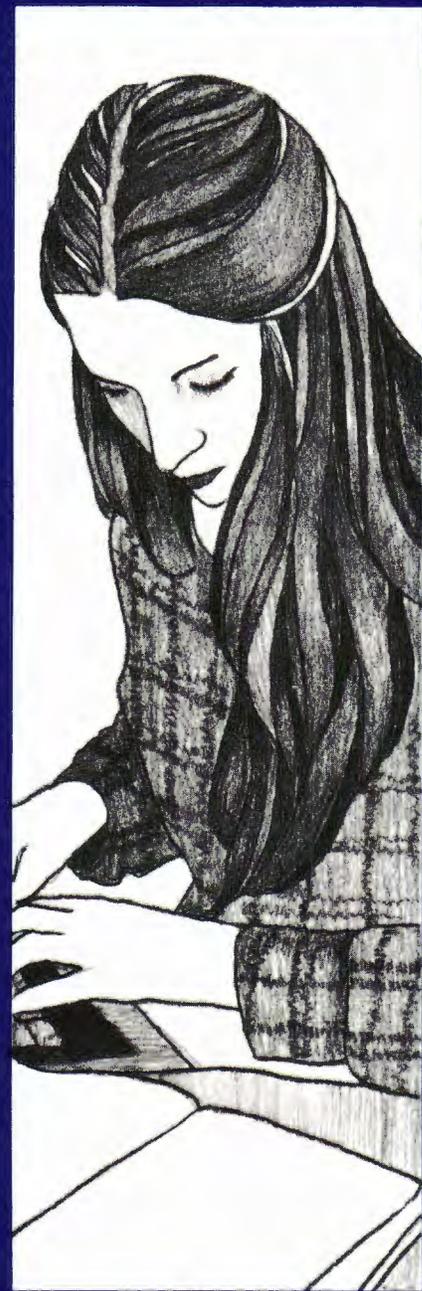


# THE UNIVERSITY OF AKRON

## GENERAL BULLETIN 1978-79



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

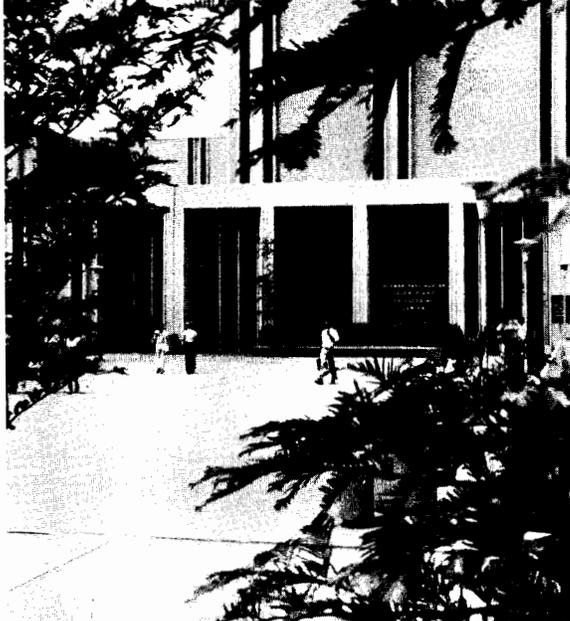
**THE UNIVERSITY OF AKRON BULLETIN**

**Vol. XVI**

**Number 10**

**May, 1978**

The University of Akron Bulletin is published eleven times a year — three times in October, once in November, twice in January, three times in April, once in May, and once in June — by The University of Akron, 302 E. Buchtel Avenue, Akron, Ohio, 44325. Second Class Postage paid at Akron, Ohio.



# **I.** **The** **University** **of Akron**

## **A Story of Growth**

Established by the Ohio Universalist Convention on May 31, 1870, Buchtel College was built on a hill overlooking Akron, a thriving industrial city of 10,000 situated at the summit of the Ohio Canal. The College was named in honor of John R. Buchtel, a farm machinery manufacturer, whose half a million dollars and spirit sustained the enterprise in higher education. Support also came from local men who pioneered such important industries as cereals, clay products, matches, farm implements and rubber.

By 1913 it was apparent that Buchtel College was more closely oriented toward Akron than toward Universalism, and in that year its assets were transferred to the city as the nucleus of The Municipal University of Akron. The Buchtel name was perpetuated in the Buchtel College of Liberal Arts, and on July 1, 1970, in the Buchtel College of Arts and Sciences.

From 1910 to 1920, Akron was America's fastest-growing city, blossoming from 70,000 to 208,000 persons in that decade, and the University grew apace. In 1914 a College of Engineering was established. Other professional colleges followed:

Education (1921), Business Administration (1953), Law (1959), Community and Technical (1964), Fine and Applied Arts (1967), and Nursing (1967). To make courses available to a broad cross section of citizens, a comprehensive Evening Session was established in 1915. Today over 7800 Evening College students pursue undergraduate and graduate education in every degree program offered by the University.

In undergraduate education, Akron was an early supporter of the Free Elective idea (1880s) and General Education (1935), the latter program being developed into one of the most fully rationalized in the country. Graduate work evolved from awarding of the first master's degree (1882) to the beginning of doctoral work in 1956. Currently, doctoral programs are offered in fourteen fields of study.

Since Buchtel College initiated college courses in Rubber Chemistry (1908), it is appropriate that Akron's first Ph.D. program was offered in Polymer Chemistry. However, Akron's first major research effort was the Guggenheim Airship Institute which flourished in the 1930s and 1940s.

Akron scientists participated in the critical development of synthetic rubber during World War II, and the University's Institute of Polymer Science is now a world leader in polymer research and education. Currently Akron's research efforts, totaling approximately \$3 million, reach into many fields, from equipment and student support to research-creative projects.

The 114-acre campus with 51 modern buildings is located at the hub of an industrial urban area of 1½ million persons. The University of Akron now enrolls more than 23,121 day and evening students in credit courses and an additional 4,262 in "informal" adult education. Its students come from 32 states and 64 foreign countries. The 44,000 alumni are situated around the globe in positions of responsibility. Akron's long-time leadership in continuing adult education through its Institute for Civic Education, Center for Urban Studies, Department of Special Programs and its Institute for Life-span Development and Gerontology has been supplemented by the cultural leadership it has provided in the renaissance of artistic endeavor in Akron.

On July 1, 1967, The University of Akron became a state university, thus securing a base that enables it to extend its influence far beyond local boundaries. Its first century of service has prepared it for a widening role in years to come.

## **Mission of the University**

Although the scope of interests, academic programs and activities are national and international, The University of Akron has, from the time of its founding, considered one of its special missions to be building service to the community. Accelerating growth and change in our complex society, coupled with myriad changes in the University's program and structure, offer a new challenge for its urban mission. This challenge, in turn, requires answers to the questions: What characteristics make a University urban? What do they imply for its special urban mission?

### **Distinguishing Characteristics As an Urban University**

The distinction of a university as urban goes beyond its geographic location within an urban environment. It is an integral part of the city. It strives for a symbiotic relationship with the urban community for its own vitality as a responsible social institution. The urban university, wherever appropriate, integrates its own programs with the host of cultural, intellectual, and social activities generated by other community institutions. Most importantly, the urban university is looked upon as one of several important community resources.

The distinguishing characteristics of The University of Akron as an urban institution are reflected in its students, faculty, programs, and teaching/learning process.

#### **A. Students**

In comparison to the residential college or university, The University of Akron has a larger proportion of students who are:

- older;
- working full or part-time, day and/or evening;
- living at home;
- first generation college students;
- in a closer relationship with the community in which the University is located.

Full-time employees seeking to gain promotion in their companies, advanced professionals wanting to keep current in their own areas of specialization, homemakers released from the responsibilities of preschool children, and citizens who simply want to satisfy some special interest find The University of Akron a welcome opportunity within convenient commuting distance. They constitute a significant portion of the student body in credit and non-credit programs, day and evening. The presence

of mature, working students in the classroom provides special educational and socialization experiences for the younger, full-time students from throughout the nation who make up the larger part of the student body. The older students have less time for extracurricular involvement. Outside work loads, financial demands and demands of the home and family cause frequent interruptions in their educational programs.

The University of Akron also provides the opportunity for culturally and economically disadvantaged persons with underdeveloped talents to become a significant part of the student body and to receive appropriate assistance toward meeting educational goals.

### **B. Faculty**

The basic academic programming is provided by full-time faculty. Broader, more flexible offerings are made possible by using professional and talented individuals from the community through part-time or adjunct appointments. These special faculty bring an air of immediacy about current problems in their professions into university classrooms.

Conversely, faculty involvement in the urban laboratory helps to translate theory into realistic perspectives. This continuous flow back and forth between the community and the University helps the faculty to achieve quality in all its efforts.

### **C. Program and Teaching/Learning Process**

Throughout the complete spectrum of educational offerings, ranging from certificate programs through two-year associate, baccalaureate, professional and graduate programs leading to the doctorate, the University seeks to become ever more deeply involved in the urban milieu which surrounds the campus. Through cooperative programs, internships, workshops, fellowships, research grants, and special government agency projects the curriculum is enriched in almost every academic discipline. The interaction between faculty and students in the teaching/learning process is enhanced by having available the resources of local hospitals; schools (both public and private); municipal, county, and state government agencies; industry; businesses and offices.

The curricular pattern not only involves overt interaction between the University community and the greater metropolitan area, but far more significantly, includes the in-depth study of the

traditional academic disciplines in order to focus the technical skills and theoretical constructs of each discipline toward the solution of urban problems. In this fashion, students inevitably will be better prepared to face the constantly fluctuating mosaic of problems which the urban landscape now is — and will be in the future.

### **THE URBAN MISSION OF THE UNIVERSITY OF AKRON**

Modern American society is irretrievably urban. As the focus of University activities is brought closer to the community, urban society becomes more involved in the learning process of students, thus providing them with an intimacy of urban understanding that will be useful throughout a lifetime.

Thus, those characteristics which distinguish the University of Akron's students, faculty and programs all point to its distinct mission as an urban institution. The University has a responsibility to serve directly the larger "community of learning" through teaching, research, creative endeavors, and public service. Within this responsibility there is a special relationship to the urban complex. Wherever and whenever possible, as plans are made and programs implemented, a deep concern about the urban process is demonstrated. The full learning opportunities of the campus to the city — and of the city to the campus is identified and continuously strengthened.

### **GOALS AND PURPOSES OF THE UNIVERSITY OF AKRON**

The commitment of The University of Akron has been and continues to be the dissemination and pursuit of knowledge, the nurturing of intellectual curiosity, the search for truth, and a conscious effort to serve the community of which it is a part. This outline of goals and purposes provides a further definition of this commitment and serves as a basis upon which the individual colleges, departments, and service units of the University establish realistic program objectives with specificity, practicality, and accountability.

#### **GOAL I**

The University will plan, develop, implement, and measure all of its efforts in light of its primary purpose to provide optimum learning opportunities for students of a variety of ages, backgrounds, and needs.

### **Some Policies and Procedures to Achieve Goal**

A policy of open admission and selective retention for graduates of accredited high schools will be continued.

While giving particular attention to serving students from Northeastern Ohio, the University will also endeavor to attract more students from the rest of Ohio, other states, and countries.

Program offerings, both credit and non-credit, as well as course accessibility and scheduling will recognize that the University's constituency includes:

- recent high school graduates;
- persons transferring from other institutions;
- older persons with lifelong learning commitments or with specific learning or self-enrichment needs;
- persons who can attend only part-time;
- persons who must interrupt their attendance from time to time;
- persons who can attend only at night.

The University will utilize its urban environment in providing learning opportunities for its students.

Program counseling for students will take into consideration their desires and interests as well as their aptitudes and academic potential.

Both student need and academic achievement will be considered when granting financial assistance.

Assistance will be provided to students in locating employment commensurate with their competence and interests.

### **GOAL II**

The University will continue to develop its faculty resources by emphasizing improvements in teaching and professional growth through research, publication, and creative activities; by providing opportunities for them to increase leadership within their academic disciplines; and by encouraging the integration of community services and appropriate faculty activities.

### **Some Policies and Procedures to Achieve Goal**

The University will continue its preeminence as a teaching institution by employing only well qualified faculty and by expanding opportunities for them to become more effective.

The University will encourage and assist faculty members to secure outside support for research and creative activities related both to their teaching and to the

advancement of knowledge.

Faculty members will be encouraged to publish in professional journals, to take editorial responsibility for the publication of national journals, and to demonstrate their creative work in shows and performances.

Resources will be made available for the Library, Computer Center, and Media services to secure the materials, information, and services necessary to support teaching, research and scholarly activity.

Teaching, research, creative activities and community involvement will be considered when faculty performance is evaluated.

### **GOAL III**

University programs and the teaching/learning process will be designed to fulfill the students' varied academic needs to emphasize quality and to reflect the comprehensive role of the urban university in modern society.

### **Some Policies and Procedures to Achieve Goal**

The University will encourage a continuous search for improved ways and means of conducting the teaching/learning process.

Current programs and curricula will be evaluated continuously in relationship to this goal.

New programs at all levels will be developed on a selective basis to meet changing technological, social and cultural needs within the resources available.

All undergraduate programs will contain a general education experience, including courses in the social sciences, the humanities, and the natural sciences.

An honors program will be provided for those with outstanding intellectual capability and motivation.

Priority for new doctoral and master's degree programs will be based on demonstrated needs of contemporary society and the academic disciplines, the need to maintain quality, the resources available, and the enrollment potential.

Inter-institutional cooperation in offering academic programs, both undergraduate and graduate, will be encouraged where appropriate.

### **GOAL IV**

The University will maintain an eminent position of service to the urban community through its programs, faculty, and students.

### **Some Policies and Procedures to Achieve Goal**

Evening scheduling of degree programs as well as continuing education programs will continue to increase.

The University will continue to encourage faculty to conduct research related to urban problems and to utilize their expertise in public service activities in the community.

Selective programming in the visual and performing arts will contribute to Akron's cultural renaissance.

The University's urban setting will be utilized as a "laboratory" for students to gain a variety of experiences related to their course work, to develop their cultural awareness, and to acquire those skills necessary to learning in a complex society.

### **Accreditation . . . The University's Standing**

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

The University of Akron has set high standards for itself. Since 1914 it has been approved by the recognized regional accrediting agency, North Central Association of Colleges and Schools. Last summer the University was reaccredited at the highest level, as a comprehensive doctoral degree-granting institution. Special accreditation for particular programs of study have also been awarded by the following accrediting agencies: American Chemical Society, National Accrediting Agency for Clinical Laboratory Sciences, Engineer's Council for Professional Development, National Council for Accreditation of Teacher Education, Ohio State Department of Public Instruction, American Assembly of Collegiate Schools of Business, National Association of Schools of Music, Ohio State Department of Public Instruction, American Speech and Hearing Association, American Dietetic Association, National League for Nursing, Ohio Board of Nursing Education and Nurse Registration, American Bar Association, Association of American Law Schools, and League of Ohio Law Schools.

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

American Council on Education, American Society for Engineering Education, Ohio College Association, American Association of Community and Junior Colleges,

the American Association of Colleges for Teacher Education, holds associate membership in the International Council on Education for Teaching and membership in the National League for Nursing, Department of Baccalaureate and Higher Degree Programs.

The School of Law has membership in the Association of American Law Schools and League of Ohio Law Schools and is fully approved by the American Bar Association, the State of New York Court of Appeals and the Council of The North Carolina State Bar.

The University is also a member of the American Society for Training and Development, Association for Continuing Higher Education, United States Association of Evening Students, Ohio Council on Continuing Higher Education, National Association of Summer Sessions, North Central Conference on Summer Schools, and the University Council on Education for Public Responsibility.

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

Accreditation assures a student that his/her degree 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 comparable institutions of learning just as incoming transfer students learn by checking this list that The University of Akron can be expected to honor most of their credits earned at a similarly accredited college or university.

For students 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 them to be accepted by a graduate or professional school where they can specialize further.

For students intending to meet the University requirements for a bachelor's degree or associate degree and then enter their chosen profession or vocation, there is the satisfaction of knowing that this degree will be respected whenever they present their credentials to a prospective employer.

## Academic Offerings

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

The first year student may be enrolled in either the General College, obtaining the background in General Studies required for transferring to one of the University's Upper Colleges, or may be enrolled in the Community and Technical College, taking courses that will earn an associate degree at the end of two years.

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

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

### ASSOCIATE PROGRAMS

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

### COMMUNITY AND TECHNICAL COLLEGE

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

The demand for such training has continued to grow. As a result in 1964, the associate degree programs were separated from the General College and the Com-

munity and Technical College was established.

The Community and Technical College offers credit courses leading to an associate degree at the end of a two-year program of study in the areas of: Arts, Business Management Technology, Chemical Technology, Commercial Art, Community Services Technology, Criminal Justice Technology, Cytotechnology, Data Processing, Educational Technology, Electronic Technology, Fire Science Technology, Food Service Management, Industrial Technology, Instrumentation Technology, Mechanical Technology, Office Services Technology, Respiratory Therapy Technology, Sales and Merchandising, Secretarial Science, Surveying and Construction Technology, and Transportation. In addition, the College offers a certificate program in Real Estate.

### BACCALAUREATE PROGRAMS

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

### GENERAL COLLEGE—

students seeking a baccalaureate degree who are enrolling in the University with less than 30 semester credits, study in the General College before transferring to an Upper College. Here they develop the ability to understand and express ideas effectively and to comprehend the processes involved in accurate thinking. They learn the responsibilities of an educated member of society, as well as learning to understand themselves and their individual abilities.

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

### COMMUNITY AND TECHNICAL COLLEGE—

offers two programs leading to baccalaureate degrees; both are designed as transfer programs which permit qualified engineering technology students to continue their education to the baccalaureate level. During his first and second years the student follows an associate degree program in the corresponding engineering technology. The

third and fourth years provide the additional study required for the baccalaureate degree in either electronic technology or mechanical technology.

#### **BUCHTEL COLLEGE OF ARTS AND SCIENCES—**

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

#### **COLLEGE OF ENGINEERING—**

offers a five-year optional co-op program of courses leading to a Bachelor of Science in Chemical, Civil, Electrical and Mechanical Engineering, Bachelor of Science in Engineering and the Bachelor of Construction Technology. The five-year program is arranged on the highly successful cooperative work-study plan that bridges the gap between academic college training and practical industrial experience.

#### **COLLEGE OF EDUCATION—**

furnishes the necessary preparation for prospective teachers in elementary and secondary schools as well as for health, physical education, and special education teachers. All courses and programs comply with State certification requirements and degrees of Bachelor of Science in Education, Bachelor of Arts in Education, and Bachelor of Science in Technical Education are offered.

#### **COLLEGE OF BUSINESS ADMINISTRATION—**

offers professional programs in business to prepare students for careers in commerce, industry and government. Undergraduate degrees conferred are the Bachelor of Science in Accounting, Bachelor of Science in Business Administration and the Bachelor of Science in Industrial Management.

#### **COLLEGE OF FINE AND APPLIED ARTS—**

encompasses the fine and applied arts including Art, Home Economics and Family Ecology, Music, Mass Media/Communication, Social Work, Theatre Arts and Ballet,

and Speech Pathology and Audiology. The College confers the following undergraduate degrees: Bachelor of Arts, Bachelor of Music, Bachelor of Fine Arts, Bachelor of Arts in Dietetics, Bachelor of Arts in Foods and Nutrition, Bachelor of Arts in Textiles and Clothing, Bachelor of Arts in Family and Child Development, Bachelor of Arts in Speech Pathology and Audiology, Bachelor of Arts in Ballet, Bachelor of Arts in Communication/Rhetoric, Bachelor of Arts in General Speech, Bachelor of Arts in Mass Media Communication, Bachelor of Arts in Theatre Arts.

#### **COLLEGE OF NURSING—**

offers a basic collegiate program in nursing which leads to the degree of Bachelor of Science in Nursing with a major in nursing. The program prepares nurses for all beginning positions in professional nursing.

#### **UNIVERSITY HONORS PROGRAM**

The University of Akron's Honors Program has been designed to recognize and to support highly motivated and achievement oriented students in any major program. Emphasizing close student faculty relationships, honors work offers unique learning experiences which should help each participant to discover his own potential, capabilities and sense of direction.

Participants are eligible for substantial honors scholarships. Honors students complete all requirements for a departmental or divisional major. They also attend interdisciplinary colloquia in the humanities, the social sciences and the natural sciences which focus on the interrelations of academic studies while exploring significant issues of our contemporary society. Every honors student is expected to complete a senior honors project which reflects his area of interest in the major field.

#### **CERTIFICATE PROGRAMS**

In order to add to the dimensions of the traditional disciplines, the University has established six interdisciplinary and interdepartmental programs of study. In addition to his major the student may elect to pursue one of these programs which will add a dimension of depth through concentrated work focusing on Afro-American Studies, Cartographic Specialization, Environmental Studies, Peace Studies, Planning, Latin American Studies, Soviet Area Studies, Computer Science or Real Estate.

## EVENING & SUMMER EDUCATION

### EVENING COLLEGE —

education is a year-long, round-the-clock endeavor at The University of Akron. To provide educational opportunities for those who must earn their livelihood at daytime jobs, the University operates an Evening College. The courses offered in the Evening College are fully accredited, and many of the faculty members teach both day and evening courses. As a result, more than 7,500 of the University's student enrollment attended evening courses in their quest for associate, baccalaureate and advanced degrees or for added education in their chosen professions.

### SUMMER SESSIONS —

for more than 40 years, the University has also offered both daytime and evening classes during summer months. Specific goals of the Summer Sessions are to permit University students to accelerate their academic progress; to help teachers work toward additional or advanced degrees or toward certification during summer vacations; to permit regular engineering students to continue their studies on schedule while working in the cooperative program; for transient students from other universities who wish to work toward their degrees during the vacation; and for high school graduates who may wish to enter the University immediately after their graduation in June.

### ADVANCED STUDY

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

#### SCHOOL OF LAW —

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

#### GRADUATE SCHOOL —

offers programs of advanced study leading to the degree of Doctor of Philosophy in Chemistry, History, Polymer Science, Psychology, Sociology, Education (Elementary, Secondary, and Guidance and Counseling), and Engineering. The Doctor of Education degree is offered in Educational Administration. The Graduate School also offers

programs of study leading to the Master's Degree with majors in the following areas: Accounting, Biology, Business Administration (Accounting, Finance, International Business, Management, and Marketing), Chemical Engineering, Chemistry, Civil Engineering, Earth Science, Economics, Education (Elementary, Secondary, Elementary or Secondary School Principal, School Supervisor, Local Superintendent, Counseling, Special Education, Visiting Teacher, Reading Specialist, School Psychology, and Teaching the Culturally Disadvantaged), Electrical Engineering, Engineering, English, French, Geography, History, Home Economics and Family Ecology, Management, Mass Media-Communication, Mathematics, Mechanical Engineering, Music, Nursing, Philosophy, Physics, Political Science, Polymer Science, Psychology, Sociology, Spanish, Speech, Speech Pathology and Audiology, Statistics, Technical Education, Theatre Arts, and Urban Studies. In addition, the College of Education provides a sixth year program offering a year of study beyond the Master's degree in the area of School Superintendent.

### OFF-CAMPUS ACADEMIC PROGRAMS

Since 1968, The University of Akron has offered special institutes, workshops, and courses to professional groups. The University, through its academic departments, Institute for Civic Education, Department of Special Programs, Developmental Programs and its Institutes and Centers will continue to provide "out-reach" programs, whenever practical.

As an urban institution of higher learning, the University clearly identifies and supports its Public Service role. Off-Campus programs have been developed throughout the calendar year.

For further information, please call the office of the Executive Dean for Continuing Education and Public Services, 375-7028.

### WAYNE GENERAL AND TECHNICAL COLLEGE

In order to better meet the needs of citizens in Wayne, Holmes, and Medina counties, the Wayne General and Technical College opened its doors in fall, 1972. This branch campus of The University of Akron enrolled over 800 day and evening students in the 1977 fall term. Six technical programs as well as the first two years of a traditional four year liberal arts program are offered leading to one of the following degrees: Associate in Applied Science in

Business Management Technology, Electronic Technology, Mechanical Technology, Retail Management Technology, Secretarial Science, or Social Services Technology.

**How to get there**

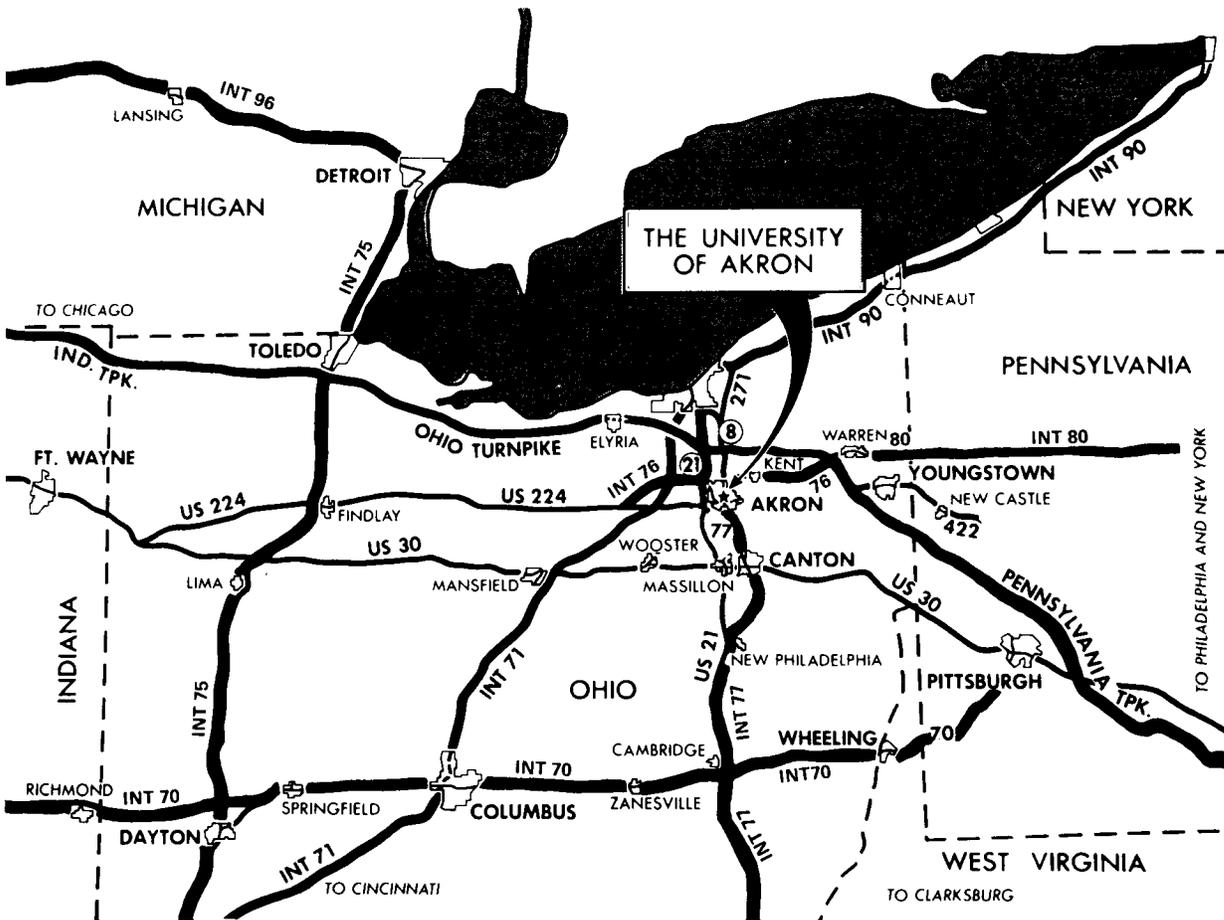
The location of The University of Akron is ideal from a traveling standpoint. Automobile travelers find Akron but a short drive south of the Ohio Turnpike that ties together the whole eastern half of the nation. The city's suburbs touch on Interstate 71 that stretches from Lake Erie to the Gulf Coast, Interstates 76 and 80 which link the nation coast-to-coast, Interstate 77 that links the area with the southeastern coast, and Interstate 90 that ties in with the New York Thruway. Bus travelers will find the Greyhound station but a short walk from the campus. And airline passengers will find Akron the terminal of limousine serv-

ice from both the Cleveland-Hopkins and the Akron-Canton airports.

**Buildings**

**ADMISSIONS/ALUMNI RELATIONS OFFICES:** These offices are located at the corner of Fir Hill and East Buchtel Avenue. On the ground floor, the Admissions Office can assist you with applications, requirements and procedures whether you are an undergraduate, postbaccalaureate, transient, transfer, auditor or special student. On the second floor of the building, the Alumni Relations staff coordinates the University-related activities of the nearly 40,000 alumni living throughout the world.

**AUBURN SCIENCE AND ENGINEERING CENTER:** This complex, one of the largest academic buildings under one roof in the State of Ohio, houses the College of Engineering, the department of biology, the Institute of Polymer Science (research ac-



tivities), the scientific and engineering holdings of the University Library, and the Library for the Division of Rubber Chemistry-American Chemical Society.

**AYER HALL:** Ayer Hall provides classrooms and offices for the mathematics and physics departments, as well as the Testing and Counseling Bureau.

**BIERCE LIBRARY:** Completed in 1973 at a cost of \$8 million, the Bierce Library has total holdings here and at several other locations of 931,658. The facility also houses the University Archives, an audio-visual center, a microfilm department, a map room and Herman Muehlstein rare book collection.

**BUCHTEL HALL:** Originally built in 1870, this structure was destroyed by fire in 1899 and rebuilt in 1901. Completely restored in 1973 following a devastating fire in 1971, it is the University's last remaining link with its predecessor, Buchtel College. It provides office space for numerous administrative officials of the University.

**CARROLL HALL:** Adjacent to the Gardner Student Center, Carroll Hall houses classrooms, laboratories and offices for the Center for Economic Education, the College of Nursing, the departments of counseling and special education, developmental programs, and computer assisted instruction as well as the University's planning department, audio-visual services and the Learning Resources Center.

**EMILY DAVIS GALLERY:** This gallery provides cultural programs in the visual arts, a showcase for the artistic achievements of students and faculty, and the finest exhibitions available of professional art work.

**EAST HALL:** This facility includes classrooms, an experimental theatre, the University's Day Care Nursery Center as well as offices for the Black Cultural Center, the Center for International Programs, and the honors program.

**EDUCATION BUILDING:** This building houses the College of Education and provides a lecture room that seats 260, nineteen general classrooms, a handicrafts room, a teaching demonstration classroom, and an auxiliary closed circuit television studio.

**FIRESTONE CONSERVATORY:** This facility provides classrooms, practice rooms, and offices for ballet.

**GARDNER STUDENT CENTER:** This facility, which serves as a unifying force in the life of the institution, houses nearly 80 percent of all nonacademic activities on campus. It provides space for bowling lanes, lounges, student activity offices and

work rooms, game and billiard room, University Book Store and cafeteria and dining facilities. Also located in the complex are the student teaching office and senior placement office.

**GUZZETTA HALL:** Complementing the Edwin J. Thomas Performing Arts Hall, this structure houses the Dean of the College of Fine and Applied Arts, and the departments of mass media-communication, music, and theatre arts and dance. Besides providing more than 40 student practice rooms, the complex houses an impressive multi-media center, a small experimental theatre, a 300-seat recital hall, and the campus radio station.

**HOWER HOUSE:** Designated as an Historic Place by the National Park Service, this 102-year-old mansion houses the Institute for Civic Education.

**KNIGHT HALL:** Provides classrooms, laboratories, and offices for the chemistry department.

**PARKE R. KOLBE HALL:** Houses the University Theatre, instructional media offices and studios as well as classrooms and offices for the departments of geography, and of geology.

**C. BLAKE McDOWELL LAW CENTER:** Housing the entire School of Law, the Center opened in 1973 and provides space for the 119,497-volume law library, classrooms, moot court room, seminar rooms and faculty offices.

**LEIGH HALL:** This building houses the entire College of Business Administration. John S. Knight Auditorium, located on the street level, is the site of many programs open to both campus and community.

**MEMORIAL HALL:** Dedicated to the memory of Summit County men and women who died in World War II, this is the center of men's and women's physical education activities. Providing offices for the departments of athletics and physical education as well as the Sports Information Office, it contains two large gymnasiums, a swimming pool, training rooms, and classrooms.

**NORTH HALL:** This facility houses the following administrative service departments: news service, publications, radio and television information, purchasing, duplicating services, mailing services, and staff personnel offices.

**OLIN HALL:** Olin Hall houses the office of the Dean of Buchtel College of Arts and Sciences and the following departments: classics, economics, English, general studies, history, modern languages, philosophy, political science, and sociology. The Center for Peace Studies, Afro-American



Studies, English Language Institute, a language laboratory and Institute for Technological Assistance are also located here.

**EDWIN J. THOMAS PERFORMING ARTS HALL:** Costing more than \$13.9 million, this unique cultural center was formally opened during 1973. Designed to accommodate concerts, opera, ballet and theatre productions, the Hall is a masterpiece in terms of architecture, acoustics and creative mechanisms.

**SCHRANK HALL:** This complex provides offices, classroom space and career placement service for the Community and Technical College, and facilities for home economics and family ecology, the art department, and the Army and Air Force ROTC units.

**SERVICE BUILDING 1:** This building provides studios for commercial art.

**SIMMONS HALL:** The department of psychology and the division of science and engineering technology have offices and laboratories in this building. It also houses the History of American Psychology Archives as well as the University's computer center.

**SOUTH HALL:** This facility provides additional studios for the art department.

**SPICER HALL:** This major student contact building houses the registrar, student services, controller, cashier, accounts payable and receivable, state university examiner and the Dean of the Evening College and Summer Sessions. In addition, the Dean of the General College, the division of counseling and advising and the department of special programs are located here.

**WEST HALL:** This renovated structure houses the Center for Urban Studies, the department of urban studies, the department of speech pathology and audiology, and the outpatient Speech and Hearing Clinic.

**WHITBY HALL:** This long-awaited addition to the Institute of Polymer Science, opened in fall, 1975, houses the academic portion of IPS. The Institute's research activities continue in Auburn Science and Engineering Center.

## ***Residence Halls***

The University of Akron residence hall program is administered from the Office of Residence Halls located on the first floor of Bulger residence hall.

Physically, the residence halls are situated in two different locations. The more

centrally located area is just north of Buchtel Avenue. This complex consists of Bulger, Spanton, Orr, Ritchie, and Sisler McFawn residence halls and Robertson Dining Hall, the dining facility for all residence hall students. Bulger and Spanton Halls are high rise buildings, with a capacity for 490 men and 315 women respectively. Orr, Ritchie, and Sisler McFawn Halls are three story buildings housing women with a capacity for 123, 96, and 125 residents respectively. The remaining facilities are located on the periphery of the campus. Mitchell and Battrick Halls are located at 419/421 E. Carroll Street with capacity for 18 and 24 women respectively; Thompson Hall, 261 Spicer Street housing 39 women; Torry Hall, 282 Torrey Street housing 64 men; Alpha Gamma Delta Sorority House, 464 E. Carroll Street housing 51 women; Sumner Hall, 430 Sumner Street housing 43 men; and James Street Residence Hall, 277 E. James Street housing 12 women.

Most of the residence halls are fully air-conditioned and all are equipped with modern furniture and conveniences. The rooms are double occupancy except for a couple of three-person and four-person rooms. Each building has its own lounge and recreational areas and is equipped with laundry and vending facilities.

## ***Gardner Student Center***

The Gardner Student Center complex provides the University family and the community with a multitude of services, and is the focal point for campus relaxation and enjoyment of lectures, conferences and discussions. Within this "service center," one can find at their fingertips: Cafeteria and Dining facilities, Student Activities Offices, Student Legal Services, the Bookstore, Faculty and Student Lounges, Placement Office, Student Teaching Office and a Student Art Store. The Student Center Director's Office coordinates the Student Activities Program and, through the University Calendar Office, schedules meeting facilities and offers experienced personnel for planning conferences, workshops and large social events. In continual demand are the services of the Communication Center, which include information and referrals, Xeroxing and mimeograph service, mailing, literature distribution, sign making and ticket sales. There is also a "Hot Line" telephone available for fast, free communication with any campus office. The Game Room has bowling lanes, billiard tables, and amusement games.



## Growth

Growth in size and facilities is part of the story of any dynamic institution and The University of Akron is no exception. In 1951 the student body numbered only 3,673 and the University's 13 acres of ground encompassed only 10 buildings. Since then, however, the student body has increased, reaching in the 1977 academic year, a high of more than 26,000. The campus has also grown, covering 128 acres with 50 buildings.

Nor is the end in sight. As rapidly as the need for an increasing number of educated minds has grown, the University has expanded. The new 83,868 square-foot, \$5,500,000, Guzzetta Hall was officially dedicated in the fall of 1976 providing new facilities for the Departments of Music, Theatre Arts and Dance, and Mass Media/Communication.

A new \$10,045,000 Chemistry and Health Sciences building is presently under construction which will provide new facilities for the College of Nursing and the Department of Chemistry. The structure will also include additional laboratories and classrooms for the Department of Biology and the Division of Allied Health. The building should be ready for occupancy in the fall of 1978.

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

## Teaching Aids and Facilities

While the give-and-take relationships established through personal contact between teacher and student will always remain the keystone of the educational process, numerous studies have established the fact that imparting knowledge through the use of modern teaching technological aids makes most learning situations more effective and efficient. Concern for student learning, in keeping with these facts, resulted in the establishment, in 1967, of the Office of Instructional Media — a major step toward the creation of The University of Akron's Learning Resource Center. The Office of Instructional Media incorporates the departments of Audio-Visual Services, Electronic Systems Engineering, and the Instructional Television Center.

AUDIO-VISUAL SERVICES dates back to 1945 when the first centralized collection of instructional materials (filmstrips, slides, etc.) was purchased for the purpose of supplementing several University professors' lectures. This new service was eagerly accepted and in 1961 the scope of audio-visual services was greatly expanded. An extensive collection of moveable media hardware and mediated software is housed in the Audio-Visual Services area for faculty and student use.

Audio-Visual Services also has a Materials Production Division which prepares original artwork and photographic materials used by instructors for reinforcement of classroom learning principles.

ELECTRONIC SYSTEMS ENGINEERING was brought under the Instructional Media Department's direction in 1972 to compliment the degree of sophistication required by the Audio-Visual Services and the Instructional Television Center in the area of facilities planning, installation of satellite learning resource areas and the maintenance of electronics equipment. In addition, the Electronic Systems Engineering operates the Instructional Media Distribution Center which transmits video tapes and audio taped lectures as well as remedial and enrichment materials. The Center transmits via 24 video channels and 15 audio channels to most classroom buildings on the University campus.

THE INSTRUCTIONAL TELEVISION CENTER, which was made operational in 1960, functions as an effective teaching tool through continuous production of lectures originating from the University's Instructional Television Center and are transmitted via co-axial cables of campus

classrooms from the Instructional Media Distribution Center. This has proved to be a successful means of presenting educational material to an expanding number of students while maintaining the values of traditional professor-to-student relationships as well as adding new values to the teaching process. Annually, an estimated 7,000 students receive part of their instruction by television.

The University of Akron together with Kent State University and Youngstown State University program and produce

learning and information materials for Northeastern Educational Television of Ohio, Inc. (NETO) via Channels 45 and 49.

WAUP-FM AND THE RADIO WORKSHOP are integral parts of the Department of Mass Media/Communication. Students gain invaluable experience in mass media by writing, producing, and presenting programs over the University's radio station WAUP-FM. Active participation in the Radio Workshop is open to all qualified students and many professional careers have begun in these radio-television studios.



**THE STRUCTURES, MATERIALS, AND MECHANICS LABORATORY**, one of the modernly-equipped facilities of the Department of Civil Engineering, provides training for students interested in structures, foundation engineering, and structural, solid, fluid and soil mechanics.

The Laboratory, equipped with an Elec-To-Matic torsion testing machine and Universal hydraulic testing machines, is used by undergraduate and graduate students and also by faculty members for studies and research.

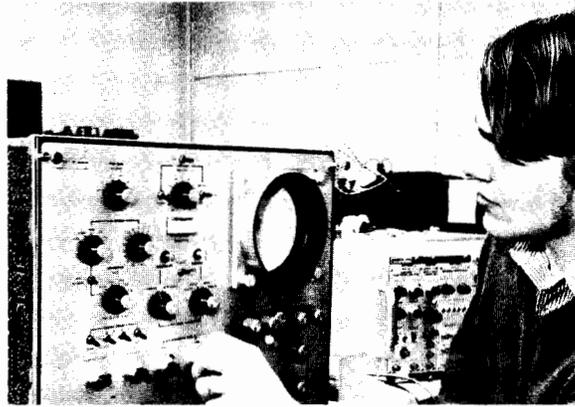
Faculty and students also have access to hardness testers, an electronically-controlled MTS closed-loop materials testing system, a seven-channel, six-speed tape recorder, strain gage indicators and vibration systems.

Additional equipment includes a complete soil mechanics laboratory, an hydraulic demonstration channel, a modern moisture room, a loading platform, load cells, hydraulic jacks and items for general use.

**THE SPEECH AND HEARING CLINIC**, of the Department of Speech Pathology and Audiology functions as both a service and a practicum training component of the traditional academic program of training-service-research. The clients served in the Clinic provide the practicum experience needed by student clinicians in training, while receiving badly needed therapeutic service for themselves. The Clinic also provides comprehensive case-finding, diagnostic, and treatment programs outside the University, i.e., in the community for persons of all ages who may experience communicative disorders resulting from problems in the areas of speech, hearing, and/or language. These valuable therapeutic services are rendered using the latest and most modern techniques and equipment. Professionally certified supervisors and teachers from the Department staff are used to oversee the student clinicians performing the services. The Clinic program is coordinated with other complementary community services in hospitals, rehabilitation centers, and community service agencies.

**THE COMPUTER CENTER** at The University of Akron provides: (a) the computational support to those academic efforts of research and instruction where such support is feasible, and (b) the administrative data processing to assist in the conduct of the business of the University.

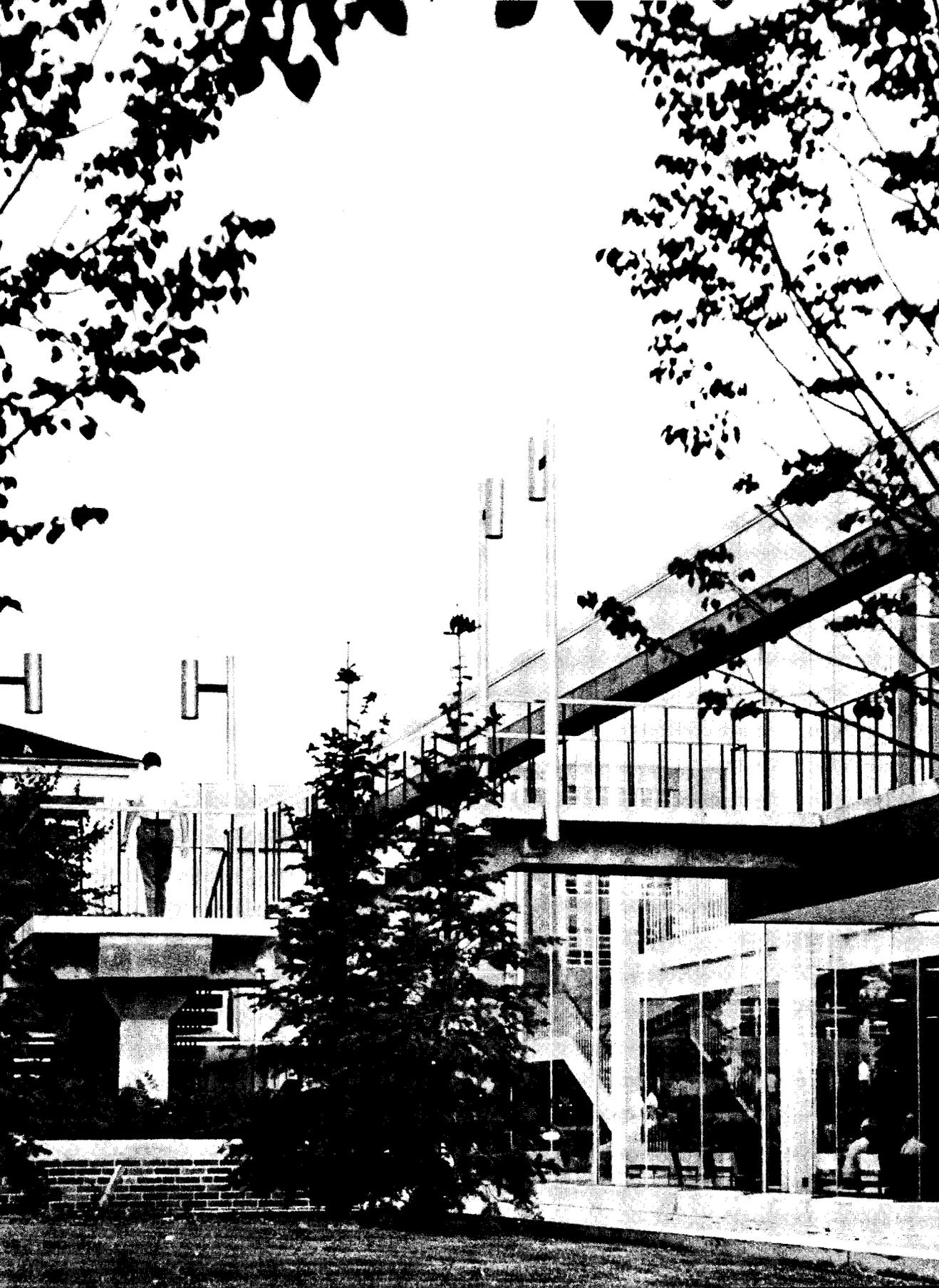
The facilities of the Center are available to all students enrolled in credit (and certain non-credit) courses at the Univer-



sity on an "as required" basis; they are also available to faculty, staff, and administrative officers of the institution. Centrally located on campus in Simmons Hall, the Computer Center is open seven days a week — day and evenings — while school is in session.

The Academic Systems Section assists students and faculty in making effective use of the Computer Center. It provides consultation and help in preparing usable computer programs, in analysis and solution of problems where the use of the computer is indicated, and will also acquire and install prepackaged programs for specific departments. For students who encounter problems in using the computer assistance is available all week, night or day.

The Center is equipped with an IBM 370 model 158 computer with magnetic tapes, disks, remote terminals, and a wide variety of peripheral equipment. An Op-Scan optical mark scanner that prepares computer-readable tapes from specially marked forms provides fast and reliable data entry for test scoring services and surveys. The Center has available all the widely used computer languages, e.g. FORTRAN, COBOL, PL/1, RPG, BAL, BASIC, SPSS, GPSS, APL, as well as some lesser known, e.g. SNOBOL, FORMAC, WATIV, ASSIST, XPL, ALGOL, COURSE WRITER, SIMSCRIPT, etc. An extensive library of computer programs covers a wide range of disciplines for research and instructional support. Digital plotting can be provided by high-speed printer or by line drawings from a thirty-inch Cal Comp plotting machine. The "Open Shop" area includes a Digital Equipment Corporation PDP 11/40 minicomputer for "hands-on" programming used in the instructional support of computer programming. Key punches, sorters, and various off-line equipment are available for general use by qualified faculty and students.





## **II.**

# ***The University of Akron Student Activities and Services***

### ***Extracurricular Activities***

Students today are concerned about their environment — in the University, in the community, and in the world. Through participation in selected extracurricular activities, a student can extend classroom experiences into relevant programs which will provide a participatory role in the community. A voice in the governance and direction of the University environment can be expressed through such groups as Associated Student Government, Residence Hall Council, Associated Women Students, Black United Students, Inter-fraternity and Panhellenic councils and the Graduate Student Council. A student might choose to contribute through the communications media of the *Buchtelite* or *Nite Life* (student newspapers), the *TelBuch* (University yearbook) and the television and radio networks.

Students can get involved. Nearly all student groups, including sororities and fraternities, participate in local projects which benefit some segment of our community. Because the University is located in the center of a large metropolitan area, there are many opportunities to volunteer

services in areas of need. The Akron Tutorial Project is an example of channeling the University student resources for the younger students in the educational system of our community. The Center for Concern is a campus volunteer program to match the community human service needs with the skills and interests of the students.

Currently the Extracurricular Activities subcommittee of the Student Affairs Committee, made up of faculty, students, and administrators, serves to make recommendations regarding the allocation of monies from the Extracurricular Activities Fund. This fund is a portion of the General Service Fee which the University has made available to those campus groups which program for the total campus community. As a result, a student by showing his ID card may attend athletic, musical, ballet and theatrical events, hear nationally known speakers and receive campus publications with little or no additional charge.

Students interested in forming a group must prepare a constitution and charter to be considered for registration as a University organization. Each student group has a faculty adviser who is recommended by the student members and appointed by the President of the University.

The Edwin J. Thomas Performing Arts Hall, complemented by Guzzetta Hall, provides students with the most architecturally stimulating and functional facilities in which students progress from the early learning stages to the final professional presentation of the arts. Students have opportunity to perform regularly on campus and to tour in state, national and international activities.

University students interested in music may audition for membership in the famous 250-piece Marching Band, the Concert Choir, the Jazz/Pops Vocal Ensemble, the award-winning Jazz Ensemble, the University Orchestra, the select Student/Faculty Chamber Orchestra, the Symphony Band, Men's or Women's Glee Clubs, Brass Choir, Percussion Ensemble, Woodwind Quintets, Brass Quintets, the outstanding Opera Theatre, the Evening Chorus, which performs regularly with the Akron Symphony Orchestra, and many small student ensembles.

Those who aspire to act, write or produce in theatre are encouraged to attend tryouts and to apply for technical positions. The Experimental Theatre in Guzzetta Hall is one of the most flexible designs to date. Kolbe Theatre, too, with its intimate proscenium stage is the scene for many University productions.

Those interested in mass media communication will find that Guzzetta Hall contains the most fully equipped television studios of its kind in Ohio. Students participate in the Radio-Television Workshop and broadcast regularly over WAUP-FM. WRHA broadcasts directly to the residence halls and through Akron Cablevision to the community. Students participate, too, in the University's television studio, where closed circuit television lectures originate. Forensic and debate teams provide local and national competition.

The newest of the University's performing arts concentrations is the academic program in ballet. This has resulted in the professional debut of the Ohio Ballet, a company which takes unique pride in its distinctive American style.

## **Performing Arts**

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

## **Student Publications**

THE BUCHELITE . . . a newspaper with two issues a week during the academic year. This is the campus "voice" with news, columns, and photographs describing campus events. It is published on regular newsprint, distributed to students free of charge on newsstands located in various spots on campus. A staff of about 50 students works 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 25 students.

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.

YAWP . . . a literary magazine, published twice a year by student editors who seek expression through creative writing and art work.

ARETE . . . journals and newsletters are produced by law students to advance the goals of the profession, present opinions of contemporary issues related to law and

to facilitate communication among law students. More detailed scholarly articles are published in the AKRON LAW REVIEW.

## **Sports Activities**

The University aims to provide a broad and diversified program in intercollegiate and intramural sports. All students, regardless of their athletic success or experience, are encouraged to take part.

A wide variety of intramurals ranging from flag football to tennis are offered. On the intercollegiate level the University provides 11 men's varsity sports (football, soccer, cross country, basketball, wrestling, swimming, riflery, track, baseball, golf and tennis) and two women's varsity sports (volleyball and basketball). On a club basis students may also participate in skiing, bowling, karate and skydiving, and women's softball and tennis. Over 400 students participate annually in intercollegiate sports and thousands benefit from competition on the intramural level.

Such a comprehensive athletic program must be accompanied by the necessary facilities to accommodate it. The hub of the current athletic facilities is Memorial Hall. Included in the building are two gymnasiums and a five-lane heated swimming pool. The main gymnasium, seating 3,200, is the home of both the men and women's varsity basketball teams. Adjacent to Memorial Hall is Lee Jackson Field, a 24-acre sports complex that includes an 8-lane all-weather track, a soccer field, a baseball and two softball diamonds, a basketball court and 12 tennis courts.

Three miles from the main campus sits the Rubber Bowl, the University's renovated, multi-purpose 35,000-seat stadium and an Astroturf-covered field. Besides being the site for University intercollegiate football and soccer games, the stadium also serves as a playing field for Akron area high school football teams.

All varsity athletic sports 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. Students desiring information about eligibility to participate in varsity athletics should consult the Registrar.

## **Social Organizations**

While in college a student learns much about himself as an individual. One of the

best ways to learn who he is can be gained through group membership. There are 12 national sororities for women and 11 national fraternities and one local fraternity for men on the University campus. Although these are University-supervised, the selection of membership and government of each organization is the responsibility of each individual group in accordance with the rules of the Panhellenic Council, the Interfraternity Council, and the University.

The Greeks contribute much to the quality of our student body. They provide sound leadership on our campus and assist in the students' development of scholarship and service.

Most sororities and fraternities have residence facilities in their houses. Appointment of a housemother is by the organization itself.

Fraternal organizations contribute much to the campus color of the University, conducting a "Greek Week," and competitive events such as the Interfraternity-Panhellenic Songfest. Greeks support many community service agencies with their time and talent.

Many students find the social programs of the Residence Halls and the Student Center as their channel for co-ed activities.

Black United Students have organized a group of men and women students who assist in the recruitment, orientation and adjustment of black students. BUS, in cooperation with the Black Cultural Center, presents Black History Week and other cultural programs for the benefit of all University students.

In the A-Book are listed the recognized student groups which cover all facets of extracurricular activities, including the honor societies, professional fraternities, departmental organizations, and military groups. The University is proud of having chapters of the national freshman honor societies, Alpha Lambda Delta and Phi Eta Sigma, as well as the national senior honor societies, Omicron Delta Kappa and Mortar Board.

## **Student Services**

The Office of Student Services is a major division of the University, the purpose of which is to provide the help needed for the student to develop academically, personally and socially. Special services are also available to the non-traditional adult student who wishes to continue studies in higher education. The facilities which help to accomplish this objective include:

### COUNSELING AND ADVISING

This office is responsible for the academic counseling and advising of all freshman and sophomore level students. The Advisers are professionally-trained counselors and are prepared to help the students through academic and personal counseling on an appointment or walk-in basis.

Academic counseling helps the student adjust to the requirements of the curriculum and to utilize course offerings that will better prepare him for his future. Sensible credit hour loads, proper choice of subjects, scholastic achievement, study habits, outside work loads and other circumstances having an effect on successful work are all matters for concern in this kind of counseling.

Personal counseling is that which aids the student when problems of a personal nature are obstructing his academic career or his personal life.

### FINANCIAL AIDS

The Student Financial Aids Office, which is part of the Division of Student Services, provides assistance to persons who, without financial aid, might not be able to attend The University of Akron. Five professional staff members are available to provide such assistance.

A detailed statement regarding all the programs of financial assistance can be found in Chapter III of this Bulletin. Since the process of applying for financial assistance is complicated, it is suggested that families contact a high school counselor or a university financial aid officer for additional information. The word "family" is crucial because the financial aid system assumes that the family will work together to assist a family member pay for college.

Generally, financial aid is provided in three forms: gift assistance, loan assistance and work assistance. It is not unusual for a student to have all three forms of assistance. This is called a "financial aid package." If a person receives a proper financial aid package, it is assumed that the family will not be expected to contribute more than is reasonable for a family member's education.

### PLACEMENT OFFICE

Career placement assistance is available to students in the Placement Office in business, industry, government, private agencies, and in education. The Office is located on the ground floor of the Gardner Student Center.

For graduating students opportunities

are provided for interviews with on-campus representatives of prominent businesses, industries and branches of government, including the military services and education at the primary, elementary, and secondary levels. Information of careers in both administration or teaching at the college and university level is available.

The facilities and services of the Placement Office are for students, from associate through graduate and professional degree levels and for alumni.

More than 400 interviewers come to the University each fall and spring to interview degree candidates.

### RESIDENCE HALLS

The Office of Residence Halls has the responsibility of providing comfortable, safe, and healthy living accommodations for non-commuting students. The residence hall program is committed to providing a living experience which contributes significantly to the educational, social and personal development of each resident student.

The total capacity of the residence halls at The University of Akron is for 1350 students. Living in each residence hall is a trained Head Resident and selected upper-class students serving as resident assistants on each floor. The rooms are furnished, drapes provided; however, students provide their own bed linen and personal linen. The rooms are designed such that there is ample space for books and clothing. The furniture and decor are attractive and modern. Recreation areas, inside and outside, are available for all residents.

A full schedule of student planned activities is provided designed to augment the in-class activities and allow for the development and expansion of resident social, cultural, and educational interests. Individual involvement and contribution is essential for the success of these programs.

The current rate for housing accommodations and food service is \$1650 per year (\$825 per semester). The board plan includes 20 meals per week. All students who live in the residence halls must participate in the board plan; room is not available without board.

To the extent that any surplus space should ever become available in University residence halls or housing, the University shall enforce a rule requiring occupancy of such facilities by students attending the University.

## STUDENT HEALTH SERVICE

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.

Increased numbers of University students have brought about the expanded Health Service facilities immediately adjacent to the Residence Halls. First aid services are available in the Health Services, and an infirmary area is provided for 12 in-patients, with facilities for Residence Hall students not requiring hospital treatment.

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

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 seriously ill or suffers a serious injury on campus should be taken to an emergency ward of one of the local hospitals without delay. Whoever is present should call Security or an ambulance immediately in this kind of an emergency situation. The University assumes no legal responsibility or obligation for the expenses of such transportation or for medical services at the hospital.

Student health and accident insurance designed specifically for students of The University of Akron is required of all residence hall students and all international students except those who present proof that they already have similar coverage. Other students carrying nine or more credits may purchase this insurance at the annual individual rate of \$68.00. The student insurance provides coverage for such items as hospitalization, surgical benefits, and in-hospital medical benefits.

## STUDENT LEGAL PROGRAMS

This office represents an innovative and unique approach to providing necessary, but limited, legal assistance to students. While not providing the type of legal counseling that may be considered to be the

practice of law, this office does provide assistance, guidance, and referral to students with respect to private rights which they may believe they have.

In addition to limited legal counseling with students, this office offers programs and activities which expose students and others to legal concepts which specifically affect students and which affect citizens generally.

Reports of student misconduct are directed to this office and in all cases of alleged student misconduct this office attempts to guarantee to the student the elements of procedural and substantive due process of law, thereby affording a fair and equitable procedure by which to determine the validity of misconduct charges.

This office also coordinates reference inquiries about students for purposes of employment, transfer to another university, or for other reasons. Since the collection, maintenance, use and dissemination of information concerning students is a task which must balance the individual's "right to privacy" with the University's and the community's "right to know," this office is sensitive to the concept of confidentiality and the rights of students with regard to their records.

## TESTING AND COUNSELING BUREAU

The Testing and Counseling Bureau provides psychological testing and professional counseling, without charge, to all students enrolled for credit at The University of Akron.

**Counseling Service.** The Bureau's Counseling Service offers assistance:

(1) in identifying one's interests, aptitudes and needs for consideration in the choice of an educational or vocational goal, (2) in dealing with personal or social problems which deter one from deriving the maximum benefit from the university experience, and (3) in strengthening one's reading and study skills.

The Counseling Service maintains a career information library for use by students. In addition, information about Fulbright and Danforth Fellowships is available.

Counseling service, individually or in groups, is available by appointment or immediately, when necessary.

Consulting is available for student organizations, and other groups, in such areas as human relations, leadership training, communications skills, etc.

**Testing Service.** The Bureau's Testing Service offers a variety of testing programs such as: American College Testing, Scholastic

tic Aptitude Test, University of Akron foreign language and mathematics placement, Graduate Record Examination, Miller Analogies Test, Law School Admissions Test, and the College Level Examination Program. (Successful completion of CLEP tests can be substituted for certain course requirements of the General College.)

### **Religious Guidance**

A significant number of people in the University community need the Gospel made real by human interaction. The campus ministry team tries to provide a loving response to every person who approaches them, by being supportive as well as by giving personal counseling.

The campus ministers see the Church as assisting the university in shaping values and in creating awareness of self-identity.

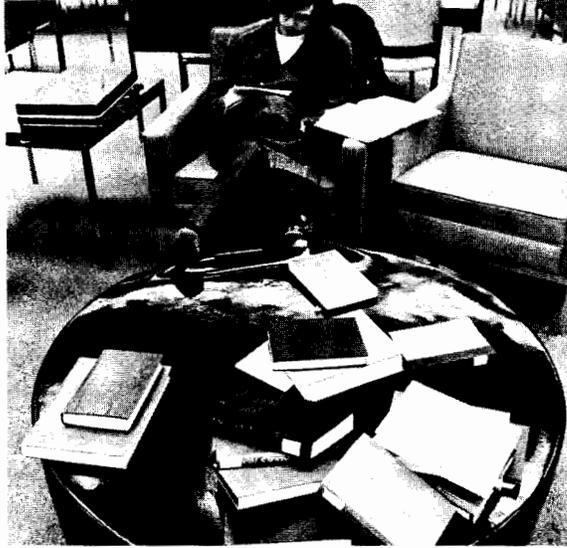
The campus ministry team sponsors Bible study, lectures, workshops, discussions, weekend retreats and social action projects.

Both Protestant and Catholic campus ministers are available at the Ecumenical Campus Ministry located in the Newman Center at 143 South Union Street.

A priest is available to all of the Eastern Orthodox faith at the Greek Orthodox Church of the Annunciation adjacent to the campus at 129 South Union Street.

There are synagogues in the city for students of the orthodox, conservative, and reformed Jewish faith. The Akron Jewish Center, located on the west side of the city, provides cultural opportunities for all students and residents of the city.

Many of the extracurricular activities groups have a faith as a focal point of the organization. These are listed in the students' handbook. *The A-Book*.



### ***III. The University of Akron Admissions, Requirements, Procedures, and Cost***

#### ***Types of Students***

With an enrollment of 23,121, The University of Akron has several classifications of students, each seeking an education according to his/her own needs and abilities. Classifications include:

**UNDERGRADUATE** — One who has not earned a Baccalaureate degree and is eligible to enroll in undergraduate level credit courses.

**POSTBACCALAUREATE** — One who holds a baccalaureate degree from an accredited institution, who is eligible to enroll in credit courses on the undergraduate level and who has not been admitted to the Graduate School. Postbaccalaureate students apply for admission to the undergraduate college (Arts and Sciences, Education, etc.) in which they wish to earn undergraduate credit.

**GRADUATE** — One who holds a Baccalaureate degree from an accredited institution, has been admitted to the Graduate School, and is eligible to enroll in graduate level credit courses.

**PROFESSIONAL** — One who holds a Baccalaureate degree from an accredited institution and has been admitted to the School of Law.

**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/she is qualified by certain abilities or maturity. A special student may not take more than 15 credits unless he/she gains official transfer to the status of regular student.

**AUDITOR** — One who enrolls in a course with the intention of not obtaining a quality point value grade (A-F) or a grade of NC or CR. A student must indicate that he/she is an auditor at the time of registration. Audit status may be denied if space is not available. An auditor is expected to do all prescribed course work except the writing of examination.

**TRANSIENT** — *From another institution* — One who is regularly enrolled and eligible to continue at another institution, and who desires to enroll at The University of Akron for specified courses. Undergraduate transient students apply directly to the Admissions Office. Graduate students apply through the office of the Dean of the Graduate School.

A transient student may not, as a general rule, attempt more than 16 credits in any semester or session and is subject to all rules and regulations of The University of Akron.

*From The University of Akron* — A student enrolled at The University of Akron must obtain written permission of the Dean of his college before enrolling (transient student status) for credit work at any other institution. Credit for such work may be granted at the discretion of the Dean of his/her college.

2 units of Social Studies  
(including American History)  
1 unit of natural science  
2 additional units from any of these

Additional subject recommendations for students planning to major in Engineering, Science and Pre-Professional:

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

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

A prospective student who has been graduated from a regionally accredited Ohio secondary school and takes one of the college entrance tests is eligible to enroll. An applicant may submit scores from either the American College Testing Program (ACT) or from the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board. Out-of-state applicants who meet the above requirements may be admitted upon the basis of the quality of their secondary school work and their standing in the entrance tests.

Students applying for admission who 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 are eligible to re-enter the institution from which they desire to transfer. Students under 25 years of age who present fewer than 12 credits or their equivalent of accredited transfer work must submit a high school transcript or G.E.D. scores. Students under 21 years of age with fewer than 12 transfer credits must submit results from the ACT or SAT test in addition to a high school transcript and G.E.D. scores. If it appears necessary to validate the transfer credits of students with more than 12 credits, 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.

## Entrance Requirements

### RECOMMENDED HIGH SCHOOL COURSES

All applicants, in order to increase their possibilities for success are strongly urged to complete the following preparatory courses while in high school:

4 units of English  
1 unit of mathematics

## Admission Procedure

1. Obtain an Application Form from the Admissions Office. If your request is by mail, use this address: ADMISSIONS OFFICE, The University of Akron, Akron, Ohio 44325. Fill it out and return as soon as possible with the non-refundable Application Fee.

2. At the time of your application 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 and evaluated before any admission action can be taken by the University. Students over 25 years of age are not required to submit high school transcripts.

3. Take Entrance Tests. You can make arrangements through your local high school to take the ACT or SAT. (The University of Akron's Testing and Counseling Bureau serves as a testing center for both of these nationally recognized tests.) These test scores are needed before an applicant is formally admitted to the University. Students over 21 are not required to submit test scores.

4. If you are a transfer applicant, request registrars of all institutions previously attended to send complete and official transcripts to the Admissions Office. If you have completed less than 12 credits of course work at other institutions and are under 21 years of age you must also submit the results of either the ACT or SAT. If you are under 25 years of age and have completed less than 12 credits of course work at other institutions you must submit a copy of your high school transcript. These documents must be received and evaluated before any admission action can be taken by the University.

5. A Health Record will be sent from the Admissions Office after you have been admitted. Take it to your family physician and after he has filled it out, return the form to the University.

6. In your letter of admission to the University, you will receive directions as to academic counseling. General College freshmen and some sophomore day students receive academic advisement through the Counseling and Advising Division of the Office of Student Services. Evening students at the same level will be advised by the Evening College. Students in the Community and Technical College or at the upper college level will be advised by a faculty member in the appropriate department.

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

## International Student Program

The University of Akron welcomes qualified students from other lands and seeks to make their educational experiences pleasant and meaningful. During the 1977-78 academic year approximately 300 students with citizenship other than the United States attended the University. These students represent 52 countries and are pursuing studies in a number of major fields.

### ADMISSION PROCEDURES

Acceptance as a new applicant from abroad will be made only for enrollment in September, the beginning of the academic year. All admission requirements must be completed by July 1 preceding the September in which the student desires to enroll.

In addition to those records mentioned under "Admission Procedures" for all students, two additional documents are required of the international student:

1. Proof of English language proficiency. The University of Akron requires all students for whom English is not the native language to participate in the Test of English as a Foreign Language (TOEFL). This test is administered throughout the world in major cities. Applications may be obtained from bi-national agencies, U.S.I.S. offices, or by applying directly to Educational Testing Service, Princeton, New Jersey 08540. Because it normally takes 4 to 6 weeks for the University to receive the results of the TOEFL, students are encouraged to take the examination in October or January. The University cannot guarantee the student who takes the examination in March that his/her records will be processed completely before the July 1 deadline.

2. Proof of adequate financial support. The international student is requested to transmit a letter from an appropriate governmental or bank official showing that he has sufficient funds to cover the cost of his education while attending The University of Akron and that these funds will be available to him in this country. It is estimated that the international student will need a minimum of \$4,500 per year for undergraduate and graduate study for his tuition and living expenses while attending The

University of Akron. Immigration regulations prevent the student from earning any substantial portion of this amount. There are virtually no scholarships available to undergraduates from abroad. Graduate students may request and often receive financial aid through fellowships and graduate assistantship. The graduate student who is interested in applying for this aid should request the necessary forms at the time he/she applies for admission.

#### ORIENTATION

International students are required to attend a special orientation program which begins two weeks before classes. During the orientation, international students are given an English language placement examination. This is an addition to the proficiency examination overseas. Students may be required to participate in non-credit English classes if it felt the results of this placement examination warrant such action.

#### ENGLISH LANGUAGE INSTITUTE

The University of Akron offers an intensive English Language Institute for international students whose command of the English Language has not reached a level of proficiency to enable them to begin full-time course work. The English Language Institute operates on a schedule of two 15 week semesters and a summer session. Applicants are required to pass a language proficiency test before they can be admitted as degree seeking university students for full-time course work.

#### SPECIAL NOTE

The University of Akron has a Dean of International Studies, a full-time International Student Adviser and instructors of English as a Second Language. If the international applicant has questions about housing, climate or immigration regulations, he is encouraged to contact the international student adviser directly.

The University of Akron is a member of The National Association for Foreign Student Affairs.

#### SPECIAL INTERNATIONAL EDUCATION PROGRAMS

The University of Akron sends students to different parts of the world as part of its continuing program "Classrooms Around the World." This program, offered for graduate or undergraduate credit, was started in 1960.

## **Procedures and Requirements**

### ORIENTATION

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

### COUNSELING

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

### REGISTRATION

Each term it is necessary for each student to select specific courses, complete the necessary forms and pay the appropriate fees. This formal process is called registration.

The student may elect to register by mail or in person. Details relative to each of these options is described in the Schedule of Classes published every academic period and available upon request from the student's advising agency: Office of Counseling and Advising Evening College or Upper College. A non-refundable late Registration Fee is assessed registrants enrolling after the official Open Registration period.

### ATTENDANCE

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

**MODIFICATION OF STUDENT SCHEDULES**

A student must register for a course before the end of the first week of the term. A student may alter the schedule of courses for which he/she is registered only with the permission of his/her Dean or Dean's designate.

**Day students in the General College and first term students in the Community and Technical College should make all changes through their advisors in the Counseling and Advising Office, Spicer Hall; Evening students in these colleges should contact the Evening College Office, Spicer Hall.**

**WITHDRAWAL**

A student may withdraw from a course for any reason up to the mid-point of a semester or summer session (the end of the eighth week of a semester and the equivalent point of a summer session) with the signature of his/her advisor.

After midpoint of a semester or a summer session, a student must have the written approval of both his or her instructor and advisor to withdraw. Such approval must be dated and signed by the instructor and advisor and turned in to the Registrar prior to the last week of classes. Should either refuse to sign the withdrawal form, the student may appeal to the Dean of his/her College, who shall make the final decision. This requirement need not be met when the student is requesting complete withdrawal from the University.

An approved withdrawal will be indicated on The University of Akron official academic record by a W. A student who leaves a course without going through the withdrawal procedure will be given an F in the course.

A student may be dropped from a course by his/her Dean if the student is repeatedly absent and the instructor recommends this action. A dismissed student may gain readmission only with the permission of the instructor and the Dean. A student dropped from a course receives an F which counts as work attempted whenever quality-point ratio calculations are made.

**TRANSFER CREDIT**

Course work taken at an institution of higher education in the United States of America which:

- (1) is fully accredited by an appropriate regional accrediting association, or
- (2) is not fully accredited by an appropriate regional accrediting association but which has an "A", "B", "C", or "I" listing in the *Transfer of Credit Practices of Selected*

*Educational Institutions*, the American Association Collegiate Registrars and Admissions Officers (AACRAO).

will be listed on The University of Akron official academic record. Each course will reflect the course number, title, grade, and credit value; no quality point value will appear on the record and no grade point average will be calculated for the course work listed. In addition, the name of the institution will be listed on The University of Akron official academic record as well as the time period during which the courses were taken.

For courses which have been taken at an institution of higher education of the types listed above, the Dean of the College in which the student intends to obtain the degree will specify which courses listed, other than General Studies, will apply toward the degree requirements at The University of Akron. This specification will be made at the time the student enters the degree granting college. The Dean of the General College will specify which courses listed will apply toward the General Studies requirements when the student enters the University.

For courses which have been taken at an institution which has a "B", "C", or "I" listing in the AACRAO *Transfer of Credit Practices*, the specification will be made by the student's Dean on a provisional basis and must be validated by successful completion of credit work at The University of Akron. The validation will normally consist of completing 16 credits of designated course work at The University of Akron with a grade point average of 2.000 or better.

**TRANSIENT STUDENT**

A University of Akron student may take course work at another institution of higher education as a transient student. For all courses other than General Studies, the student must obtain prior written permission from the Dean of the College in which he/she is enrolled; for General Studies courses, prior written permission must be obtained from the Dean of the General College. These courses will be listed on The University of Akron official academic record. Each course will reflect the course number, title, grade and credit value; no quality point value will appear on the record and no grade point average will be calculated for the course work listed. The name of the institution will be listed on The University of Akron official academic record as well as the date that the course work was taken.

### CREDIT BY EXAMINATION

A student interested in earning credits by special examination may do so with the permission of the Dean of his/her college and the Dean of the college in which a particular course is offered and by payment of the Special Examination Fee of \$12.00 per credit. The grade obtained in such an examination is recorded on the student's permanent academic record. Credit by examination is not permitted in the quarter before graduation.

### CREDIT/NON-CREDIT OPTION (UNDERGRADUATE AND POST- BACCALAUREATE ONLY)

1. Students who take a course on a "Credit" or "Non-Credit" (CR/NC) basis, and who earn a grade equivalent to A through C-, shall receive credit (CR) for the course and have the grade, CR, placed on their permanent record; a grade equivalent to D+ through F will be recorded with the Non-Credit grade, NC.

2. Students who have completed 50% of the number of credits required for a degree with a G.P.A. of at least 2.3, shall be allowed, with the consent of their adviser, to take one free-elective\* course per term on a CR/NC basis.

3. With the consent of the student's adviser, the first or second year of foreign languages may be taken on a CR/NC basis at any time the student is registered, and regardless of the G.P.A.

4. No more than 16 credits of non-language courses and no more than 20 credits in total, including language courses, may be taken on a CR/NC basis. (For an associate degree, half this number is permitted).

5. The election to take a course on a CR/NC basis can be made *only* at the time of registration for that course. Students who elect to take a course on a CR/NC basis cannot withdraw and register to take that course for a letter grade after the first week of that term. The Registrar will notify the instructor by means of the final class list of those students who have elected to utilize the CR/NC option.

6. Courses for which CR is awarded will be counted as *hours completed* only; courses for which NC is awarded shall not be counted as *hours attempted*; in neither case shall CR or NC be considered in calculating grade-point average, but in both instances the course shall be entered on the student's permanent record.

\*Free electives are defined for the present purposes as courses other than those required for all undergraduate students for graduation by their respective Colleges, or by their major Department.

7. A student may repeat a course for Credit (CR), or a quality point grade (A-F) after receiving a grade of NC.

8. A College may, due to a closed class problem, designate in the printed schedule, on an annual basis, a course as not available to be taken on a CR/NC basis.

9. Students taking the course on non-credit basis are expected to meet the full requirements of the course as required by the instructor.

### RE-EXAMINATION

A student may not request re-examination in order to raise a grade.

### REPEATING COURSES

Any course may be repeated as many times as necessary by an undergraduate student subject to the following conditions:

- (1) In order to secure a quality point value grade (A-F) or a grade of NC, CR or AUDIT, the student may repeat a course in which he/she previously received the grade of D+, D, D-, F, AUDIT or NC. Registrations under the CR/NC option are subject to the restrictions in the CR/NC policy.
- (2) The student must repeat the same course within 12 months of the completion of the prior attempt unless given special permission by the student's Dean to extend this period or substitute another course if the previous course is no longer offered. Such course must be repeated at The University of Akron.
- (3) Grades for all attempts at a course will appear on the student's official academic record.
- (4) Only the grade for the last attempt will be used in the grade point average.
- (5) All grades for attempts at a course will be used in grade point calculation for the purpose of determining graduation with honors and the student's class standing.
- (6) For purposes of this section, credit for this course or its equivalent will apply only once toward meeting degree requirements.

### ACADEMIC REASSESSMENT

An undergraduate student who has not attended an institution of higher education (which is fully accredited by an appropriate regional accrediting association or which has an 'A' listing in the Report of Credit Given, the American Association of Collegi-

ate Registrars and Admissions Officers) for at least three calendar years and enrolls at The University of Akron and maintains a grade point average of 2.5 or better for his/her first 24 credits may petition his/her Dean to delete from his/her grade point average the grades of his/her previous enrollment at The University of Akron. If the student qualifies, all previous grades will be deleted from the grade point average up to the maximum allowed.

The number of credits deleted from the grade point average shall not exceed 30 percent of the hours required for the degree objective of the student. If the number of credits earned before the three year interval exceeds 30 percent of his/her degree requirements, the 30 percent factor will apply to the first credits earned.

This policy is to apply only to the grade point average. All grades will remain on the student's official academic record. A student may utilize this academic reassessment policy only once.

In the determination of graduation with honors and in the determination of the student's class standing, all grades obtained at The University of Akron shall be used in the calculations.

### DISCIPLINE

Continuation as a student of the University is dependent on the maintenance of satisfactory grades and conformity to the rules of the institution.

### GRADES AND THE GRADING SYSTEM

Students at the University receive grades on various types of classroom performance during the progress of most courses and a final grade at the end of the term. At the end of the term, the Registrar's office mails grade reports to student's home addresses; summer grade reports are mailed for both summer sessions at the end of the second summer session.

Individual tests throughout the course are usually graded with percentage or letter marks, but permanent records are maintained with a quality point system.

This method of recording grades is explained as follows:

Grade	Quality Points Per Credit
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3

C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0
AUD (Audit)	0.0
CR (Credit)	0.0
NCR (Non-Credit)	0.0

The following grades may also appear on the term grade reports or on the permanent record: there are no quality points associated with these grades.

- I — Incomplete: Means that the student has done passing work in the course but that some part of the work is, for good and acceptable reason, not complete at the end of the term. Failure to make up the omitted work satisfactorily by the end of the following term, not including summer sessions, converts the "I" to an "F". When the work is satisfactorily completed within the allotted time the "I" is converted to whatever grade the student has earned.\*
- IP — In Progress: Means that the student has not completed the scheduled course work during the term because the nature of the course does not permit completion within a single term, such as work toward a thesis.
- PI — Permanent Incomplete: The student's Instructor and the Instructor's Dean may for special reason authorize the change of an Incomplete (I) to a Permanent Incomplete (PI).
- W — Withdraw: Indicates that the student registered for the course but withdrew officially sometime after the second week of the term.
- NGR — No Grade Reported: Indicates that, at the time grades were processed for the present issue of the record, no grade had been reported by the Instructor.
- INV — Invalid: Indicates the grade reported by the Instructor for the course was improperly noted and thus unacceptable for proper processing.

\*If the instructor wishes to extend the "I" grade beyond the following term for which the student is registered, prior to the end of the term he/she must notify the Registrar's Office in writing of the extension and indicate the date of its termination. It is the responsibility of the student to make arrangements to make up the incomplete work. The faculty member should submit the new grade to the Registrar's Office in writing.

### IMPORTANCE OF GRADES

1. A student becomes either eligible or ineligible to remain at the University, according to the quality point value of each grade for each course which he/she has completed.

2. The student who maintains specified levels of scholastic achievement receives privileges to participate in extra-curricular activities.

3. On the basis of grades, students receive opportunities to take additional courses which will accelerate their academic progress.

4. A student must maintain a quality point average of least 2.0 (C) and complete approximately 30 credits to be eligible to be transferred to an upper college from the General College. His/her acceptance is dependent on the approval of the Dean of the upper college which he/she has chosen to enter and on his/her academic performance to date.

5. To receive a degree, each student must have attained a quality point average of at least 2.0 for all work taken at The University of Akron.

6. High grades are essential for persons to go on into graduate work.



### PROBATION, DISMISSAL

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

Students who have been dismissed from the University are not eligible to register for credit courses until readmitted.

### GRADUATION WITH HONORS

If students have earned 60 or more credits at the University, the students receiving their initial baccalaureate degree will be graduated "summa cum laude" if they have an overall quality point average of 3.75 or higher; they will be graduated "magna cum laude" if their overall average is between 3.50 and 3.74; and "cum laude" if it is between 3.25 and 3.49.

Students receiving the first two-year associate degree who have earned a quality point ratio of 3.25 or higher for all work taken and who have a minimum of 30 credits at The University of Akron are honored at graduation with the designation, *with distinction*.

### REQUIREMENTS FOR BACCALAUREATE AND ASSOCIATE DEGREES

A candidate for the Baccalaureate or the Associate degree must:

1. File an application for graduation with the Registrar

a. If you plan to complete degree requirements at the end of fall semester, submit an application by or before

June 15.

b. If you plan to complete degree requirements at the end of spring semester, submit an application by or before December 15.

c. If you plan to complete degree requirements at the end of summer sessions, submit an application by or before April 15.

2. Earn a minimum 2.000 grade point average as computed by the Registrar for work attempted at The University of Akron consistent with the REPEATING COURSES policy. The GPA achieved at the time of completion of requirements for a degree will be used to calculate rank in class and honors.

3. Earn the minimum grade point average specified in the CREDIT AND GRADE POINT REQUIREMENTS FOR GRADUATION TABLE as computed by the appropriate college and/or major department for work attempted in the major field at The University of Akron consistent with REPEATING COURSES policy.

4. Meet all degree requirements which are in force at the time a transfer is made to a degree granting college. If the student should transfer to another major, then the requirements should be those in effect at the time of the transfer. For a student enrolled in an associate degree program in the Community and Technical College, the requirements shall be those in effect upon entrance into the program.

5. Be approved for graduation by the appropriate college faculty, University Council and Board of Trustees.

6. Complete the requirements for a degree in not more than five calendar years from the date of transfer, as defined below. In the event the student fails to complete the degree requirements within five calendar years from the date of transfer, the University reserves the right to make changes in the number of credits and/or courses required for a degree.

The date of transfer for a student in a baccalaureate program will be the date that the student is accepted by the degree granting college. For a student enrolled in an associate degree program in the Community and Technical College, the date of transfer refers to the date of entrance into the program.

7. Earn the last 32 credits in the baccalaureate degree total or 16 credits in the associate degree total in residence at The University of Akron unless excused in writing by the Dean of the College in which the student is enrolled.

8. If a student who has transferred from another institution wishes to present for his/her major fewer than 14 credits earned at The University of Akron he/she must have the written permission of both his/her Dean and head of the department concerned.

9. Discharge all other obligations to The University of Akron.

**REQUIREMENTS FOR ADDITIONAL  
BACCAULAUREATE AND  
ASSOCIATE DEGREES**

1. Meet all the requirements given in the section Requirements for Baccalaureate and Associate Degrees.

2. Earn a minimum of  
a. 32 credits which have not counted toward the first baccalaureate degree.

b. 16 credits which have not counted toward the first associate degree.

3. Earn the above credits in residence.

**CHANGE OF REQUIREMENTS**

To better accomplish its objectives, the University reserves the right to alter, amend, or revoke any rule or regulation. The policy of the University is to give advance notice of such change, whenever feasible.

Unless the change in a rule or regulation specifies otherwise, it shall become

effective immediately with respect to each student who subsequently enters the University, whatever the date of his/her matriculation.

Without limiting the generality of its power to alter, amend, or revoke rules and regulations, the University reserves the right to make changes in degree requirements of students enrolled prior to the change by:

1. Altering the number of credits and/or courses required in a major field of study.

2. Deleting courses.

3. Amending courses by increasing or decreasing the credits of specific courses, or by varying the content of specific courses.

4. Offering substitute courses in the same or in cognate fields.

The Dean of a College, in consultation with the Department or Division Head of the student's major field of study, may grant waivers in writing, in the event a change in rules affecting degree requirements operates with undue hardship upon a student enrolled before the change was effective. The action of the Dean of the College in granting or refusing a waiver must be reviewed by the Vice President and Provost on his own motion, or at the request of the Dean of the College of the student affected or at the request of the student affected.

**CREDIT AND QUALITY POINT REQUIREMENTS FOR GRADUATION**

College	Degrees Granted	Minimum Credits	Minimum Qual. Pt. Average Required
Arts and Sciences	Humanities:		
	Bachelor of Arts	128	2.0
	Social Sciences:		
	Bachelor of Arts	128	2.0
	Bachelor of Science in Labor Economics	128	2.0
Natural Sciences:	Bachelor of Science in Political Science/Criminal Justice	128	2.0
	Bachelor of Arts	128	2.0
	Bachelor of Science	128	2.0
	Bachelor of Science in Medical Technology	128	2.0
Engineering	Bachelor of Science in Engineering	136	2.0
	Bachelor of Science in Chemical Engineering	136	2.0
	Bachelor of Science in Civil Engineering	136	2.0
	Bachelor of Science in Electrical Engineering	136	2.0
	Bachelor of Science in Mechanical Engineering	136	2.0
	Bachelor of Construction Technology	136	2.0
Education	Bachelor of Arts in Education	128	2.0*
	Bachelor of Science in Education	128	2.0*
	Bachelor of Science in Technical Education	128	2.0*
Business Administration	Bachelor of Science in Business Administration	128	2.0
	Bachelor of Science in Industrial Management	128	2.0
	Bachelor of Science in Accounting	128	2.0
College of Fine and Applied Arts	Bachelor of Arts	128	2.0
	Bachelor of Arts in Dietetics	128	2.0
	Bachelor of Arts in Foods and Nutrition	128	2.0
	Bachelor of Arts in Textiles and Clothing	128	2.0
	Bachelor of Arts in Family and Child Development	128	2.0

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

## CREDIT AND QUALITY POINT REQUIREMENTS FOR GRADUATION (Continued)

College	Degrees Granted	Minimum Credits	Minimum Qual. Pt. Average Required
College of Fine and Applied Arts	Bachelor of Arts in Speech Pathology and Audiology	128	2.0
	Bachelor of Arts in General Speech	128	2.0
	Bachelor of Arts in Theatre Arts	128	2.0
	Bachelor of Arts in Mass Media Communication	128	2.0
	Bachelor of Arts in Communication/Rhetoric	128	2.0
	Bachelor of Arts in Ballet	128	2.0
	Bachelor of Music	128	2.0
	Bachelor of Fine Arts	128	2.0
	College of Nursing	Bachelor of Science in Nursing	131
Community and Technical College	Associate Degree in: Arts	64	2.0
	Associate Degree in Applied Science in:		
	Business Management Technology	66	2.0
	Chemical Technology	64	2.0
	Commercial Art	64	2.0
	Community Services Technology	64	2.0
	Criminal Justice Technology	64	2.0
	Cytotechnology	64	2.0
	Data Processing	64	2.0
	Educational Technology	64	2.0
	Electronic Technology	68	2.0
	Fire Science Technology	64	2.0
	Food Service Management	64	2.0
	Industrial Technology	64	2.0
	Instrumentation Technology	68	2.0
	Mechanical Technology	68	2.0
	Office Services Technology	64	2.0
	Respiratory Therapy Technology	70	2.0
	Sales and Merchandising	64	2.0
	Secretarial Science	64	2.0
	Surveying and Construction Technology	68	2.0
	Transportation	64	2.0
	Wayne General and Technical College	Bachelor of Technology Degree in: Mechanical Technology	135
Bachelor of Science in Electronic Technology		135	2.0
Associate Degree in Applied Science in:			
Business Management Technology	64	2.0	
Electronic Technology	68	2.0	
Mechanical Technology	68	2.0	
Retail Management Technology	64	2.0	
Secretarial Science	64	2.0	
Social Services Technology	64	2.0	

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

## Fees and Expenses

(Fees subject to change without notice)

Despite willingness of taxpayers and generous friends of the University to help support higher education, some portion of this total expense must be borne by the stu-

dent. Typical costs for one year (September through June) based on an average academic load of 32 credits for the two semesters are:

	Commuting Resi- dents of Ohio	Resi- dents of Ohio Living in Dorms	Non- Ohio Resi- dents
Undergraduate fee for regular load	\$676	\$676	\$1,636
General Service Fee	164	164	164
Books (average)	200	200	200
Food and Housing in Residence Halls	—	1,650	1,650
	\$1,040	2,690	3,650

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 all fees including the non-Ohio resident surcharge.

In any question concerning fees, surcharge, 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 residency status should consult with the University Registrar.

It is the responsibility of the Registrar to assess fees and surcharges 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 surcharges are due at the time of registration or on the specified fee payment deadline. The status of the student as of the opening day of the semester or session for which he is registered, will determine the final, correct amount of fees and surcharges.

## FEEES

(Fees subject to change without notice.)

### 1. INSTRUCTIONAL FEE\* (ALL STUDENTS)

<b>Undergraduate</b>		
1-14 credits	\$24 per credit	
14½-16 credits	\$338 per semester	
16½ and over credits	\$338+ 24 per credit over 16	
<b>Graduate and Professional (Law)</b>		
1 or more credits	38 per credit	

### 2. TUITION SURCHARGE\* (Non-residents of Ohio pay the surcharge in addition to the Instructional Fee)

<b>Undergraduate</b>	
½ or more credits	\$30 per credit
<b>Graduate and Professional (Law)</b>	
1 or more credits	15 per credit

\*Does not include special or miscellaneous fees, i.e.: music, late registration, etc. Zero credit courses are charged on the basis of the number of hours of class per week.

### 3. GENERAL FEE

<b>Undergraduate</b>	
	\$9 per credit to a maximum of \$82 per semester (Maximum General Fee for two combined Summer Sessions is \$82)
<b>Graduate and Professional (Law)</b>	
Full-time (9 or more credits in any semester)	\$24 per semester
Part time (8½ or less credits in any semester)	10 per semester

### 4. ADMISSION APPLICATION FEE

(non-refundable)	
Undergraduate and Postbaccalaureate	\$20
Entering Graduate Student	20
Entering School of Law Student	20
Transient Student (each period of enrollment)	20

### 5. SPECIAL FEES

<b>Late Registration Fee</b>	
Charged to students who have not completed registration and paid fees by the end of Open Registration	\$20
<b>Music Fees*</b>	
Private lessons in Band Instrument, Organ, Piano, Violin and Voice (in addition to normal instructional fees):	
Two ½ hour lessons per week (Undergraduate)	83
Two ½ hour lessons per week (Graduate)	83
One ½ hour lesson per week (Undergraduate)	42
One ½ hour lesson per week (Graduate)	42

\*These fees in addition to the instructional credit hour fee.

<b>Thesis and Binding Fees</b>	
Binding (per volume)	7
Microfilming (for Ph.D. degrees only)	31
<b>Graduation Fees</b>	
Each Degree	12
In Absentia, per degree (add'l)	2
Late Application Charge	5

### Department of Special Programs & ICE

Charge will be based on contact hours. The number of hours will be dependent upon the course and costs.  
2-5 per  
contact hour

**6. MISCELLANEOUS FEES**

A.C.T. Test	\$8.50
Education Administration Battery	6
Miller Analogies Test	8
Transcripts (If more than one copy is ordered at the same time, the fee is \$.50 for each additional copy)	2
I.D., late or lost	5
Credit by Examination (Undergraduate and Postbaccalaureate), per credit	12
Student Teaching Fee	25
Language Tape Rentals (refundable)	10
Locker Fee (\$2.00 refundable) (September-June)	6
Locker Fee, Physical Education and Schrank Hall (\$2.00 refundable) per semester	5
Towel Rental	5
Change of Course Registration (add/drop)	4
Laboratory Breakage and Late Service Deposit (refundable)	10
"Insufficient Funds" or Returned Check Charge	5
Co-op Course Fee	23

**7. PARKING FEES**

Students enrolled for 9 or more credits per semester	\$30
Students enrolled for 8½ or fewer credits per semester	15
Summer Session students, per session	10
Workshop participants	up to 8
Department of Special Programs	5 per course
Off-Campus Instruction Students	up to 10

**ROOM AND BOARD**

Residence hall facilities are available for the housing of a limited number of undergraduate students. The current total cost of housing accommodations and food service is \$825 per semester or \$1650 per year. All students who live in the residence halls must participate in the provided 20 meals per week board plan.

Students living off campus may participate in the residence hall board program, the current rate being \$420 per semester.

**VETERANS' EXPENSES**

Disabled veterans who are eligible for admission to the University may register for courses without payment of fees if they have been authorized for training by the V.A. If they have not been authorized, payment of all fees is required. However, the University will return to the veteran the payment made when the official authorization is received.

Non-disabled veterans must pay their fees at the time they register. They will receive direct payment from the V.A. after their enrollment has been certified under the provision of USC Title 38.

Ohio Veterans Bonus Commission recipients may arrange with the Accounts Receivable Office to have the Ohio Bonus Commission billed directly for tuition charges only.

Dependents of veterans covered under other provisions of USC Title 38 must pay their fees at the time of registration. The V.A. will make direct payment to the eligible payee.

**AUDITORS**

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

**STUDENT HEALTH AND ACCIDENT INSURANCE**

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

**RULES GOVERNING NON-RESIDENT SURCHARGE RESIDENCY REQUIREMENTS**

Payment of non-resident tuition surcharge is required of any student who does not qualify as a permanent resident of Ohio as defined by one or more of the following sections which became effective 1 September 1973 and shall continue in effect until rescission or amendment.

**OHIO STUDENT RESIDENCY FOR TUITION SURCHARGE PURPOSES****A. Definitions**

For purposes of this rule:

1. A resident of Ohio "for all other legal purposes" shall mean any person who maintains a 12-month place or places of residence in Ohio, who is qualified as a resident to vote in

Ohio and receive state welfare benefits, and who may be subjected to tax liability under Section 5747.02 of the Revised Code: provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.

2. "Financial support" as used in this rule, shall not include grants, scholarships and awards from persons or entities which are not related to the recipient.
3. An "institution of higher education" as used in this rule shall mean any university, community college, technical institute or college, general and technical college, medical college or private medical or dental college which receives a direct subsidy from the State of Ohio.

#### **B. General Residency for Tuition Surcharge Purposes**

The following persons shall be classified as residents of the State of Ohio for tuition surcharge purposes:

1. Dependent students, at least one of whose parents or legal guardian has been a resident of the State of Ohio for all other legal purposes for 12 consecutive months or more immediately preceding the initial enrollment of such student in an institution of higher education.
2. Persons who have resided in Ohio for all other legal purposes for at least 12 consecutive months preceding their initial enrollment in an institution of higher education and who are not receiving, and have not directly or indirectly received in the preceding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
3. Persons who reside and are gainfully employed on a full-time or part-time and self-sustaining basis in Ohio and who are pursuing a part-time program of instruction at an institution of higher education.

#### **C. Specific Exceptions and Circumstances**

1. A person on active duty status in the United States military service who is stationed and resides in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.
2. A person who enters and currently

remains upon active duty status in the United States military service while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person's domicile.

3. Any alien holding an immigration visa shall be considered a resident of the State of Ohio for tuition surcharge purposes in the same manner as any other student.
4. No person holding a student or other temporary visa shall be eligible for Ohio residency for these purposes.
5. A dependent person classified as a resident of Ohio who is enrolled in an institution of higher education when his or her parents or legal guardian remove their residency from the State of Ohio, shall be considered a resident of Ohio for these purposes during continuous full-time enrollment and until his or her completion of any one academic degree program.
6. Any person once classified as a non-resident, upon the completion of 12 consecutive months of residency in Ohio for all other legal purposes, may apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes. Should such person present clear and convincing proof that no part of his or her financial support is or in the preceding 12 consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident.
7. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification.

#### **D. Procedures**

Institutions of higher education charged with reporting student enrollment to the Ohio Board of Regents for state subsidy purposes and assessing the tuition surcharge shall provide individual students with a fair and adequate opportunity to present proof of their Ohio residency for purposes of the rule. Such institution may require the submission of affidavits and other documentary evidence which it may deem necessary to a full and complete determination under this rule.

**Note:** The Registrar shall classify a student as a bona fide resident or nonresident student at the time of registration for each term or session. The Registrar may in advance of his determination seek the advice of the Committee on Residence Status. The Committee on Residence Status means a committee comprised of the Director of Institutional Research and Systems Development who shall act as chairman, the University Registrar, the Dean of the School of Law and the University Auditor.

A student may appeal to the Committee on Residence Status from a classification by the Registrar that he/she does not qualify as a bona fide resident, by executing and filing with the Registrar a form entitled "Application for Residence Status." The Registrar may transmit this form to the chairman of the Committee who shall conduct a hearing on the merits of the application. The student may request on this form to appear personally before the Committee on Residence Status. The student may thereafter appear and may employ counsel at his/her expense. The decision of the Committee shall be final.

A student has the burden of persuasion by clear and convincing proof that he qualifies as a bona fide resident. The Committee on Residence Status may require the student to submit evidence in support of the statements made on his "Application for Residence Status." The Committee shall not be bound by the usual common law or statutory rules of evidence nor by any technical or formal rules of procedure. The Committee may admit any relevant evidence in support of the student's claim or in opposition to it, may exclude evidence that is irrelevant, cumulative, is lacking in substantial probative effect. The Committee on Residence Status may make rules or procedure consistent with this regulation.

If a student's proper status is that of a nonresident, he/she shall pay nonresident tuition and interest at the rate of 6 percent per annum on the unpaid balance. A student who knowingly submits a false claim or knowingly gives false evidence in support of a claim commits an offense against The University of Akron and may be subject to disciplinary procedures.

**Note:** For purposes of residency determination only, enrollment of nine credit hours or more will be considered full-time.

#### REGULATIONS REGARDING REFUNDS

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

*Fees Subject to Refund* are:

1. Instructional and Nonresident Surcharge.
2. General Fee.
3. Special Programs (Informal Courses).
4. Parking (Only if permit is returned).
5. Student Teaching.
6. Laboratory Breakage and Late Service Deposit.
7. Residence Hall Fees (Note: These fees subject to special Refund Policy).

*Amount of Refund is to be determined in accordance with the following regulations:*

A. In full:

1. If the University cancels the course.
2. If the University does not permit the student to enroll or continue.
3. If the student dies before or during the term or is drafted into military service by the United States or if the student enlisted in the National Guard or Reserves prior to the beginning of the term in which he/she is called to active duty, presents his/her notice of induction or Orders to Active Duty. Students who enlist voluntarily for active duty, see "D" below.

B. In full less \$3 per enrolled credit hour to a maximum of \$30:

If the student requests in writing official withdrawal from all credit courses on or before the first day of the enrolled term. (See General Information, Change of Course Registration procedures in this Bulletin.)

C. In full less \$3:

If the student requests in writing official withdrawal from Department of Special Programs courses on or before the first day of the enrolled term.

D. In part:

If the student requests in writing official withdrawal after the first day of the Fall or Spring semesters, the following refund percentages apply:

	College Credit Courses	Department of Special Programs
2 through 8 calendar days	70%	70%
9 through 15 calendar days	50	50
16 through 22 calendar days	30	30
Thereafter	0	0

If the student requests in writing official withdrawal after the first day of any Summer Session for which he/she is enrolled, the following refund percentages apply:

2 through 7 calendar days	60%	60%
8 through 15 calendar days	40	40
Thereafter	0	0

Refunds will be determined as of the date of formal withdrawal unless proof is submitted that circumstances beyond control of the student prevented the filing of the formal withdrawal earlier, in which case the refund will be determined as of the date he/she last attended class. The student assumes responsibility for filing for a refund.

Refunds will be mailed as soon as possible. Refund checks are subject to deduction for any amount owed to The University of Akron by the student.

#### E. No refund:

If a student is dismissed or suspended by the University for disciplinary reasons he will receive no refund.

#### RESIDENCE HALL REFUNDS Refund/Release and Forfeiture Policy

A contract for housing accommodations and food services at The University of Akron upon being breached by the student, or otherwise terminated by The University of Akron, is subject to the following refund provisions:

(A) a full refund of any prepaid fees (except the advance \$50 rental payment) and release of other financial liability therefor under the following circumstances:

- (1) graduation of the student from The University of Akron;
- (2) academic dismissal of the student from The University of Akron;
- (3) non-attendance or complete withdrawal by the student from The University of Akron prior to the start of the contract term;
- (4) in the event mandatory or recommended participation in academic programs of The University of Akron require the student to commute regularly beyond the Akron metropolitan area (i.e., student teaching or co-op engineering assignments).

(B) with a partial refund of prepaid fees (except the advance \$50 rental payment) according to the Refund Schedule below, and release of financial liability for subsequent terms covered by the contract term, in the event the student completely withdraws from The University of Akron after the start of the contract term. In such instances, the student shall not be liable for damages.

(C) with a partial refund of prepaid fees (except the advance \$50 rental payment) in accordance with the Refund Schedule below:

- (1) in the event the University, in its sole discretion, terminates the contract for reasons related to the orderly operation of the Residence Halls, or for reasons relating to health, physical, or emotional safety and well being of the student, or for reasons relating to the health, safety, and well being of the person or property of other students, faculty, staff, or University property. In such instances, the student shall not be liable for damages and shall be released of further financial liability beyond the date of termination.
- (2) in the event the student breaches the contract prior to the end of the term thereof but continues to be enrolled as a student at The University of Akron. In addition, if the student has contracted for subsequent terms beyond that term in which the contract is terminated, the student shall pay as damages for breach of the term of the contract an additional amount of \$100.
- (3) in the event that the student is dismissed or suspended from The University of Akron for disciplinary reasons in accordance with law or rules and regulations of The Board of Trustees; or, if the student is placed on terms of disciplinary probation in accordance with law or rules and regulations of The Board of Trustees, whereby such terms of probation prohibit the student from residing in University housing accommodations.

These conditions do not release the student from financial liability for any fees which are due not later than the effective date of such termination, dismissal, suspension or probation.

### Refund Schedule

Beginning with the first day of the Fall and Spring semesters, the following refund percentages shall apply for all contracts for housing accommodations and food services:

Refund Inclusive Dates	Applicable
1-12 calendar days	70%
13-24 calendar days	50%
25-36 calendar days	30%
THEREAFTER	-0-

### Notice Requirements

All notices of intent to break this contract must be submitted in writing to the Office of Residence Halls. If the student is a minor (under the age of 18 years), the written notification of termination must be co-signed by the student's parent or legal guardian.

### Financial Aids

Financial aid for post-secondary education takes many forms and comes from many sources. In assessing the need for financial aid, a determination is made regarding the ability of the student and his/her family to pay for post-secondary education. The difference between what a family is expected to contribute and the cost of education is considered unmet need; unmet need represents the amount of money which the financial aid officer tries to award so the student can realize his/her academic potential.

In order to meet the needs of financial aid applicants, there are a number of sources from which aid can be received. The following programs represent those sources of aid for which The University of Akron selects recipients and distributes the funds. A special aid application for these programs can be obtained at The University Student Financial Aids Office.

1. National Direct Student Loan (NDSL)
2. The College Work Study Program (CWSP)
3. The Supplemental Educational Opportunity Grant (SEOG)
4. The Nursing Student Loan Program (NSL)
5. The Nursing Scholarship Grant Program (NSG)

In addition to the above, there are three other major financial aid programs in which a student may be interested. They are:

1. **The Basic Educational Opportunity Grant (BEOG)**  
This program is sponsored by the Federal Government and is considered to be the foundation of a financial aid package. It is available to undergraduate students only. Amounts vary from \$200 to \$1,600. Both half-time and full-time students can participate in the program.
2. **The Ohio Instructional Grant (OIG)**  
This program is sponsored by the Ohio Board of Regents and is available to full-time undergraduate students only. A separate application is required to participate in this program.
3. **The Guaranteed Student Loan Program (GSLP)**  
When other financial aid is not available, the GSLP can provide assistance in the form of a student loan. The program is available only at certain banks. Please check with your local bank.

There is an additional program called the UNIVERSITY ACADEMIC SCHOLARSHIP PROGRAM. Scholarships are given to outstanding high school students who apply for scholarships and outstanding scholars within the University. A separate application must be completed for one to be considered for such aid. A need analysis form is not required.

The PRESIDENTIAL SCHOLARSHIP PROGRAM was initiated for the 1975/76 academic year. At the present time, 15 scholarships are awarded each year to new freshmen. During 1977/78, the scholarship amount was \$750. The Presidential Scholarship is considered to be our most prestigious scholarship.

The Honors Program of The University of Akron awards a number of scholarships each year to new freshmen. In 1977/78, the scholarship amount was \$660. This combination scholarship/academic program is also considered to be a most prestigious program.

Graduate fellowships and other graduate awards are distributed by The Graduate School and, therefore, a separate application is required.

In summation, there are a number of sources of funds. Consultations with a high school counselor or a university financial aid counselor are suggested as one considers the many financial aid options.

### MAJOR FINANCIAL AID PROGRAMS BASIC EDUCATIONAL OPPORTUNITY GRANT

This program is sponsored by the Federal Government, and provides gift assistance in the form of grants ranging from \$200 to \$1,600 annually to students demonstrating financial need.

#### OHIO INSTRUCTIONAL GRANT

This program is sponsored by the State of Ohio, and provides gift assistance in the form of grants ranging from \$150 to \$600 annually to students demonstrating financial need. Students must be residents of Ohio, and must enroll on a full-time basis.

#### SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT

The University administers this federally funded program which provides gift assistance in the form of grants ranging from \$200 to \$1,500 annually. These grants are awarded to students who have demonstrated good academic potential and who have exceptional financial need.

#### COLLEGE WORK-STUDY PROGRAM

The Federal Government and the University contribute funds to this program which provides work opportunities to students who have demonstrated financial need. Every attempt is made to place students in work related to their major field of interest.

#### NATIONAL DIRECT STUDENT LOAN

This loan is available to students who have demonstrated financial need, and are enrolled on at least a half-time basis. Loan amounts range up to \$1,500 annually. Repayment, with 3 percent interest, begins nine months after the borrower ceases to pursue course of study at a post-secondary school of education.

#### NURSING STUDENT LOAN

The Nurse Training Act provides for loans of up to \$2,500 annually to students enrolled in the course leading specifically to a Bachelor of Science in Nursing, and who have demonstrated financial need. Repayments are similar to the National Direct Student Loan, and cancellation will be made in varying amounts for each year of full-time employment in professional nursing.

#### GUARANTEED STUDENT LOAN PROGRAM

The State of Ohio, through the Ohio Student Loan Commission, administers guaranteed student loans made to students by private lending institutions within the state. Students may qualify for a loan of up to \$2,500 annually if they are enrolled in an eligible school of post-secondary education. Other states have similar loan programs for their residents.

#### LAW ENFORCEMENT EDUCATION PROGRAM

The U. S. Department of Justice, through the Law Enforcement Assistance Administration, provides for grants, administered by the University, of up to \$250 per quarter for instructional and general service fees, to full-time employees of publicly-funded criminal justice agencies. The recipients must agree to remain in full-time criminal justice employment for two years after completion of the courses for which the grant was awarded. Eligible students who are attending on a full-time basis may also qualify for a loan to meet additional course expenses.

### SCHOLARSHIPS, FELLOWSHIPS, and GRANTS

#### PAMELA ADAMSON MEMORIAL SCHOLARSHIP FUND

This endowed fund was established in 1975 by Manor Care, Inc. in memory of Pamela Adamson of Akron, a Manor Care hostess whose young life was a cheerful dedication to the comfort of others, especially to those of constant need in their senior years. Provided is tuition assistance for full-time undergraduate students preparing for careers in social services, particularly the institutionalized aged. Recipients and amount of scholarships award are determined by the University Scholarship Committee.

#### AIR FORCE ROTC COLLEGE SCHOLARSHIP PROGRAM

These scholarships, authorized by Public Law through the Vitalization Act of 1964, are designed to offer assistance to outstanding students who enroll in the Air Force ROTC program. Each scholarship provides for full payment of tuition, laboratory and associated fees, an allowance for textbooks, and includes a tax-free allowance of \$100 each month during the period the student is in school and on scholarship status.

#### AKRON ALPHA DELTA KAPPA NU SCHOLARSHIP

In May of 1976, the Alpha Delta Kappa Nu Chapter, International Honorary Teachers' Sorority, established this scholarship, to be awarded annually to a freshman student, male or female, interested in teacher education. Selection of the recipient is handled by the University Scholarship Committee.

#### AKRON AREA CHAPTER OF THE AMERICAN SOCIETY FOR PERSONNEL ADMINISTRATION SCHOLARSHIP

Funds contributed by the Akron Area Chapter of the American Society for Personnel Administration are used to provide scholarship assistance for undergraduates enrolled in the College of Business Administration.

#### AKRON AREA PLUMBERS AND PIPEFITTERS INDUSTRY SCHOLARSHIP FUND

These scholarships are designed to provide educational opportunities for students interested in careers in fields related to the Akron Area Plumbers and Pipefitters Industry, such as public health, sanitation, community planning, and

mechanical and civil engineering. First preference is given to children of journeyman plumbers and contractor members of the organization who are pursuing programs in civil engineering, mechanical engineering, business administration, or nursing at The University of Akron.

### **THE AKRON BAR ASSOCIATION AUXILIARY SCHOLARSHIP**

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

### **AKRON BRICK AND BLOCK COMPANY FOUNDERS MEMORIAL SCHOLARSHIPS**

A fund established in 1967 by the Akron Brick and Block Company in memory of the company founders, Messrs. Henry Camp, Kenneth Kutz, Albert A. Hilbert, and George H. Meyers, for the purpose of providing scholarships to students with serious financial need. Preference is given to male students in the field of engineering or business administration.

### **AKRON-CANTON CHAPTER IN-PLANT PRINTING MANAGEMENT ASSOCIATION SCHOLARSHIPS**

Established in 1977 by the Akron-Canton Chapter of the In-Plant Printing Management Association, this scholarship in amount of \$500 is granted to high school graduates who have been accepted into an accredited college majoring in the Graphic Arts Program. Selection is made by the Akron-Canton Chapter of the IPMA following a review of applications submitted by students residing in a nine-county area covered by the Chapter.

### **AKRON COUNCIL OF ENGINEERING AND SCIENTIFIC SOCIETIES SCHOLARSHIP**

Funds contributed by the Akron Council of Engineering and Scientific Societies provide a \$500 award to a senior majoring in engineering, chemistry, physics, or mathematics on the basis of academic performance, character, financial need, and co-curricular activity.

### **AKRON DISTRICT SOCIETY OF PROFESSIONAL ENGINEERS SCHOLARSHIP**

The Akron District Society of Professional Engineers sponsors this scholarship in the amount of \$300 per year to a junior or senior engineering student recommended by the Dean of the College of Engineering.

### **AKRON PANHELLENIC ASSOCIATION SCHOLARSHIP**

The Akron Panhellenic Association sponsors this scholarship in the amount of \$150 per year. The recipient must be a full-time student meeting the Panhellenic average grade point requirement, an active member of a sorority, and an involved and contributing member in campus and Greek activities.

### **AKRON RUBBER GROUP SCHOLARSHIPS IN CHEMISTRY**

Awards of \$660 per year are made to entering students and/or undergraduate students majoring, or intending to major, in chemistry or chemical engineering. Outstanding ability in science and chemistry are given primary emphasis in awarding these scholarships.

### **AKRON RUBBER GROUP MEMORIAL SCHOLARSHIP FUND**

Established in 1976 by the Akron Rubber Group with funds provided initially in memory of John Gifford, this memorial scholarship fund awards entering students and/or undergraduate students majoring, or intending to major, in chemistry or chemical engineering.

### **AKRON UNIVERSITY ASSOCIATES SCHOLARSHIPS**

Scholarships for qualified students are available from unrestricted funds provided by the following corporations which hold membership in Akron University Associates:

The Akron, Canton &  
Youngstown Railroad Company  
Akron Coca-Cola Bottling Company  
The Akron Equipment Company  
Akron National Bank & Trust Company  
Akron Savings & Loan Company  
The Fred W. Albrecht Grocery Company  
The Babcock & Wilcox Company  
Bellows-International Division of IBEC  
Brown Derby, Inc.  
Burger Iron Company  
Cabot Corporation  
Centran Bank of Akron  
The Cotter Merchandise Storage Co.  
Cities Service, Columbian Division  
E.I. du Pont de Nemours & Company  
The East Ohio Gas Company

Eaton Corporation,  
Molded Products Division  
Ernst & Ernst  
The Firestone Bank  
Firestone Foundation  
The Firestone Tire & Rubber Company  
First National Bank of Akron  
Firwood Manufacturing Company, Inc.  
Ford Motor Company  
The General Tire & Rubber Company  
The B.F. Goodrich Company  
The Goodyear Tire & Rubber Company  
HWH Associates, Inc.  
The Hardware & Supply Company  
Harwick Chemical Corporation  
Hiney Printing Company  
The Hoover Company  
J.M. Huber Corporation  
The Kent Machine Company, Division  
of The Lamson & Sessions Company  
Knight Foundation  
The Lawson Milk Company  
Lord Corporation  
Mack Trucks, Inc.  
Marting Realty, Inc.  
Massey-Ferguson, Inc.  
Merrill Lynch, Pierce, Fenner & Smith, Inc.  
Laura R. & Lucian Q. Moffitt Foundation  
Monsanto Company  
Norton Company  
Ohio Edison Company  
The M. O'Neil Company  
Owens-Corning Fiberglas Corporation  
Pepsi-Cola Bottlers of Akron, Inc.  
Petro-Tex Chemical Company  
Polsky's  
PPG Industries, Inc.  
Reilly Foundation  
Roadway Express, Inc.  
The Roush Foundation  
John G. Ruhlin Construction Company  
A. Schulman, Inc.  
The J.M. Smucker Company  
The Spohn Corporation  
The Standard Oil Company  
Teledyne Monarch Rubber Company  
Temperature Control Company  
The Timken Company  
Union Oil Company of California  
R.T. Vanderbilt Company, Inc.  
Xerox Corporation

### **AKRON WOMEN IN CONSTRUCTION SCHOLARSHIP**

A scholarship in the amount of \$300 a year to be awarded to a female student from the Akron area, majoring in a construction field.

### **THE SAM ALEXANDER SCHOLARSHIP FUND**

This scholarship fund was established in 1977 by Home Centers, Inc., in honor of Founder Sam Alexander upon his retirement, following a quarter of a century of dedicated service as president and vice chairman of the company. It provides scholarship aid covering tuition for

full-time undergraduate students. Recipients and amount of scholarships awarded are determined by the University Scholarship Committee.

### **ALLIED CHEMICAL FOUNDATION GRANT**

Awarded in 1975, this grant provided by the Allied Chemical Foundation, is being used by the Institute of Polymer Science as a fund for a fellowship and/or other form of support for the Institute's graduate research program.

### **THE AKRON ALPHA DELTA KAPPA SCHOLARSHIP**

This scholarship is awarded to a freshman interested in teacher education, and was established in 1976 by the Alpha Delta Kappa Nu Chapter, International Honorary Teachers' Sorority. Recipient of this \$150 scholarship is selected by the University Scholarship Committee.

### **AMERICAN CYANAMID COMPANY GRANT**

This grant, awarded in 1974, is being used by the Institute of Polymer Science to fund the training and academic research of selected graduate students in the Institute.

### **CHRIS ANGELOFF MEMORIAL SCHOLARSHIP FUND**

This scholarship fund was established in 1975 through contributions from family, friends, and teammates in memory of Chris Angeloff, starting tight end on the 1975 University of Akron football team, who died unexpectedly during the second quarter of the Akron-Marshall University game in the Akron Rubber Bowl, Saturday, September 6, 1975. His death of heart complications was a tragedy shared by his family, teammates, and many friends who had come to know and admire him as a person devoted to his family, his team, and his University. At the request of his family, income from the fund is used for athletic scholarships, with first preference being participants in varsity football. Memorial contributions are welcomed.

### **ARMY ROTC SCHOLARSHIPS**

These scholarships provide financial assistance to highly qualified, highly motivated students who desire to pursue careers as commissioned officers in the Regular Army after graduation from college. Each scholarship provides for payment of instructional and other fees, an allowance for textbooks and supplies and a subsistence allowance of \$100 per month during the period of the scholarship.

### **THE ART AUCTION SCHOLARSHIP FUND**

These scholarships are made possible from the proceeds from the Annual Art Auction held by the Art Department.

**DAVID BRUCE AUBURN SCHOLARSHIP**

An endowed fund established by the Schaefer Foundation in 1968 in honor of David Bruce Auburn, the youngest child of Dr. Norman P. and the late Kay M. Auburn, and supported further by the Auburn family. Endowed income is used for scholarship purposes for deserving students from the State of Ohio enrolled in The University of Akron Community and Technical College as determined by the University Scholarship Committee.

**KATHLEEN MONTGOMERY AUBURN SCHOLARSHIP FOR GRADUATE STUDY**

Contributions from major women's campus groups, alumnae, Faculty Women's Club, and faculty members provide scholarship aid for women pursuing graduate or professional study at the University.

**KAY AUBURN CHAMBER BALLET SCHOLARSHIP**

A fund established by The Women's Committee of The University of Akron in honor of the late Kathleen Montgomery Auburn, wife of President Emeritus Norman P. Auburn, for the purpose of assisting a full-time student who has been recommended by the Artistic Director of the Ohio Ballet and approved by the Dean of the College of Fine and Applied Arts. The amount of the award is \$200 annually.

**NORMAN P. AUBURN SCHOLARSHIP IN ENGINEERING**

An annual \$1,000 scholarship to a first-year College of Engineering student who shows promise of high academic achievement. This scholarship is for the first academic year and may be renewed once. Selection of the recipient (resident or nonresident) is made by the University Scholarship Committee and the Dean of the College of Engineering. This scholarship, in honor of President Emeritus Norman P. Auburn, is in recognition of his dedicated academic leadership of the University (1951-71), and especially in the development and expansion of the College of Engineering in comprehensive programs through the doctorate. Established January, 1974.

**DAVE AXNER ATHLETIC SCHOLARSHIP FUND**

Established in 1976 by the Chevrolet Motor Division of General Motors Corporation in recognition of the outstanding play of fullback Dave Axner in The University of Akron's NCAA Division II playoff game with Northern Michigan University in the Knute Rockne Bowl December 4, 1977, at Akron. The fund is used to provide athletic scholarships for participants in varsity football. The scholarship serves as Chevrolet's

tribute to the University's Athletic Department for instilling a quest for excellence on the football field as one means of developing a system of values that will help young men build a better life.

**THE EDWARD SPENCER BABCOX SCHOLARSHIP FUND**

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

**SUMMERFIELD BALDWIN III SCHOLARSHIP**

In memory of the late Dr. Summerfield Baldwin III, Professor of History, an award is presented to 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.

**CAPTAIN HOWARD L. BARDEN MEMORIAL FUND**

Established in 1967 in memory of Captain Howard L. Barden, USAF, a 1957 graduate of the University, by his wife, this fund is used to provide scholarship assistance for undergraduate students selected by the University Scholarship Committee.

**MARY LOUISE BEVERLY SCHOLARSHIP**

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

**RAY C. AND ELLEN P. BLISS POLITICAL SCIENCE SCHOLARSHIP FUND**

This endowment fund was established in 1972 by Mr. Ray C. Bliss, Class of 1935, and Mrs. Ray C. Bliss (Ellen Palmer), Class of 1931, for the purpose of making scholarship awards to any full-time undergraduate student, without regard to race, color, creed, sex, or national origin who is in need of a grant in pursuing a major in political science within the Buchtel College of Arts and Sciences. First preference is given to students from Summit County, State of Ohio. All applicants must have demonstrated scholastic ability, possess high qualities of citizenship,

moral character, promise, and leadership. The fund is administered by The University of Akron Development Foundation. Contributions to the fund are accepted from interested donors.

#### **MARSHA L. BLOOM SCHOLARSHIP FUND**

A fund established by family and friends in memory of the late Marsha L. Bloom for the purpose of providing scholarship assistance to undergraduate women students in the Department of Chemistry.

#### **THE RUTH K. AND LOYD S. BLOOMFIELD MEMORIAL SCHOLARSHIP FUND**

This endowed scholarship fund, established in 1976 by Mrs. Loyd S. Bloomfield in loving memory of her husband, will provide scholarship aid for full-time undergraduate students. Recipients and amount of scholarships will be determined by the University Scholarship Committee, without regard to race, color, creed, sex, or national origin.

#### **BREWSTER SCHOLARSHIP**

A fund established by Mr. and Mrs. Evan B. Brewster (Margaret Zink, Class of 1925) to provide scholarship assistance to junior or senior students in amounts up to \$200 a year.

#### **MRS. EVAN (PEG ZINK, '25) BREWSTER EXPANDING SCHOLARSHIP ACCOUNT**

Established in 1977 by Evan B. Brewster, Esq., '26, in honor of his wife, the former Peg Zink, '25, this expanding scholarship account is funded through earnings from an endowment. The annual income is awarded by the University Scholarship Committee to students who pledge to repay within five years following graduation; thus increasing the assistance available for future students.

#### **BUCKEYE CLUB ANNUAL SCHOLARSHIP AWARD**

A \$600 annual scholarship award given by the State of Ohio Banking Alumni Association to a deserving bank or finance major in the junior year at one of the colleges of business in Ohio.

#### **MILDRED HETER BUCKINGHAM MEMORIAL SCHOLARSHIP**

This endowment fund was established by Mr. Lisle M. Buckingham for the purpose of making awards to full-time students who show promise in the field of applied music and who are recommended by the Department of Music.

#### **LELAND STANFORD BUCKMASTER SCHOLARSHIP**

This endowment fund, established by friends and relatives of the late Mr. Leland Stanford Buckmaster, a member of the Board of Directors of The University of Akron from 1957 to 1962, and supported in large measure by contributions from the American Federation of Labor — Congress of Industrial Organizations of which he was International President. The income is used to assist worthy students who are selected by the University Scholarship Committee. Memorial contributions are still being accepted as additions to this fund.

#### **THE BURGNER MEMORIAL MEDICAL SCHOLARSHIP**

An endowed fund established in memory of the late Dr. Earl W. Burgner by his wife, Lois A., Class of 1922, and friends for the purpose of providing financial assistance to a premedical student at The University of Akron selected on the basis of academic achievement.

#### **CLARENCE M. AND FRANCES W. CARSON SCHOLARSHIP FUND**

Established in 1964 by Clarence M. Carson, retired Goodyear Chemical Engineer, and his wife, Frances W., Class of 1933, through a life income agreement with the University, this endowed fund in their memory provides scholarship assistance for undergraduates majoring in chemical engineering.

#### **HERVEY E. CHAMBERS SCHOLARSHIP**

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

#### **CLEVELAND CHAPTER OF OHIO SOCIETY OF CERTIFIED PUBLIC ACCOUNTANTS SCHOLARSHIP AWARD**

An award in the amount of \$600 provided to an outstanding junior majoring in accounting.

#### **THE CARL COFFEEN EDUCATIONAL SCHOLARSHIP**

A \$300 scholarship offered annually by the Summit Federal Credit Union in honor of the late Dr. Carl Coffeen, retired Superintendent of Summit County Schools. Preference is given to a student who is a member or son or daughter of a member of the Credit Union who is entering the junior year at The University of Akron and who expects to enter the field of education. A recipient is selected on the basis of financial need, academic achievement, and leadership. Scholarship is renewable in the senior year.

### COLLEGE CLUB OF AKRON SCHOLARSHIP

A scholarship sponsored by the College Club of Akron in the amount of \$600 per year for one year to an entering freshman girl. Recipients are selected by the Scholarship Committee of the College Club of Akron upon the recommendation of The University of Akron Scholarship Committee. Need, character, and ability to succeed in college work are important qualifications.

### HUGH F. COLLIER SCHOLARSHIP

A scholarship to cover student fees and text books, established in 1971 by Hugh F. and Evelyn J. Collier. Selection is made by the University Scholarship Committee based on financial need and satisfactory academic progress.

### COOPERS & LYBRAND SCHOLARSHIP AWARD

Established in 1976 by the Lybrand Foundation, the Coopers & Lybrand Scholarship Award in the amount of \$250, is given to an outstanding junior in the Department of Accounting of the College of Business Administration. An unrestricted matching amount is provided the department.

### COPPERWELD STEEL COMPANY'S WARREN EMPLOYEES' TRUST SCHOLARSHIP

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

### ROBERT CRAFTS MEMORIAL SCHOLARSHIP

A fund established in 1969 by Mrs. Robert Crafts in memory of her husband, Robert Crafts, Esq. The income or principal or both is used to assist worthy students in the School of Law who enter under the Council on Legal Education Opportunity program, and students similarly situated, on the recommendation of the Dean of the School of Law.

### THE GEORGE J. CURTIS SCHOLARSHIP

A \$300 per year scholarship offered annually by the Summit Federal Credit Union in honor of George J. Curtis, an official of long standing on the Credit Committee and a Director on the Board. Preference is given to any student who is a member or son or daughter of a member of

the Credit Union who is entering the senior year at The University of Akron and who expects to enter the field of education. A recipient is selected on the basis of financial need, academic achievement, and leadership.

### CUYAHOGA FALLS CHAMBER OF COMMERCE SCHOLARSHIP FUND

Established in 1975 by the Cuyahoga Falls Chamber of Commerce for the benefit of graduating seniors at Cuyahoga Falls High School enrolling at The University of Akron, this fund provides scholarship aid for full-time undergraduates in need of financial assistance. Recipients and amount of scholarships awarded is determined by the University Scholarship Committee.

### THE FRED AND RUBY DANNER MEMORIAL SCHOLARSHIP

A fund established by Mr. Bob F. Danner in 1967 in memory of his parents, Fred and Ruby Danner, for the purpose of providing scholarship assistance to worthy students. First preference is given to students from the Canton, Ohio, area. The University Scholarship Committee selects the recipient and determines the amount of the grants.

### ROSE AND JULIUS DARSKY SCHOLARSHIP

An endowed fund made possible by Dorothy and Samuel Cohen, Shirley and Stanford Lerner, Arlene and Bertram Lockshin, Arlene and Hugh Allen Lockshin, and Joyce and Robert Lockshin. The income is used for the purpose of providing scholarship assistance to any worthy person attending The University of Akron without regard to race, creed, sex, or national origin. Preference is given to those who are unable to be employed while attending college due to a physical handicap. Selection of the recipient is made by the University Scholarship Committee.

### THE MALCOLM J. DASHIELL SCHOLARSHIP FUND

Established in the memory of the late Malcolm J. Dashiell, Professor of Art, scholarship assistance is provided annually to an art student in the College of Fine and Applied Arts.

### ELIXABETH C. DELLENBERGER AWARD

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

### DELTA GAMMA FUND FOR THE VISUALLY HANDICAPPED

Established by Akron Alumnae Chapter of

Delta Gamma, in honor of the late Ruth K. Bilow, this scholarship provides assistance on the basis of need, to a visually handicapped undergraduate or graduate student who is a resident of Summit County.

### **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.

### **DELTA KAPPA GAMMA SOCIETY SCHOLARSHIP**

This scholarship is offered by the Delta Kappa Gamma Council of the Akron area. A maximum of \$300 annually is made to a woman or women with at least a 3.0 grade point average in the junior year and who need financial assistance to complete the senior year before entering the field of education.

### **DELTA KAPPA GAMMA GRADUATE SCHOLARSHIP**

This scholarship is offered by the Delta Kappa Gamma Council of the Akron area to an active member(s) of any chapter affiliated with that council. No scholarship shall exceed \$200.

### **MR. AND MRS. WILLIAM DEME SCHOLARSHIP FUND**

William and Florence Deme believed that an educated mind was more desirable than wealth. This endowed scholarship, established by their daughter, Katherine D. Oana, M.S. '56, in honor of their integrity, is awarded annually by the University Scholarship Committee in support of a selected Presidential Scholar.

### **MR. AND MRS. CHARLES C. DILLEY SCHOLARSHIP**

An endowed fund established in 1966 by Mr. and Mrs. Charles C. Dilley. The income is used to assist worthy students selected by the University Scholarship Committee.

### **THE MARJORIE DULL SCHOLARSHIP**

The Tire Town Chapter of The National Secretaries Association established this scholarship fund in 1977 in honor of Marjorie Dull, CPS, 1977 International Secretary of the Year. The scholarship is awarded to an outstanding student in secretarial science to defray normal college expenses.

### **THE EDWARD F. DISSMEYER MEMORIAL SCHOLARSHIP FUND**

A fund established by family and friends in memory of the late Edward F. Dissmeyer for the purpose of providing scholarship assistance to worthy students in the College of Engineering.

### **BETTY DOBKIN NURSING SCHOLARSHIPS**

Two or more scholarships of \$300 each are granted annually by the Women's Auxiliary to the Summit County Medical Society to students enrolled in or entering The University of Akron or the Akron Hospital Schools of Nursing. First preference is given to Summit County residents. Recipients are chosen on the basis of need, academic achievement, and leadership.

### **EASTMAN KODAK COMPANY RESEARCH GRANT**

The Institute of Polymer Science is the recipient of this research grant presented by Eastman Kodak Company to assist and encourage education and investigative study at the master's or doctoral level in fields related to the company's own diverse research and development program. A portion of the grant is used to fund an Eastman Kodak Fellowship, with the balance used for departmental scholarships or to strengthen the Institute's academic or research program in an innovative way.

### **EDITH MAE ECKLER MEMORIAL AWARDS**

Provided through the provision of funds from the Edith Mae Eckler Trust, named in memory of the wife of the late John R. Eckler, first President of the First Central Trust Company, now known as the First National Bank of Akron. Awards for scholarship are made to students enrolled at The University of Akron majoring in finance.

### **ERNST & ERNST FUND**

An annual grant of \$2,500 is given for the purpose of providing achievement awards of \$250 each to two outstanding senior accounting students based upon scholarship and leadership, plus an unrestricted matching amount to the Department of Accounting. Balance of the grant is provided for undergraduate scholarships under the auspices of the Associates program, with first preference to qualifying students of the College of Business Administration.

### **EVANS FOUNDATION SCHOLARSHIPS**

The Evans Foundation Scholarships in varying amounts are 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 is given to those enrolled in the College of Business Administration.

### **THOMAS W. EVANS MEMORIAL SCHOLARSHIP FUND**

Established in 1974 through the memorial contributions of friends and family of Professor

Emeritus Thomas W. Evans, dedicated and loyal member of the University family who will long be remembered for his outstanding contributions in the field of athletics, this endowed fund is to be used by the University Scholarship Committee to provide assistance to worthy students, with first preference being participants in varsity track.

#### **EXXON CHEMICAL COMPANY SCHOLARSHIP FUND**

An endowed fund established by the Exxon Education Foundation for the purpose of providing financial assistance to junior or senior students in the Department of Chemistry. The selection of recipients is made on the basis of academic achievement and financial need.

#### **THE FALLS MASQUERS SCHOLARSHIP FOR EXCELLENCE IN THE THEATRE ARTS**

Established in 1977 by The Falls Masquers, Inc. for the encouragement of excellence in the theatre arts, this endowed scholarship is awarded annually to a deserving undergraduate majoring in the theatre arts. Academic accomplishments, participation in the University Theatre, and financial need are considered by the Department of Speech and Theatre Arts in selection of the recipients.

#### **THE ANN van BLARICOM FALOR SCHOLARSHIP IN NURSING**

An academically talented junior in the College of Nursing is the recipient of this endowed scholarship, established in 1976 by William H. Falor, M.D., '34, in honor of his wife, Ann van Blaricom Falor. The recipient is selected upon the recommendation of the Dean of the College of Nursing, with the scholarship funded a second year upon merit. The first Falor scholar is to be selected for the 1977-78 academic year.

#### **THE FIRESTONE TIRE AND RUBBER COMPANY FELLOWSHIP**

This fellowship is awarded to a graduate student in polymer science. It is open to graduates of accredited American colleges and universities.

#### **FORD MOTOR COMPANY GRANT**

This grant, awarded in 1974, is being used by the Institute of Polymer Science to fund the training and academic research of selected graduate students in the Institute.

#### **ARTHUR L. FOSTER SCHOLARSHIPS**

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

#### **THE WINFRED E. FOUSE ENDOWMENT FUND**

Established in 1964 by sone Harlan and Eugene Fouse and The General Tire Foundation in honor of the late Winfred E. Fouse, a co-founder of The General Tire & Rubber Company, this endowment fund provides earnings for scholarship awards.

#### **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 are determined by the University Scholarship Committee.

#### **ERVIN D. FRITCH AND ADA B. FRITCH SCHOLARSHIPS**

Scholarships are awarded annually 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.

#### **FUTURE SECRETARIES ASSOCIATION SCHOLARSHIP**

The Future Secretaries Association Scholarship has been established to provide funds for a promising secretarial science student in FSA. Academic standing, financial need, and participation in FSA are the requirements for a member to receive the scholarship.

#### **GARFIELD HIGH SCHOOL GOLDEN ANNIVERSARY SCHOLARSHIP FUND**

Established with funds accruing from Garfield High School's Golden Anniversary celebration, November 19-20, 1976, earnings from this endowed fund are used to provide tuition assistance for deserving Garfield High School graduates during their freshman year at The University of Akron. Contributions are welcome from alumni and friends, especially from Fifty Year Anniversary classes. Selection of scholarship recipients is handled by the University Scholarship Committee.

#### **DONFRED H. GARDNER MEMORIAL SCHOLARSHIP FUND**

Established in 1975 through the memorial contributions of friends and relatives of the late Dr. Donfred H. Gardner, who retired in 1962 as Vice President and Dean of Administration Emeritus following 38 years of distinguished service to The University of Akron as teacher, counselor, and administrator, this scholarship fund is to be used by the University Scholarship Committee to help meet the financial needs of qualified and deserving undergraduate students. Memorial

contributions may be made to the Gardner Fund.

### **GENERAL MOTORS SCHOLARSHIP PLAN**

Supported by the General Motors Corporation, this scholarship plan provides an annual stipend ranging from \$200 to \$2,000 annually depending upon the recipient's need. The University Scholarship Committee selects an entering freshman student on basis of academic potential and achievement and leadership qualities.

### **THE GENERAL TIRE & RUBBER COMPANY RESEARCH FELLOWSHIP**

This fellowship is awarded to a graduate student in polymer science.

### **THE GLAUS, PYLE, SCHOMER, BURNS, AND DE HAVEN SCHOLARSHIP**

The firm of Glaus, Pyle, Schomer, Burns, and DeHaven, Architect and Consulting Engineers established this fund of \$500 in appreciation of the University's contributions to the community. Proceeds provide scholarship assistance to worthy students in the College of Engineering.

### **GLOVER SCHOOL PARENT-TEACHERS ASSOCIATION SCHOLARSHIP FUND**

Graduates of Glover School with good academic records and financial are provided scholarship assistance with funds provided by the Glover School PTA.

### **WILLIAM GODFREY SCHOLARSHIP FUND**

Established in 1975 by Akron businessman William Godfrey in the interest of furthering the education of students at Archbishop Hoban High School, four scholarships are awarded annually to seniors enrolling at The University of Akron. Selected Godfrey Scholars are announced as part of Honors Day Exercises at the high school.

### **THE B.F. GOODRICH COMPANY FELLOWSHIP**

This grant supports a fellowship to a graduate student in the field of polymer science.

### **THE MARY S. GOODWIN PRESIDENTIAL SCHOLARSHIP FUND**

Mary Goodwin always helped the less fortunate. Because of her thoughtfulness to others, this endowed scholarship was established in 1975 by her sister, Katherine D. Oana, M.S. '56. The scholarship is awarded annually by the University Scholarship Committee in support of a Presidential Scholar.

### **GOODYEAR INTERNATIONAL CORPORATION FELLOWSHIP**

The Goodyear International Corporation Fellowship is in the value of \$2,300 per annum plus fees and tuition for each recipient. To be eligible, a candidate must be working toward a Master's of Science in Engineering or Chemistry Degree and be an employee or family member of an employee in the overseas operation of the Goodyear International Corporation.

### **GOODYEAR SERVICE PIN ASSOCIATION SCHOLARSHIPS**

These scholarships were established by the Goodyear Service Pin Association of The Goodyear Tire & Rubber Company. Annual scholarships of \$450 each are awarded to an entering freshman, a sophomore, a junior, and a senior student. To be eligible, a candidate must be a United States citizen, desire to enter industry upon graduation, and a child whose parent is an employee with five (5) years or more service with The Goodyear Tire & Rubber Company or one of its domestic subsidiaries.

### **THE GOODYEAR TIRE & RUBBER COMPANY ACCOUNTING SCHOLARSHIPS**

Two scholarships established by The Goodyear Tire & Rubber Company for the purpose of assisting junior or senior students majoring in accounting recommended by the Accounting Department faculty. The recipients must be United States citizens, desire to enter business or industry upon graduation and require financial assistance. The total amount awarded is \$1,000 annually.

### **THE GOODYEAR TIRE & RUBBER COMPANY FELLOWSHIP**

This fellowship is awarded to a graduate student in polymer science. It is open to graduates of accredited American colleges and universities.

### **THE GOODYEAR TIRE & RUBBER COMPANY FUND FOR LEGAL EDUCATION OPPORTUNITY STUDENTS**

A fund established in 1969 by The Goodyear Tire & Rubber Company Fund. The principal and income will be used for living expenses of students admitted to the School of Law under the Legal Education Opportunity program, on the recommendation of the Dean of the School of Law.

### **JACOB GORDON MERIT AWARD**

This is an endowed fund established in 1975 by Jacob Gordon, CPA. Annually, a tuition award of \$300 is to be presented to an outstanding full-time Junior accounting student entering

his senior year. Students selected for the award are chosen on the basis of academic achievement and participation in campus activities.

### **GRAND LODGE OF FREE AND ACCEPTED MASONS OF OHIO SCHOLARSHIP**

One \$400 scholarship is awarded to a deserving student meeting the scholarship requirements.

### **CARLOTTA C. GREER SCHOLARSHIP**

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

### **THE FRED S. GRIFFIN AND ROBERT N. COLLINS AWARD FUND**

Established in 1976 by the Akron Section of the American Society of Mechanical Engineers, ASME, the Student Section of ASME, and the faculty of the Department of Mechanical Engineering, in memory of the late Fred S. Griffin and Robert N. Collins, revered members of the Mechanical Engineering faculty, this fund provides a scholarship award for the outstanding senior Mechanical Engineering student as determined by the department faculty.

### **GULF OIL FOUNDATION GRADUATE FELLOWSHIP**

This fellowship, established in 1975 by the Gulf Oil Foundation, provides funds for tuition and fees for a graduate student in the Department of Chemistry.

### **THE NOLA M. GUZZETTA MEMORIAL SCHOLARSHIP FUND**

This endowed fund was established in 1976 through the contributions of friends and relatives in memory of Nola Miller Guzzetta, beloved and devoted wife of President D. J. Guzzetta and friend of unswerving loyalty and dedication to the interests of the University, its students, and faculty. Fund earnings are used by the University Scholarship Committee to reward academic achievement among deserving entering and undergraduate students. Contributions to the fund are welcomed.

### **THE NOLA M. GUZZETTA MEMORIAL SCHOLARSHIP FUND OF THE WOMEN'S COMMITTEE OF THE UNIVERSITY OF AKRON**

Established in 1976 by The Women's Committee of The University of Akron in memory of Nola Miller Guzzetta, wife of President D. J. Guzzetta and devoted friend of the University, this fund provides scholarship assistance annually for a deserving undergraduate student in instrumental music.

### **THE CARL L. HALL MEMORIAL SCHOLARSHIP FUND**

An endowed fund established in 1973 by family and friends of the late University Treasurer Carl L. Hall. Income is to be used to provide scholarship assistance for worthy students selected by the University Scholarship Committee.

### **HERMINE Z. HANSEN TRUST FOR STUDENT AID**

This trust agreement, established with provisions from the estate of Hermine Z. Hansen, enables earnings to be used by the University of Akron for assisting needy and deserving students in carrying forward their education.

### **THE CHARLOTTE HANTEN ART SCHOLARSHIP**

A scholarship established in 1971 by Charlotte Hanten to provide financial assistance in the amount of \$300 a year (\$100 each semester) to a student who has presented evidence of financial need and who has demonstrated superior art ability during at least one year of college work. Selection is made by a committee of the Art Department faculty without consideration of the candidate's race, sex, color, religion, or political beliefs.

### **M.M. HARRISON MEMORIAL SCHOLARSHIP**

An award for a male chemistry student with a high scholastic average. The amount per year is determined by the University Scholarship Committee.

### **HASKINS & SELLS ALUMNI ACCOUNTING SCHOLARSHIP FUND**

Established in 1976 with funds contributed by alumni employed by Haskins & Sells, Certified Public Accountants, and by matching gifts from the corporate foundation, a scholarship in the amount of \$250 is awarded a junior accounting major in the College of Business Administration. The program also provides an unrestricted amount for the Department of Accounting.

### **OTIS C. HATTON SCHOLARSHIP**

This scholarship in the amount of \$375 a year was established by the Akron Council of the Parent-Teachers Associations in honor of the late Otis C. Hatton, former Superintendent of Schools. Preference is given to students planning to enter the education profession.

### **ELLEN HERBERICH BALLETT SCHOLARSHIPS**

Full tuition scholarships awarded annually to members of the Ohio Ballet, who are full-time students at The University of Akron, and who

have been recommended by the Artistic Director of the Ballet and selected by the Dean of the College of Fine and Applied Arts. This scholarship was established in 1970 by Ellen (Mrs. Charles) Herberich, Chairman of the Women's Board of the Ohio Ballet. Contributions to the fund are accepted from interested donors.

#### **WALTER AND MARY EFFIE HERBERICH SCHOLARSHIP**

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

#### **HESSELBART AND MITTEN SCHOLARSHIP**

This fund was established by the Hesselbart and Mitten Advertising Agency to provide scholarship assistance for students selected by the University Scholarship Committee on the basis of academic achievement and need. Preference is given to unmarried sons or daughters of employees of the agency.

#### **MR. AND MRS. JOHN S. HEUSS SCHOLARSHIP**

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

#### **THE CLARK AND GRACE HILL MEMORIAL SCHOLARSHIP FUND**

This endowed fund, established in 1975 by Mrs. Herbert L. Allshouse (Bertie Lou Hill), Class of '52, in loving memory of her parents, provides scholarship aid for full-time undergraduate students in need of financial assistance. Recipients and amount of scholarships awarded are determined by the University Scholarship Committee, with first preference given worthy students majoring in music.

#### **KENNETH M. AND BARBARA HINEY SCHOLARSHIP**

A scholarship established by Mr. and Mrs. Kenneth M. Hiney. Preference is given to a student from the Akron area. Selection is made by the University Scholarship Committee based on financial need and satisfactory academic progress.

#### **THE HOMEBUILDERS ASSOCIATION OF GREATER AKRON WOMEN'S AUXILIARY SCHOLARSHIP FUND**

Established in 1976 by the Women's Auxiliary of the Homebuilders Association of Greater Akron, this scholarship fund provides tuition support for undergraduate students pursuing courses of study preparing them for careers in the building industry. Selection of recipients by the University Scholarship Committee is made without regard to race, color, creed, sex, or national origin of the candidates.

#### **ALICE HESLOP HOOVER SCHOLARSHIP**

This scholarship is to be used for the purpose of aiding talented young women at The University of Akron, studying voice culture, who merit assistance.

#### **FRED F. AND BESSE WILLETT HOUSEHOLDER MEMORIAL SCHOLARSHIPS**

A fund established under the will of the late Fred F. Householder, former Professor and Head of the Department of Physics at The University of Akron, provides scholarships to students in the Department of Physics as selected by the Physics faculty.

#### **THE FRANK C. HOWLAND SCHOLARSHIP**

An endowed fund established by Mrs. Frank C. Howland in memory of her late husband. The income is used to assist worthy students in the form of scholarships as determined by the University Scholarship Committee.

#### **CLARENCE L. HYDE MEMORIAL SCHOLARSHIP**

This scholarship of \$200 for the academic year was created by the Clarence L. Hyde League, and is a living commemoration of Dr. Hyde and his service to humanity. It is awarded each year to an outstanding senior student residing in Akron.

#### **INSURANCE WOMEN OF AKRON EDUCATIONAL FUND**

Established in June of 1972 by the Insurance Women of Akron, this educational fund provides financial assistance for individuals preparing for or improving their skills for business careers, preferably in the insurance field. IWOA members are eligible for assistance on a loan basis up to a maximum of \$500, repayable within a two-year period. Applications are directed to the Special Education Committee of the Insurance Women of Akron for review.

### **ITALIAN AMERICAN PROFESSIONAL AND BUSINESS MEN'S CLUB SCHOLARSHIPS**

Established in April, 1973, by the Italian American Professional and Business Men's Club of Akron, three scholarships valued at \$500 each are awarded annually to deserving students entering the senior year majoring in music, art and theatre arts. Selection of a recipient from each of these categories is made by the University Scholarship Committee upon the recommendation of the Dean of the College of Fine and Applied Arts.

### **THE WILLIAM A. JATEFF MEMORIAL SCHOLARSHIP FUND**

A scholarship established in 1967 by family and friends in memory of the late William A. Jateff, with additional funding in 1970 in memory of the late Barry Jateff, provides scholarship assistance for worthy students selected by the University Scholarship Committee.

### **DAVID J. JOHNSON SCHOLARSHIP FUND**

An endowment fund established under the will of Mrs. Myrtle A. Johnson, Class of 1913, provides scholarship assistance to worthy students in the College of Nursing, in memory of her husband. Recipients and amount of the scholarships are determined by the faculty of the College.

### **THE UNIVERSITY OF AKRON JUNIOR ACHIEVEMENT SCHOLARSHIP**

Established in 1976, this \$400 scholarship is provided in the freshman year to reward a young person for academic excellence in high school and for participation in the Junior Achievement program.

### **JUNIOR WOMEN'S CIVIC CLUB SCHOLARSHIP**

Annual scholarships in varying amounts are awarded to deserving students. Recommendations are made by the University Scholarship Committee with final approval by the Junior Women's Civic Club Scholarship Committee.

### **KAPPA KAPPA GAMMA FRATERNITY FOUNDERS' MEMORIAL FUND**

This Founders' Memorial Fund for Students Aid was established in 1977 for Kappa Kappa Gamma scholarships in recognition of the 100th anniversary of the Fraternity's Lambda Chapter at The University of Akron.

### **KAUFMAN FOUNDATION SCHOLARSHIP**

One half of the income derived from this fund, established by Mr. Jerome J. Kaufman, is to be

used to assist worthy students in the form of scholarships with an equal amount being used for faculty salaries.

### **KAUSCH & GRAF CO. ACCOUNTING SCHOLARSHIP**

Established in 1976 by Kausch & Graf Co., Akron CPAs, a scholarship in the amount of \$250 is provided annually to an outstanding accounting major entering his senior year in the College of Business Administration. Selection is made by the Accounting faculty.

### **THE FAMA N. KEITH SCHOLARSHIPS**

Scholarships are awarded annually to students majoring in music with the recipients selected by the Dean of the College of Fine and Applied Arts upon recommendation of the Head of the Department of Music based on need and achievement. This scholarship fund was established in 1971 by Fama N. Keith (Mrs. Walter P.).

### **DR. KEVIN E. KELLEHER MEMORIAL FUND**

An endowed fund established by the immediate family of the late Dr. Kevin E. Kelleher, former Assistant Professor of Biology. The income is used to provide scholarship assistance to worthy students specializing in ecology selected by the University Scholarship Committee.

### **ALICE M. KESSLER MEMORIAL SCHOLARSHIP**

An endowed fund established in 1973 by Mr. George W. Kessler in memory of his wife, Alice M. Kessler, for the purpose of providing scholarship assistance to worthy students majoring in arts and/or music. The selection of the recipients is made by the University Scholarship Committee.

### **GEORGE S. KETTER MEMORIAL SCHOLARSHIP**

A scholarship established in 1972 by Mrs. George S. Ketter in memory of her late husband. Recipients are selected by the University Scholarship Committee based on financial need and satisfactory academic progress. Preference is given to freshman or sophomore students in electrical engineering.

### **MARTIN LUTHER KING, JR., MEMORIAL SCHOLARSHIP**

A fund established in memory of the late Dr. Martin Luther King, Jr., for the purpose of providing scholarship assistance to worthy students attending The University of Akron. The selection of recipients is made by the King Scholarship Committee on the basis of financial need without regard to race, creed, color, or national origin.

### **THE ELSIE S. KOSMAN MEMORIAL SCHOLARSHIP FUND**

Established in 1977 by family and friends in loving memory of Mrs. Elsie S. Kosman who was of invaluable assistance to colleagues and students during an eight-year association with the Counseling and Advising Department at The University of Akron, this scholarship fund is used by the University Scholarship Committee to help meet the financial needs of qualified and deserving undergraduate students. Memorial contributions are welcome.

### **DR. WALTER C. KRAATZ MEMORIAL SCHOLARSHIP FUND**

A fund to memorialize the late Dr. Walter C. Kraatz, Professor Emeritus of Biology and former Head of the Department, in recognition of his dedication to teaching, especially in premedical training. Qualified and deserving students in biology are selected by the University Scholarship Committee for the Kraatz Scholarship awards.

### **THE E. P. LAMBERT COMPANY SCHOLARSHIP**

An endowed fund established by the E. P. Lambert Company, with the income to assist worthy students selected by the University Scholarship Committee.

### **JOSEPH T. LENTINI MEMORIAL SCHOLARSHIP FUND**

An endowed scholarship fund established in 1974 by the Joseph R. Lentini family and friends in memory of Joseph T. Lentini. Earnings are used for scholarship purposes for deserving full-time second-year criminal justice majors enrolled in the Community and Technical College. Selection is based on academic achievement without regard to race, color, creed, sex, or national origin, and with consideration for financial need. Contributions to the fund are accepted from interested donors.

### **RUTH E. LEOPOLD SCHOLARSHIP FUND**

An endowed fund established under the will of the late Ruth E. Leopold. The income is used to aid needy worthy students to obtain an education at The University of Akron. The recipients are selected by the University Scholarship Committee without regard to race, creed, or color.

### **JULIA S. GUO LI GRADUATE FELLOWSHIP IN MATHEMATICS**

Established in 1975, this grant by Julia S. Guo Li is being used by the Department of Mathematics in support of graduate study.

### **ISAAC LIBERMAN MEMORIAL SCHOLARSHIP**

An endowment fund, established by the Wooster Sheet Metal and Roofing Company in memory of Isaac Liberman, with earnings going toward a scholarship for a student demonstrating college potential and financial need. The selection is not limited in any way by race, color, or creed of applicants, and, if qualified candidates are available, family members of employees of the Wooster Sheet Metal and Roofing Company are given primary consideration.

### **BETTY JANE LICHTENWALTER SCHOLARSHIP**

This scholarship was established from a memorial fund in the name of Betty Jane Lichtenwaller. The income from this account is to be awarded to worthy students with music or speech majors.

### **LOCAL 296 UAW MEMORIAL SCHOLARSHIP**

A memorial scholarship established by a grant from Local 296 United Automobile, Aerospace and Agricultural Implement Workers of America. First preference shall be given to the children of the Roger M. Crowe family in memory of a deceased member of the family.

### **LOUIS LOCKSHIN SCHOLARSHIP**

An award up to \$350 a year for a deserving entering freshman established by the employees of the Workingmen's Overall Supply, Inc., in honor of Louis Lockshin. The applicant is chosen on the basis of scholarship and need, with preference given to immediate family relatives of the employees. Race, color, creed, or sex are not considered in making the award.

### **LUBRIZOL SCHOLARSHIP**

An award is given to a student or students nominated by the Department of Chemistry. No restriction as to year of study.

### **PHILIP P. AND FAYE LUTZ SCHOLARSHIP**

A \$100,000 trust agreement established by Mr. and Mrs. Philip P. Lutz in 1968 provides endowed scholarship assistance to students on the basis of need, scholastic potential, and ultimate advantage to the student as meriting such scholarship grants. The University Scholarship Committee determines amount of the grants and number of recipients. A graduating senior who has been a Lutz Scholarship recipient and who, in the opinion of the University Scholarship Committee, has used the scholarship grant to his or her own and the University's best advantage is eligible to receive an incentive award in the amount of \$1,000 or in such amount as determined by the Committee.

### **3M COMPANY GRANT (Minnesota Mining & Manufacturing)**

Provided in 1974, this grant by the 3M Company is being used by the Institute of Polymer Science in support of its research and graduate program.

### **THE ALAN L. MacCRACKEN SCHOLARSHIP FUND**

This scholarship fund was established in 1974 by Mrs. Alan L. MacCracken (Marthena Brewster) of Hudson, Ohio, in honor of her husband, Alan L. MacCracken, '38, and son, Alan L. MacCracken, Jr. Provided is scholarship assistance in the amount of \$300 per year to a worthy student graduating from Hawken School, Cleveland, or from Hudson High School. Selection is made on the basis of need and academic record.

### **THE MAFFEI EDUCATIONAL FUND**

Established in 1977 by Francis Maffei, Jr., and Emily P. Maffei, of Butler, Pennsylvania, and sons Francis Maffei, III, '70, and Charles Maffei, '74, this educational fund is used to provide tuition grants for undergraduates participating in track at the University, with first preference being students from Pennsylvania.

### **GEORGE W. MATHEWS SCHOLARSHIP FUND**

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

### **C. BLAKE McDOWELL SCHOLARSHIP**

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

### **RUTH McKNIGHT SCHOLARSHIP**

Scholarships in varying amounts are granted by the Ellet Women's Club to graduates of Ellet High School who are financially deserving and who wish to attend The University of Akron as full-time students.

### **McNEIL CORPORATION SCHOLARSHIPS**

Four-year scholarships for students enrolled in the College of Engineering, preferably in mechanical engineering, have been provided by the McNeil Corporation. These are full scholarships for residents of Akron and include a grant for books.

### **VIRA DUNN MEYERS SCHOLARSHIP**

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

### **JAMES A. MILLAR MEMORIAL SCHOLARSHIP FUND**

This endowed fund, established in 1975 with provisions from the estate of James A. Millar, Class of 1924, of Waterbury, Connecticut, provides scholarship assistance for undergraduates who are participants in the University's Honors Program.

### **CARL MIRMAN SCHOLARSHIP**

This scholarship was established by The Akron Scrap Iron Company in memory of its founder, Carl Mirman. It is awarded to students who are in need of financial assistance and who have demonstrated satisfactory scholarship. Selection is made by the University Scholarship Committee.

### **THE EDITH DELANEY MITCHELL SCHOLARSHIP**

Zeta Theta Omega, the Alumnae Chapter of Alpha Kappa Alpha Sorority, annually awards a scholarship to a black, female undergraduate, in her sophomore or junior year, who exhibits ethical standards, and holds the highest scholastic average among those eligible for consideration. The Chapter Scholarship Committee interviews candidates recommended by the University.

### **VICTOR I. MONTENYOHL SCHOLARSHIPS**

This scholarship fund for advanced study was established in memory of Victor I. Montenyohl in recognition of his devotion to the rubber industry, and his belief that The University of Akron offered a unique opportunity for rubber research. The income from this fund is awarded to a student well qualified and interested in the field of rubber chemistry.

### **HERMAN MUEHLSTEIN FUND FOR SCHOLARSHIP AID**

Earnings on an \$800,000 grant from the Herman Muehlstein Foundation of New York provide scholarships for qualified students at The University of Akron who come from the New York City area.

### **JULIUS MUEHLSTEIN SCHOLARSHIP AWARDS**

Awards of varying amounts are made to promising students in the field of chemistry who might otherwise find it impossible to continue their education.

## **THE UNIVERSITY OF AKRON NATIONAL MERIT SCHOLARSHIPS**

Through an arrangement with the National Merit Scholarship Corporation, The University of Akron sponsors National Merit Scholarships. Selections are made by the University Scholarship Committee from National Merit Finalists who indicate a desire to attend the University. The amounts of the awards range from \$100 to \$1,500 annually depending upon the student's need as estimated by the National Merit Scholarship Corporation.

## **NATIONAL SECRETARIES ASSOCIATION SCHOLARSHIP**

The Louise Gamble Annual Scholarship in the amount of fees and books is awarded to an outstanding student in secretarial science to defray normal college expenses.

## **THE NORTH CENTRAL (AKRON) CHAPTER OF THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION AWARD**

An annual scholarship of \$500 to an electrical engineering student whose father is affiliated with the electrical industry in Ohio.

## **NORTH HIGH SCHOOL PARENT-TEACHERS ASSOCIATION SCHOLARSHIP**

Funds donated by the North High School PTA provide two scholarships in the amount of \$180 each to graduates of North High School with good academic records and financial need.

## **OHIO CIVIL SERVICE EMPLOYEES ASSOCIATION SCHOLARSHIP FUND**

This fund, established in 1975 by the Ohio Civil Service Employees Association, provides scholarship aid for full- or part-time undergraduates in need of financial assistance. Recipients and amount of aid awarded are determined by the University Scholarship Committee, with first preference given Ohio Civil Service Association members or their dependents.

## **ORDER OF OMEGA/INTERFRATERNITY COUNCIL SCHOLARSHIP PROGRAM**

The Order of Omega, a National Fraternity Leadership Honorary, in cooperation with The University of Akron Interfraternity Council, annually awards a scholarship to a male, high school graduating senior who shows an interest in the fraternity system at the University. Consideration is given extracurricular involvement, community service, and scholastic achievement of each application.

## **EUGENE O'NEIL SCHOLARSHIP**

Proceeds from an endowment fund established at The University of Akron by Mr. Eugene O'

Neil, Class of 1936, provides a scholarship for a qualified student, preferably from the New England area.

## **HUGH MICHAEL O'NEIL SCHOLARSHIP**

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

## **M. G. O'NEIL FOUNDATION SCHOLARSHIP**

A scholarship established by the M. G. O'Neill Foundation provides funds for a needy and promising entering male student, preferably of the Negro race, who otherwise would be unable to attend college. Funds cover living expenses, fees, and books for the year.

## **TOM PACENTA ATHLETIC SCHOLARSHIP FUND**

Established in 1976 by the Chevrolet Motor Division of General Motors Corporation in recognition of the outstanding play of end Tom Pacenta in The University of Akron's NCAA Division II playoff game with Northern Michigan University in the Knute Rockne Bowl December 4, 1977, at Akron. The fund is used to provide athletic scholarships for participants in varsity football. The scholarship serves as Chevrolet's tribute to the University's Athletic Department for instilling a quest for excellence on the football field as one means of developing a system of values that will help young men build a better life.

## **PAPICH SCHOLARSHIP FUND**

This scholarship fund, established in 1976 by Mr. and Mrs. Kosta M. Papich of Barberton, provides financial assistance for full-time undergraduate students in need. Recipients and amount of scholarship aid are determined by the University Scholarship Committee.

## **JUDGE AND MRS. W. E. PARDEE MEMORIAL SCHOLARSHIP**

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

## **WILLIAM E. PASCHAL AND GRACE D. PASCHAL SCHOLARSHIP**

Income from this endowment, established in 1967 by Mr. and Mrs. William E. Paschal, provides scholarship assistance to students participating in intercollegiate football.

### LEMUEL G. PENCE MEMORIAL SCHOLARSHIP

This endowed scholarship in memory of Lemuel G. Pence was established in 1973 by his wife, Ethel V. Pence. Annual awards are made to students selected by the University Scholarship Committee.

### PETRO-TEX SCHOLARSHIP

The Petro-Tex Chemical Corporation has established an endowed scholarship of \$750 per year for a student or students entering the junior or senior year in chemistry or chemical engineering and intending to specialize in the field of rubber and polymer chemistry. The University Scholarship Committee, with the advice of the Head of the Chemistry Department, makes the selection.

### HELEN PETROU SCHOLARSHIP

A fund established by the Barberton Brookside Country Club which provides athletic awards to students selected by Athletic Director Gordon Larson or such person as he may appoint. Selection is to be made from qualified applicants from the Barberton-Norton-Wadsworth area of Ohio.

### THE WILLIAM M. PETRY SCHOLARSHIP FUND

The income but not the principal of this fund, established in 1974 in memory of the late Dean of the Community and Technical College, is used to provide scholarships for deserving students of the College. The amounts of such awards and the recipients thereof are determined by a person designated by the Petry family.

### PHI CHI THETA FRATERNITY FOR WOMEN IN BUSINESS SCHOLARSHIP FUND

Established in 1977 by the Phi Chi Theta Fraternity for Women in Business, Akron Chapter, this scholarship is awarded to an active Phi Chi Theta member based on financial need, scholastic achievement and campus activities. Gifts to the fund are welcomed.

### PHILLIPS PETROLEUM COMPANY RESEARCH FELLOWSHIP

This fellowship, funded annually since 1960, is awarded to a graduate student in polymer science.

### PHI SIGMA ALPHA SCHOLARSHIP

This scholarship in the amount of \$600 is awarded each year to a full-time Buchtel College of Arts and Sciences junior or senior with at least a 3.0 cumulative average.

### PIXLEY SCHOLARSHIPS

From the Frank Pixley Memorial Fund, awards are made to students of outstanding ability and promise in the fields of literature, music, and speech.

### PPG INDUSTRIES FOUNDATION SCHOLARSHIPS

A fund established by the PPG Industries Foundation in 1970 provides scholarships to students pursuing an associate degree in data processing or the several curricula of engineering and science technology.

### THE JOSEPH POLITELLA MEMORIAL SCHOLARSHIP

This scholarship is presented annually to a freshman or sophomore student attending the Wayne General and Technical College who has demonstrated academic excellence. The recipient and the amount of the award is determined annually by the Joseph Politella Scholarship Committee.

### BERT A. POLSKY MEMORIAL SCHOLARSHIP FUND

This endowed fund was established in 1970 by contributions from family and friends of the late Bert A. Polsky, revered Akron community and business leader and dedicated member of the University's Board of Directors. Earnings from this fund are used to provide scholarship assistance for worthy students in the College of Business Administration.

### CHALRES PONGRACZ SCHOLARSHIP FUND

Established in 1974, this fund provides scholarship assistance for graduating seniors from Akron North High School who have demonstrated high academic achievement and participation in school activities.

### PREFERENTIAL SCHOLARSHIPS

Two scholarships in the amount of \$300 per year each are available to worthy students selected by The University of Akron Scholarship Committee. Sons and daughters or grandchildren of Negro employees of The B.F. Goodrich Company are given preferential attention, but the award of the scholarships is not necessarily restricted to such individuals.

### THE PRESIDENTIAL SCHOLARSHIPS

As part of a program established in 1975 to add to the number of outstanding scholars enrolled at the University, 25 Presidential Scholarships are awarded annually to incoming freshmen. The scholarships cover tuition and

fees up to a maximum of \$750 per year. Recipients are selected by the University Scholarship Committee on the basis of their high school records and national test scores. A number of scholarship funds listed in this pamphlet are used, wholly or in part, to fund Presidential Scholars.

#### **GEORGE E. PRICE MEMORIAL SCHOLARSHIP**

Established by the Purchasing Management Association of Akron in honor of George E. Price, Jr., a former member of the Chapter who was National President of the Purchasing Management Association, for his contributions to the field of industrial purchasing. Two scholarships in the amount of \$100 per semester of the senior year are awarded to majors in business administration by the University Scholarship Committee upon recommendation of the Dean of College of Business Administration.

#### **ERROL S. PRINGLE SCHOLARSHIP**

A scholarship in the amount of \$500 or more for a student in the data processing program of the Community and Technical College. Selection is made by the University Scholarship Committee based on academic achievement and with consideration for financial need. This scholarship was established in 1971 by Errol S. Pringle, a 1961 graduate of the university.

#### **THE G. A. PROFITA SCHOLARSHIP FUND**

A fund established by friends and associates of G. A. Profita for the purpose of providing assistance to an undergraduate student at The University of Akron who after one year of college work has demonstrated superior qualities of leadership and who is in need of financial assistance. Selection is by the University Scholarship Committee.

#### **RESEARCH FELLOWSHIP ARCHIVES OF THE HISTORY OF AMERICAN PSYCHOLOGY**

This research fellowship, funded for the first time in 1974 by the History of Psychology Foundation, is awarded annually by The University of Akron to promote research in the history of psychology through the granting of stipends to aid scholars wishing to utilize the primary resources of the Archives of the History of American Psychology, located at the University. The stipends, which range up to \$500, are provided to defray travel and living expenses of the recipient while in residence in Akron. Preference is given advanced graduate students and younger postdoctoral scholars.

#### **THE QUAKER OATS FOUNDATION SCHOLARSHIPS**

These scholarships were established in 1972 in recognition of the great role the City of Akron has played in the development of the cereal industry and the history of The Quaker Oats

Company. The endowed Quaker Oats Foundation Scholarship Fund provides financial assistance to worthy students attending The University of Akron, with preference being given to students majoring in the areas of science, nutrition, and home economics.

#### **RADNEY CIGARETTE SERVICE SCHOLARSHIPS**

These scholarships are 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 the awards. The amount of these scholarships is \$300 a year, payable \$150 per semester, upon satisfactory scholastic progress.

#### **READER'S DIGEST FOUNDATION ENDOWED SCHOLARSHIP FUND**

This endowment fund was established in 1973 by the Reader's Digest Foundation for the purpose of making scholarship awards to deserving students, without regard to race, color, creed, sex, or national origin who are in need of financial assistance in pursuing undergraduate degrees. Reader's Digest Scholars are selected by the University Scholarship Committee.

#### **THE CHARLES REYMANN SCHOLARSHIP FUND**

Established in 1975 by The Atlantic Foundry Company in memory of Charles Reymann, a founder, this scholarship fund provides tuition assistance for undergraduate or graduate students who are children of company employees, including those who are retired or deceased.

#### **CHARLES AND SALOME REYMANN FOUNDATION SCHOLARSHIP FUND**

Established in 1976 by the Charles and Salome Reymann Foundation, this scholarship fund provides annual \$300 tuition scholarships for undergraduates or graduate special education majors preparing for careers of service to the mentally retarded. Selection is based on financial need without regard to race, color, creed, sex, or national origin, with consideration given to academic achievement and/or community service and prior experience with the handicapped.

#### **WILLIAM S. RICHARDSON FELLOWSHIP**

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

#### **MABEL M. RIEDINGER SCHOLARSHIP FUND**

Established in 1972 by Beta Lambda Chapter of Pi Lambda Theta in honor of its founder and first adviser, this fund provides an annual

scholarship for a woman preferably a member of Pi Lambda Theta attending The University of Akron, and majoring in the field of education.

### **MERLE DAVID RIEDINGER SCHOLARSHIPS**

This scholarship in the amount of \$300 a year is awarded to students from the Akron area. Although unrestricted as to field of study, students in retail merchandising are given preference, all other qualifications being equal. Candidates are chosen on the basis of scholarship, character, and need.

### **WILLIAM EBER ROBINSON SCHOLARSHIP**

A scholarship in the amount of \$400 a year from The Robinson Clay Product Company Fund is 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 fund is given annually to the University General Operating Fund.

### **CLETUS G. AND CLARA E. ROETZEL SCHOLARSHIPS**

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.

### **THE DR. CHARLES C. ROGLER SCHOLARSHIP FUND**

Undergraduates majoring in sociology or anthropology are the recipients of tuition assistance provided by the endowed scholarship fund established in 1977 by Dr. Charles C. Rogler, Professor Emeritus of Sociology (1949-1962), and Mrs. Margaret F. Rogler, Assistant Professor Emeritus of Marketing (1948-1972), both of whom served the University with distinction. Awards are made by the University Scholarship Committee based on academic excellence and financial need. Contributions to the fund are welcome.

### **RUBBER MANUFACTURERS ASSOCIATION SCHOLARSHIPS**

The Rubber Manufacturers Association has established a scholarship fund in the amount of \$2,100 annually to be awarded to students who are U.S. citizens enrolled in engineering or natural science and who are preparing to enter the rubber and plastics industry. The scholarships are renewable each quarter upon satisfactory performance, scholarship, and the student's continued preparation for a career in the rubber and plastics industry.

### **THE MAX M. RULE MEMORIAL SCHOLARSHIP FUND**

Established in 1976 by family and friends in memory of Max M. Rule, Associate Professor of Transportation, funds from this endowed scholarship fund are used to assist deserving students in the Community and Technical College who are majoring in transportation, a course of study Professor Rule worked with diligence and dedication to establish. Recipients and award amounts are determined by a committee selected by the Dean of the College and a member of the Rule family, working in cooperation with the Director of Student Financial Aids.

### **THE JUDGE AND MRS. CHARLES SACKS SCHOLARSHIP**

This scholarship fund was established in 1960-70, the Centennial Year of the University, in honor of Judge and Mrs. Charles Sacks by their children, Robert and Naomi Christman, Sy and Laurel Fischer, and Harvey and Shirley Friedman. Income from the fund is used to provide scholarships to deserving students in the School of Law. Recipients of the scholarship are selected by the Dean of the School of Law.

### **MORRIS SACKS SCHOLARSHIPS**

This scholarship, established in memory of Morris Sacks, provides income to be used annually for scholarships, with matching amount to be used for current operating expenses.

### **SALES MARKETING EXECUTIVES ASSOCIATION OF AKRON SCHOLARSHIP**

A scholarship in the amount of \$500 per year to a junior majoring in marketing who has demonstrated superior qualities of leadership and scholastic achievement and who is in need of financial assistance. Selection is made by the Dean of the College of Business Administration upon recommendation by the Department of Marketing.

### **ALEX SCHULMAN SCHOLARSHIPS**

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

### **THE ALEX SCHULMAN MEMORIAL AWARD**

This endowed fund was established by Ernest Kirtz, Bernard S. Schulman, and William C. Zekan in memory of the late Alex Schulman. The income is used to assist worthy students preferably of the Negro race. The recipients and the amount each receives are determined by the University Scholarship Committee.

### **THE DR. SAMUEL M. SELBY SCHOLARSHIP**

An endowed fund, established in honor of Dr. Samuel M. Selby, Distinguished Professor of Mathematics at The University of Akron who served as Head of the Department from 1945 until his retirement in 1968. The income from the fund is used for scholarship assistance for outstanding undergraduate or graduate students pursuing courses in mathematics at the University. The recipients and the amount each receives are recommended by the faculty of the department and approved by the University Scholarship Committee.

### **CARL D. AND MARGARET A. SHEPPARD MEMORIAL SCHOLARSHIP**

A fund established by family and friends in memory of the late Carl D. Sheppard and Margaret A. Sheppard for the purpose of providing scholarship assistance to worthy students. Preference is given to undergraduate students in print journalism in the Department of Mass Media Communication.

### **THE H.E. SIMMONS MEMORIAL SCHOLARSHIPS**

Established in memory of President Emeritus H.S. Simmons, earnings from this endowment are awarded to a freshman student or students interested in chemistry. The University Scholarship Committee determines the amount of the awards and selects the recipients.

### **ELIZABETH K. SMITH MEMORIAL SCHOLARSHIP FUND**

Established in 1975 with funds provided from the estate of Elizabeth K. Smith, of Cuyahoga Falls, Ohio, a devoted friend of the University, this endowed fund provides scholarship assistance for worthy and deserving undergraduates. The University Scholarship Committee selects the recipients and determines amount of the grants.

### **THE PAUL C. SMITH MEMORIAL SCHOLARSHIP FUND**

This endowed fund, established in 1976 with provisions from the estate of Paul C. Smith, Associate Professor Emeritus of Electrical Engineering, who served The University of Akron for more than 34 years as a respected and devoted member of its faculty, provides scholarship aid for worthy students majoring in engineering. The University Scholarship Committee selects the recipients and determines amount of the grants.

### **GLENNA SNOW MEMORIAL SCHOLARSHIP IN HOME ECONOMICS AND FAMILY ECOLOGY**

Established in 1977 by The Women's Commit-

tee of The University of Akron in honor of the late Mrs. Glenna Snow, one of the three founders of the Committee, this annual \$100 scholarship is awarded to a student in Mrs. Snow's field, selected by the University Scholarship Committee.

### **THE LESLIE E. SODERQUIST ENGINEERING SCHOLARSHIP FUND**

Established in 1977 in loving memory of Leslie E. Soderquist, Director, Vice President, and for 31 years, Head of Engineering for the McNeil Corporation, by his wife, Helen, and son, Ronald. This scholarship is used to assist undergraduate students in the College of Engineering who have demonstrated high academic achievement, engineering ability, leadership, and financial need. Selection is determined by the Dean and selected faculty of the College of Engineering and the Director of Student Financial Aids.

### **ENDOWED SCHOLARSHIP FUND OF THE WOMEN'S AUXILIARY BOARD OF THE SUMMIT COUNTY CHILDREN'S HOME, INC.**

This 25th Anniversary Endowment Fund was established in September of 1973 by The Women's Auxiliary Board of the Summit County Children's Home, Inc., for the purpose of using the earnings for making scholarship awards available to undergraduate or graduate students at The University of Akron under the care of the Board of Children's Service. This scholarship fund was established for the purpose of encouraging Our Children to enroll at the University to pursue careers of benefit to themselves and to society. The recipients and scholarship amounts are determined by the University Scholarship Committee upon the recommendation of The Women's Auxiliary Board. Contributions to the fund are accepted from interested donors.

### **JASON AND CORINNE SUMNER SCHOLARSHIP**

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

### **THE MATTHEW M. TALLAL SCHOLARSHIP FUND**

Established in 1976 by Home Centers, Inc. in honor of Founder Matthew M. Tallal upon his retirement as Chairman of the Board following a quarter of a century of devoted service to the company, this fund provides scholarship aid covering tuition for full-time undergraduate students. Recipients and amount of scholarships awarded is determined by the University Scholarship Committee, with first preference accorded students from Summit County Children's Home.

### **THE JOSEPH THOMAS MEMORIAL SCHOLARSHIP**

This endowment scholarship, established in 1976 by the Firestone Foundation in memory of the late and revered Trustee Emeritus Joseph Thomas, an original founder and for many years Executive Director of the foundation, provides scholarship assistance for deserving law students residing in Summit County and attending The University of Akron.

### **FRANK E. TIMBERLAKE MEMORIAL SCHOLARSHIP**

Funds provided by family and friends of the late Frank E. Timberlake are used by the University Scholarship Committee to aid worthy students in need of financial assistance.

### **TOUCHE ROSS & COMPANY AWARDS**

Scholarship awards of \$250 each are provided by the firm of Touche Ross & Company to outstanding juniors majoring in accounting as selected by the faculty of the Accounting Department.

### **TOUCHDOWN CLUB AWARDS**

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

### **TRAFFIC CLUB OF AKRON SCHOLARSHIP**

A fund established by the Traffic Club of Akron for the purpose of providing scholarship assistance to a student or students pursuing a program in transportation.

### **TUESDAY MUSICAL CLUB SCHOLARSHIPS**

Awards up to \$500 each to music majors for advanced study of music at The University of Akron for the entire academic year. Also awards to students at The University of Akron to cover the cost of courses in applied music in the Department of Music for one term of the academic year.

### **UNION CARBIDE CORPORATION RESEARCH FELLOWSHIP**

This fellowship is awarded to a graduate student in polymer science.

### **UNIVERSITY BOARD OF TRUSTEES SCHOLARSHIPS**

Scholarships are available for entering law students to the School of Law, and these are renewable from year to year on superior performance. The faculty of the School of Law

makes the selections based on the quality of the collegiate record, the Law School Admission Test score, and need.

### **UNIVERSITY OF AKRON MORTAR BOARD FUND**

A fund established by The University of Akron Mortar Board for the purpose of providing grants in the amount of \$50 to worthy students at the sophomore or junior level who are in good academic standing and have financial need. The recipients are selected by the University Scholarship Committee.

### **THE UNIVERSITY OF AKRON PREMEDICAL SCHOLARSHIP**

This scholarship fund, established in 1963 and funded in the amount of \$500 a year by The Sacks Electric Supply Company, provides an annual award to a worthy student who is entering the field of medicine.

### **UNIVERSITY SCHOLARS**

Designed to recognize and to support highly motivated and achievement-oriented students in any major program. The University Honors Program provides scholarships equal to full tuition and involves the recipients in select learning experiences designed to help each participant to discover his own potential, capabilities, and sense of direction.

### **THE UNIVERSITY CLUB OF AKRON SCHOLARSHIP**

This scholarship was established by The University Club of Akron to provide \$500 per year to a full-time senior male student in the baccalaureate program who is from a community within a twenty-mile radius of The University of Akron.

### **UNIVERSITY WOMEN'S COMMITTEE SCHOLARSHIP FOR INTERNATIONAL STUDENTS**

Established by the Women's Committee of The University of Akron in memory of Mrs. Ruth Dugan, one of its founders, this \$500 revolving fund is administered by the University's Adviser to International Students to aid foreign students on campus.

### **DR. AND MRS. GEORGE VAN BUREN SCHOLARSHIPS**

A scholarship each year in the amount of \$100 awarded to one graduate from each of the following nine Akron Schools: Buchtel, Central-Hower, East, Ellet, Firestone, Garfield, Kenmore, North, and South High Schools. The selection of the graduating senior at each school to receive the scholarship is made by teachers of juniors and seniors at the respective schools. These scholarships were endowed in 1970 by a

contribution of Dr. and Mrs. George Van Buren, both of whom are graduates of The University of Akron.

#### **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.

#### **PINDY WAGNER, JR., BOWLING SCHOLARSHIPS**

These scholarships in the amount of fees, not to exceed \$400 per year, for two years are awarded to high school senior men and women who are candidates for admission to The University of Akron.

#### **JUDGE WALTER B. WANAMAKER MEMORIAL SCHOLARSHIP**

The Judge Walter B. Wanamaker Memorial Scholarship was created in 1966 by Frederick H. Gillen to give financial assistance to worthy students. The recipients are selected by the University Scholarship Committee.

#### **THE WAYNE GENERAL AND TECHNICAL COLLEGE BRANCH OF THE UNIVERSITY OF AKRON IN ORRVILLE GRANT**

For students attending Wayne College, the Orrville Campus Foundation provides grants which pay one-half of the tuition per semester. In order to qualify for these grants a student must be officially admitted as a full-time student at Wayne. Determination of recipients is based upon individual financial need.

#### **WENZ-WALLACE SCHOLARSHIP FUND**

A fund established in 1975 by Wade Wallace and the Northern Ohio Professional Golfers Association which provides athletic golf awards to students selected by the Director of Athletics of The University of Akron, or such person as he may appoint. Selection is made from qualified applicants from the northern Ohio area.

#### **THE HARRY WHIDDON EDUCATIONAL FUND**

Established by the Akron Automobile Club Safety Fund Trustees in 1977 in honor of Harry Whidden who served with distinction as Chief of the Police Division of the Akron City Government for 21 years and as a member of the Division for 38 years, this educational fund provides tuition assistance for criminal justice majors enrolled in the Community & Technical College. Awards are made on the basis of achievement and need, with first preference being students

interested in and/or preparing for careers embracing traffic and pedestrian safety.

#### **ARTHUR LEE WILLIAMS MEMORIAL SCHOLARSHIP**

Because Arthur Lee Williams sincerely believed that education of the young was one of the steps to freedom for his people, this memorial scholarship fund was established in 1974 by his family and friends. The fund provides annual emergency grants up to \$75 to assist one or more Black students. Recipients of this assistance are selected by the University Scholarship Committee. Although there are no requirements for repayment, it is hoped that those who use this memorial fund will contribute to it later in life when they are self sufficient. Memorial contributions are still being accepted as additions to this fund.

#### **ROSS E. WILSON MEMORIAL FUND**

Established in 1974 by family and friends of the late Akron community and business leader, The Ross E. Wilson Memorial Fund is used by the University Scholarship Committee to aid worthy undergraduate students in need of financial assistance. Memorial contributions may be made to this fund.

#### **DARREL WITTERS MUSIC SCHOLARSHIP FUND**

Established in 1975 with contributions by alumni and friends of the University and with proceeds from the 1975-76 Sesquicentennial-Bicentennial Concert Series. This scholarship fund, in memory of Darrel Witters, Associate Professor Emeritus of Music, provides tuition assistance for worthy and talented students enrolled in the Department of Music. Contributions to the fund are welcomed.

#### **WOMEN'S AUXILIARY OF THE AKRON DISTRICT SOCIETY OF PROFESSIONAL ENGINEERS**

An award of \$300 a year is made to a sophomore student in the College of Engineering who has acquired a minimum of 28 semester hours of credit at The University of Akron.

#### **WOMEN IN COMMUNICATIONS SCHOLARSHIP FUND**

Established in support of students preparing for careers in communications-mass media fields, the Akron Chapter of Women in Communications provides annually \$500 scholarships to selected undergraduates.

#### **THE DORETTE YATES SCHOLARSHIP FUND OF THE AKRON BUSINESS AND PROFESSIONAL WOMEN'S CLUB**

Established in May of 1973 by The Akron Business and Professional Women's Club of Akron,

Ohio, in memory of Dorette Yates, a devoted club member and former President, income from this endowed fund is used to provide scholarship assistance as determined by the University Scholarship Committee. First consideration is given to a mature woman wanting to further her education. Selection of each recipient is made on the basis of financial need without regard to race, creed, color, or national origin. Contributions to the fund are accepted from interested donors.

**THE YOUNG ADULT NATIONAL  
ASSOCIATION OF NEGRO BUSINESS  
AND PROFESSIONAL WOMEN'S CLUB,  
INC. EDUCATIONAL FUND**

Established in 1977 by The Young Adult National Association of Negro Business and Professional Women's Club, Inc., this educational fund provides \$200 in tuition assistance for Black undergraduate women enrolled at The University of Akron. Recipient of the award is either a sophomore, junior or senior, with a 2.5 or higher cumulative grade point average, and in need of financial assistance. Selection is made by the University Scholarship Committee.

**MR. AND MRS. WILLIAM D. ZAHRT  
SCHOLARSHIPS**

Scholarships in the amount of \$500 per year are awarded to outstanding and deserving students at The University of Akron.

**HONORS AND PRIZES**

**SENIOR ALUMNI PRIZE**

This award is given to that senior student who has completed the regular undergraduate curriculum with the highest grade for the work taken, having carried a minimum load of 12 credits per semester.

**ALPHA CHI SIGMA CHEMISTRY  
FRATERNITY  
FRESHMAN RECOGNITION**

A student is selected by the fraternity from nominees chosen by the Department of Chemistry from the freshman chemistry classes on the basis of academic records.

**AKRON DISTRICT SOCIETY OF  
PROFESSIONAL ENGINEERS AWARD**

A plaque is awarded to the outstanding senior engineer based on scholarship, citizenship, promise of excellence in the profession, and leadership. In addition, a permanent plaque is mounted in the Auburn Science and Engineering Center on which successive winners of the award will be listed.

**AKRON NATIONAL BANK & TRUST  
COMPANY  
AWARD IN TRUSTS AND ESTATES**

An annual award of \$200 to the graduating law student who excels in the study of the law of trusts and estates. Selection is made by the Dean of the School of Law.

**AKRON SECTION OF THE AMERICAN  
CHEMICAL SOCIETY AWARDS**

Awards of student memberships and subscriptions of two of the Society's official publications are made to a chemistry major student of junior rank on the basis of scholarships.

**THE HOMER F. ALLEN MEMORIAL  
AWARD**

The Homer F. Allen Memorial Award is presented annually in the name of the late President of the Goodyear Musical Theatre through an endowment created by the Goodyear Employees Activities Committee, Inc., to an outstanding undergraduate major in the area of theatre arts. The selection of the recipient of this award is determined by the Dean of the College of Fine and Applied Arts upon the recommendation of the Head of the Department of Theatre Arts and Dance.

AKRON U

**AMERICAN INSTITUTE OF CHEMISTS  
AWARD**

The American Institute of Chemists awards to the outstanding seniors in chemistry a certificate and a one-year subscription to *The Chemist*, the publication of the A.I.C. This award is granted upon the recommendation of the Head of the Department.

**AMERICAN MARKETING ASSOCIATION  
AWARD**

This award is made to the outstanding senior marketing student by the Akron-Canton Chapter of the American Marketing Association.

**AMERICAN SOCIETY OF CIVIL  
ENGINEERS MEMORIAL AWARD**

The purpose of this fund is to honor the memory of members of American Society of Civil Engineering who have made outstanding contributions to the civil engineering profession. The fund pays 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 selected by the Dean of the College of Engineering 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

Cash awards are given to undergraduates for excellence in oral interpretation of original oratory.

#### THE EDWARD S. BABCOX POLITICAL SCIENCE BOOK AWARD

An annual award of selected books established by the Department of Political Science in memory of Edward S. Babcox. The award is given to an outstanding political science major as determined by the faculty of the Department of Political Science.

#### BANKS-BALDWIN LAW PUBLISHING COMPANY AWARD

An award of *Jacoby's Ohio Civil Practice* is made to the graduating senior displaying scholarship in the study of code pleading.

#### THE NEWTON D. BECKER AWARD FOR EXCELLENCE IN ACCOUNTING

An award of \$100 given to an outstanding major as determined by the faculty of the Accounting Department. The award also includes a scholarship to the Becker CPA Review course.

#### BEKAERT AWARDS

Established in 1975 by the Bekaert Steel Wire Corporation, an annual award of \$100 is given to a student considered by the faculty of the Department of Mechanical Engineering to be outstanding in the study of mechanical design, with emphasis in the area of materials.

#### THE BREWSTER BOOK AWARD

An annual sum of \$200 established in 1964 by Attorney and Mrs. Evan B. Brewster to award two deserving law students their textbooks, as selected by the Dean of the School of Law.

#### BUREAU OF NATIONAL AFFAIRS INC. AWARD

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

#### CRC FRESHMAN CHEMISTRY ACHIEVEMENT AWARD

The Chemical Rubber Company awards a scroll and a copy of the current *CRC Handbook of Chemistry and Physics* to a student designated by the faculty for outstanding scholastic achievement in the freshman chemistry course.

#### PETER C. DANEMAN POLITICAL SCIENCE HONORS AWARD

Mary Daneman and family, in memory of

Peter C. Daneman, make this award which provides the sum of \$50 for award each year to a political science major graduating with an average above 3.5 and with at least a 3.2 overall average, such student to be designated by the Dean of the Buchtel College of Arts and Sciences.

#### DELTA SIGMA PI

This award is presented annually to that male senior who upon graduation ranks highest in scholarship in the College of Business Administration.

#### ERNST & ERNST ACCOUNTING ACHIEVEMENT AWARD

Two annual awards of \$250 each to outstanding senior accounting students based on scholarship and leadership.

#### DR. E.B. FOLTZ PREMEDICAL PRIZE

Under the provisions of the will of the late Dr. E. B. Foltz a fund was established to provide for a premedical 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 premedical course and who plans to enter medical college the following year. The actual award is not made until the winner has enrolled in medical college.

#### ALFRED HERBERICH JUNIOR PRIZE

The Phi Sigma Alpha Junior Prize of \$50, to the student in the Buchtel College of Arts and Sciences having the highest average for 80-96 semester hours in residence.

#### HOUSEHOLDER PHYSICS PRIZE

A fund established under the will of the late Fred F. Householder, former Professor and Head of the Department of Physics, provides recognition and cash awards to outstanding students majoring in physics, as selected by the physics faculty.

#### DUANE R. KELLER MEMORIAL FUND

An award of \$50 to the senior engineering student who has made the greatest improvement in his cumulative grade average during his pre-junior and junior years.

#### THE J.K. LASSER & COMPANY AWARD TO THE OUTSTANDING STUDENT MAJORING IN ACCOUNTING

A scholarship award of \$600 from J.K. Lasser & Company to an outstanding junior majoring in accounting as selected by the faculty of the Accounting Department.

### **THE DOROTHY LAUBACHER AWARD IN HOME ECONOMICS AND FAMILY ECOLOGY**

The faculty in the Department of Home Economics and Family Ecology and friends established this award in 1977 in honor of Professor Emeritus Dorothy Laubacher, who taught in the department with distinction for 27 years. The award is presented annually to an outstanding sophomore or junior majoring in home economics, with its first preference being a student in foods and nutrition. Recipient and amount is determined by the department faculty.

### **THE LAW WIVES CLUB AWARD**

The club provides annual cash awards to three law students, spouses of club members, displaying scholarship and leadership in student affairs, as determined by the Dean of the School of Law.

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

An annual award of a separately bound volume from *American Jurisprudence* to the highest ranking student in each of the courses listed:

Administrative Law, Agency-Partnerships, Bills and Notes, Civil Procedure, Conflicts, Constitutional Law, Contracts, Corporations, Creditors' Rights, Criminal Law,

### **LAWYERS CO-OPERATIVE PUBLISHING COMPANY AND BANCROFT-WHITNEY COMPANY AWARD (continued)**

Estate Planning, Evidence, Family Law, Insurance, Labor Law, Personal Property, Real Property, Remedies, Torts, Trusts, Wills.

### **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 Department of Chemistry.

### **NATIONAL ASSOCIATION OF ACCOUNTANTS AWARD**

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

### **OUTSTANDING SENIOR GEOGRAPHY MAJOR AWARD**

Each year the faculty of the Geography Department submits the name of the outstanding senior major in geography to the National

Council for Geographic Education. If they concur the student is granted the Council's award.

### **JUDGE W.E. PARDEE MEMORIAL AWARD**

Established in 1963 in memory of the Hon. W.E. Pardee, Judge on the original Ninth District Court of Appeals of Ohio, the grant of \$150 is awarded annually to a participant, or team of participants, in Bracton's Inn, the Case Club of the School of Law, who best displays advocacy skill and professional decorum.

### **PHI ALPHA DELTA LAW FRATERNITY, INTERNATIONAL GRANT CHAPTER AWARD**

A U.S. Savings Bond in the face amount of \$50 is awarded to a graduating law student who is a member of Grant Chapter, P.A.D., predicated upon meritorious achievement in scholastics, community service, and P.A.D., determined by a committee chaired by the Dean of the School of Law.

### **THE PHI DELTA DELTA LEGAL FRATERNITY (WOMEN'S INTERNATIONAL) BETA XI CHAPTER AWARD**

An annual award of \$25, in memory of Judge Florence E. Allen, to a graduating woman law student excelling in the study of law. Selection of recipient is at the discretion of the Dean of the School of Law.

### **PHI SIGMA AWARD**

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

### **POLYMER SCIENCE AWARDS**

Sponsored by the Rubber Manufacturers Association, competitive prizes are awarded to encourage undergraduate students through the junior year in chemistry, physics, and engineering to become better acquainted with polymer science and engineering, and to explore educational and occupational opportunities in the field.

### **PRENTICE-HALL, INC. AWARD**

Prentice-Hall, Inc., provides an annual award of its three-volume *Federal Tax Guide*, Edition "A," to the graduating senior who has excelled in the study of federal tax law, as determined by the Dean of the School of Law.

### **PRO MUSICA VOCALIS AWARD**

This award is given to a student of voice who has excelled in choral work during the previous academic year.

### RUBBER AGE AWARDS

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

### SALES MARKETING EXECUTIVE ASSOCIATION OF AKRON AWARD

An annual award of \$100 to an outstanding senior marketing student who has demonstrated superior qualities of leadership and scholastic achievement. Selection is made by the Dean of the College of Business Administration upon recommendation of the Department of Marketing. In addition, a permanent plaque is mounted in the College of Business Administration on which successive winners of the award are listed.

### THE JOYCE A. SULLIVAN AWARD IN HOME ECONOMICS AND FAMILY ECOLOGY

The faculty in the Department of Home Economics and Family Ecology and friends established this award in 1976 in honor of Dr. Joyce A. Sullivan, Head of the Department, 1968-76. It is presented annually to an outstanding junior or senior majoring in home economics. The department faculty select the recipient and determine amount of the award.

### TRAVAIL FELLOWSHIP AWARD

This fellowship, funded for the first time in 1977, is awarded annually by the Graduate Student Council to assist graduate students as they conduct research for thesis and dissertations. The stipends are provided to defray travel and living expenses while the student engages in his/her research. Eligibility is restricted to those graduate students who have completed their first year of graduate studies. Stipends range upwards to \$500. Application must be made to the Graduate Student Council.

### TREADGOLD POLYMER SCIENCE AWARDS IN CARBON BLACK TECHNOLOGY

Awards of not less than \$50 are available annually to one or more qualified graduate students in polymer science who are engaged in research on the application and/or function of carbon black. These awards are available from a fund established in 1970 by the children and grandchildren of Elodie and Anthony Galen Treadgold in honor of their Fiftieth Wedding Anniversary.

### DR. AND MRS. GEORGE VAN BUREN MEDICAL AWARD

A \$500 award is made each year to a deserving student at The University of Akron who has

been accepted as a medical student by a medical college. The award is to be applied to the first-year tuition of the medical college. Selection is made by a committee appointed by the President of The University of Akron and is based on character, scholarship, and need. This award was endowed by a gift of Dr. and Mrs. George Van Buren in 1967. Dr. Van Buren received his premedical training at The University of Akron.

### VEGSO INCENTIVE AWARD (VIA)

Established by Kathryn Armstrong Vegso, Assistant to the Vice President and Dean of Student Services, to provide the cost of books for a student returning to the University and who does not qualify for other financial assistance. Revenue for this award originated with honoraria from speaking engagements.

### 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

An annual award of law books, in two categories: (1) four selected titles of *Corpus Juris Secundum* to law students in each of the classes for high scholarship and leadership in student affairs, and (2) four selected titles from the *Hornbook Series* to law students in each of the classes with the highest academic average.

### WOMEN'S ART LEAGUE OF AKRON AWARDS

Awards made to promising women art students.



## **IV. The University of Akron Academic Programs**

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 Arts and Sciences.*

**A DIVISION OF INSTRUCTION** — a generic grouping within a college. *For example: The Buchtel College of Arts and Sciences 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 Arts and Sciences has four departments: English, Classics, Modern Languages, Philosophy.*

**SUBJECTS OF INSTRUCTION** — the most minutely specialized part within each department: the actual point of academic contact between faculty and student. *For example: The Chemistry Department has more than 108 subjects of instruction or courses.*

Credits — when used in this bulletin, credits refer to the number of quarter hour credits for any course.

THE STUDENT — the individual receiver of all academically imparted information; the focal point of University instruction. 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 are *Code Numbers* and *Course Numbers*. Because these terms are similar they are often confused.

Code Number	Course Number
(Mechanical 4600:320)	(Dynamics)
Engineering	

In the above example the first four digits of that number (4600) are called the *Code Number*. These numbers refer only to the college and department in which the course is taught. In this case the number refers to the Mechanical Engineering Department (600) of The College of Engineering (4000). A complete listing of Department Code Numbers appears at the beginning of Chapter VI, Courses of Instruction.

The second set of digits (320), following the colon, make up the *Course Number*. These numbers pin down exactly which course in the Mechanical Engineering De-

partment is being specified.

The Course Numbers 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:

- 100-199 First year level courses.
- 200-299 Second year level courses.
- 300-399 Third year level courses.
- 400-499 Fourth year level courses.
- 500-699 Master's level courses.
- 600-799 J.D. level courses.
- 700-899 Doctor's level courses.

When approved 400-level undergraduate courses are taken for graduate credit they become 500-level courses. Students must apply for and be admitted to the Graduate School to receive graduate credit for any course.

In the pages that follow, the curricula of the various colleges will be discussed along with the general requirements of each, the degrees offered and other information needed for fuller understanding of their programs. In addition, a complete list of the courses offered, detailing the Code and Course Number, Course Title, Number of Credits, Prerequisites and General Course Description, may be found in a later chapter. Curricula leading to Master's or Doctor's degrees are detailed under the Graduate School rather than with the Upper College through which it is offered.

## ***Associate Degree Programs***

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



# Community and Technical College

Robert C. Weyrick, M.S., *Dean*  
 David T. Dolan, Ph.D., *Assistant Dean*  
 Frederick J. Sturm, M.A., *Assistant to the Dean*

## GOALS

As part of The University of Akron, the Community and Technical College participates in the Goals and Purposes of the University. The following goals are of special and particular importance to the Community and Technical College:

Consistent with the philosophy of learning as a life-long experience the College will provide educational opportunities for students of a variety of ages, backgrounds, and needs; full-time or part-time, day or evening.

The College will provide for industry, business, government agencies, health-care establishments, and human service occupations the pre-service and in-service manpower training for entry-level positions or advancement in employment.

The College will serve students by providing the means to examine academic and career opportunities considering interests, abilities, and achievements.

The College will provide quality instruction with qualified and experienced teachers who are encouraged to use the community as a "laboratory" for achieving educational goals.

The College recommends each student for the appropriate degree in accordance with his/her level of accomplishment.

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

To provide the university and community with information about potential careers an Office of Career Planning has been instituted in the Community and Technical College. Any person interested in information related to a potential career is encouraged to contact the Office of Career Planning.

## ASSOCIATE PROGRAMS

Departments within the divisions of the College offer specialized technical programs in the areas of Business Technology, Engineering Technology, Public Service Technology, and Allied Health Technology. These programs lead to the Associate in Applied Science degree (carrying a designation of the program completed). In addition, a program in the Liberal Arts leading to the Associate in Arts degree is provided to nonvocationally oriented students.

### Associate Studies Division

Arts

Commercial Art

### Public Services Technology Division

Community Services Technology

Educational Technology

Elementary Aide

Child Development

Library Aide

Criminal Justice Technology

Fire Science Technology

### Business and Office Technology Division

Business Management Technology

General

Real Estate

Data Processing

Food Service Management

Sales and Merchandising

Secretarial Science

Executive

Legal

International

Medical Assistant

Office Services Technology

Transportation

General

Commercial Aviation

### Engineering and Science Technology Division

Chemical Technology

Electronic Technology

Industrial Technology

Instrumentation Technology

Mechanical Technology

Surveying and Construction Technology

### Allied Health Technology Division

Cytotechnology

Respiratory Therapy Technology

## BACCALAUREATE PROGRAMS

The Engineering and Science Technology Division also offers programs of study leading to the Bachelor of Science in Electronic Technology and the Bachelor of Technology in Mechanical Technology degrees. Requirements for these

baccalaureate degrees are listed in the section on Baccalaureate Degree Programs.

**REQUIREMENTS FOR GRADUATION**

Candidates for the Associate Degree must:

1. Earn credit in all of the required courses listed in the program.
2. Complete successfully as a minimum the number of credits listed for each program.
3. Complete a program of study that includes at least 16 credits in the *general studies* or *general educational* areas. These courses shall be based on a broad interpretation of the liberal arts concept and will include courses offered by the University in such areas as written and oral communications, humanities, and social and physical sciences.
4. Earn a minimum grade point average of 2.0 in all work attempted and all work taken at The University of Akron.
5. Be recommended by the faculty.
6. Spend last semester in residence (earning a minimum of 16 credits) at the University unless excused by the Dean of the College.
7. Other requirements are set forth in the section on "Requirements for Graduation" in Chapter 3.

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

**2020: ARTS**

A program of general education beyond the high school level intended to produce a socially intelligent individual, one who understands effective social values as well as scientific facts.

Credits

1100:	Physical Education	1
1100:111	English Composition	4
1100:112	English Composition	4
1100:105	Introduction to Public Speaking	
or 106	Effective Oral Communications	3
1100:22-	Science Requirement**	6
1100:211	Numbers Communication	3
1100:33-	Eastern Civilizations	2
1100:33-	Eastern Civilizations	2
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
2020:240	Human Relations*	3
2020:242	American Urban Society*	3
2020:247	Survey of Basic Economics*	3
	Electives	22
	<b>Total Credits</b>	<b>64</b>

\* See page 82 for alternate course options  
 \*\* Two of the following are required: 1100:221, 222, 223, 224.

**2200: EDUCATIONAL TECHNOLOGY**

This program prepares individuals for employment in any one of three options: **Elementary Aide**, assists the professional teacher; **Library Aide**, assists the professional librarian; **Child Development**, works in a variety of staff positions, either in a day care center or a nursery school.

**CORE PROGRAM**

		<b>Credits</b>
1100:	Physical Education	1
1100:106	Effective Oral Communication	3
*1100:211	Numbers Communication	3
2020:121	English	4
2020:240	Human Relations	3
2020:242	American Urban Society	3
2540:150	Beginning Typewriting	3
3750:100	Introduction to General Psychology	3
5100:150	Introduction to Professional Education	3
5100:250	Human Development and Learning	3
5100:410	Audio-Visual Education	2
5550:211	First Aid	2
5850:295	Education Technician Field Experience	5
	Option Requirements	26
	<b>Total Credits</b>	<b>64</b>

**\*\*Elementary Aide Option**

5200:335	Teaching Language Arts	5
5850:207	Mechanics of Student Appraisal	3
	Electives	18

**\*\*Library Aide Option**

2200:201	Processing, Cataloging & Classifying Materials	3
2200:202	Organizing and Operating Library Media Centers	3-
2200:203	Materials Selection	2
2200:204	Reference Procedures	3
	Electives	15

**\*\*\*Child Development Option**

5200:360	Nursery School Laboratory	3
7400:133	Nutrition Fundamentals	3
7400:275	Play and Creative Expression	4
7400:290	Administration of Child Care Centers	3
7400:485	Seminar: Parent-Child Relations	2
7400:265	Child Development	3
	Electives	8

\* Child Development Option students may substitute 2420:170, Business Math, 2 credits.  
 \*\* Must complete required courses before doing Education Technician Field Experience.  
 \*\*\* must complete 7400:265, 275, and 5200:360 before doing Education Technician Field Experience. 7400:290 can be taken concurrently.

**2220: CRIMINAL JUSTICE TECHNOLOGY**

A program to prepare young people seeking a career in criminal justice and to provide additional education to those employed in criminal justice areas. The curriculum includes the technical functions of criminal justice and courses to develop a better understanding of our rapidly changing society.

Certain courses in the Criminal Justice Technology program require permission of the instructor in addition to course 2200:100. It is, therefore, the responsibility of each Criminal Justice Technology student to meet with an adviser at the start of his or her program of study at The University of Akron.

	Credits
1100: Physical Education	1
1100:106 Effective Oral Communication	3
2020:121 English	4
2020:131 Math Analysis I	4
2020:222 Technical Report Writing	3
2200:100 Introduction to Criminal Justice	3
2200:104 Criminal Law and Legal Process	5
2220:106 Juvenile Justice Process	2
2220:110 Social Values and Criminal Justice	3
2220:150 Criminal Justice Administration and Supervision	3
2220:200 Criminal Justice Theory and Practice	3
2220:240 Dynamics of Vice Crime and Substance Abuse	3
2220:250 Criminal Case Management	6
2840:100 Basic Chemistry	3
3750:100 Introduction to Psychology	3
3850:100 Introduction to Sociology	4
General Electives	7
Technical Electives	4
Total Credits	64

The following Physical Education courses are recommended for Criminal Justice majors: 139, Life Saving; 155, Swimming; 173, Self-Defense; or 174, Karate.

Students with a particular interest in Corrections may vary their program of study by substituting 3850:330, Criminology (3 credits); 3850:432, Probation and Parole (3 credits); and 3850:431, Corrections (3 credits), for courses: 2220:250, Criminal Case Management, 6 credits; 2220:200, Criminal Justice Theory and Practice, 3 credits; and 2220:240, Dynamics of Vice Crime and Substance Abuse, 3 credits. Students electing this pattern of courses will need three more elective credits since their total program will still require a total of 64 credits.

**2230: FIRE SCIENCE TECHNOLOGY**

This program is designed for the student interested in a career in fire fighting

as well as other areas related to fire protection and prevention. It also helps active firemen upgrade themselves within the fire service.

	Credits
1100: Physical Education	1
1100:105 Introduction to Public Speaking	3
2020:121 English	4
2020:131 Math Analysis I	4
2020:222 Technical Report Writing	3
2020:240 Human Relations	3
2020:242 American Urban Society	3
2230:100 Introduction to Fire Science	2
2230:102 Fire Prevention & Building Construction	2
2230:104 Fire Investigation Methods	2
2230:200 Fire Detection & Suppression Systems	2
2230:202 Fire Fighting Tactics & Strategy	2
2230:204 Fire Prevention Practices	2
2230:240 Fire Department Administration & Supervision	2
2230:250 Hazardous Materials	2
2230:252 Fire Hydraulics & Equipment	2
2230:254 Legal Aspects of Fire Protection	2
2230:256 Fire Safety Codes (OSHA Standards)	2
2420:111 Public Relations	2
2840:100 Basic Chemistry	3
2840:151 Basic Physics: Mechanics	3
3750:100 Intro. to Psychology	3
5550:211 First Aid	2
Technical Electives	8
Total Credits	64

**2240: COMMERCIAL ART**

A program enabling the individual to gain skill as an artist and designer for employment in developing materials of visual advertising and communication for art studios, advertising agencies, and industry. The curriculum includes courses in design, drawing, photography, illustration techniques, package design, and presentation methods.

	Credits
1100: Physical Education	1
2020:121 English	4
2020:131 Math Analysis I	4
2240:124 Design in Commercial Art	3
2240:140 Typography & Lettering	3
2240:222 Advertising Photography	2
2240:242 Advertising Layout Design	3
2240:243 Publication Design	3
2240:245 Designing for Production	3
2240:247 Packaging & Display Design	3
2520:103 Advertising Principles	3
7100:131 Drawing I	3
7100:231 Drawing II	3
7100:232 Instrument Drawing	3
7100:233 Life Drawing	2
7100:275 Photography I	3
Art Electives	8
General Electives	7
Total Credits	64

## 2260: COMMUNITY SERVICES TECHNOLOGY

This program prepares individuals for general employment in support of social workers or other professional community services personnel. It includes courses in sociology, psychology, and various aspects of community services work. In addition, courses are available for specializing in Alcoholism Services.

	Credits	
1100:	Physical Education	1
1100:106	Effective Oral Communications	3
2020:121	English	4
2020:222	Technical Report Writing	3
2020:240	Human Relations	3
2020:242	American Urban Society	3
2020:251	Work Relationships	2
2020:254	Black American	2
2220:100	Introduction to Criminal Justice	3
2260:260	Alcohol Use & Abuse	3
2260:278	Techniques of Community Work	4
2260:279	Technical Experience: Community & Social Work	4
2540:150	Beginning Typewriting	3
3750:141	Introduction to Psychology	3
3850:100	Introduction to Sociology	4
7750:270	Poverty in the Inner City	3
7750:276	Introduction to Social Welfare Electives	4
		<u>12</u>
	Total Credits	64
Alcoholism Services Emphasis Electives		
2260:261	Alcoholism Resources	2
2260:299	Special Topics in Community Services Tech.	1-3

## 2280: FOOD SERVICE MANAGEMENT

Through this program, training is offered for skilled and mid-management level employees in the large quantity food industry which includes restaurants, food service facilities in schools, industrial and commercial institutions, hospitals, and hotels. Instruction is provided in food purchasing, preparation, and service.

	Credits	
1100:	Physical Education	1
1100:105	Introduction to Public Speaking or	
1100:106	Effective Oral Communications	3
2020:121	English	4
2020:240	Human Relations	3
2020:247	Survey of Basic Economics	3
2280:121	Fundamentals of Food Preparation	4
2280:135	Food Purchasing	3
2280:233	Quantity Food Service	4
2280:236	Menu Planning and Cost Control	3
2280:237	Food Service Internship	2
2280:240	Food Service Management	3
2280:243	Food Equipment and Plant Operation	3
2420:102	Personnel Practices	3
2420:180	Essentials of Law	3

		Credits
2420:211	Basic Accounting	4
2520:103	Principles of Advertising	3
2540:119	Business English	3
2540:263	Business Communications	3
7400:133	Nutrition Fundamentals	3
	Electives	6
	Total Credits	<u>64</u>

## 2420: BUSINESS MANAGEMENT TECHNOLOGY

This program provides comprehensive training in varied business activities in preparation for a beginning management or supervisory level position in business or industry or as a self-employed manager. A Real Estate Option equips graduates with the minimum licensing requirements for the practice of real estate in Ohio.

### GENERAL OPTION

	Credits	
1100:	Physical Education	1
1100:105	Introduction to Public Speaking or	
1100:106	Effective Oral Communications	3
2020:121	English	4
2020:240	Human Relations	3
2020:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	2
2420:102	Personnel Practices	3
2420:104	Introduction to Business	3
2420:121	Administrative Office Supervision	2
2420:170	Business Math	2
2420:180	Essentials of Law	3
2420:211	Basic Accounting I	4
2420:243	Survey of Finance	3
2440:120	Introduction to Information Processing	2
2520:210	Consumer Service Fundamentals	2
2540:119	Business English	3
2540:125	Business Machines	2
2540:150	Beginning Typewriting	3
2540:263	Business Communications	3
2560:110	Transportation Economic Policy	3
2880:232	Labor Management Relations	3
	Electives	7
	Total Credits	<u>64</u>

### REAL ESTATE OPTION

	Credits	
1100:	Physical Education	1
1100:105	Introduction to Public Speaking or	
1100:106	Effective Oral Communications	3
2020:121	English	4
2020:240	Human Relations	3
2020:247	Survey of Basic Economics	3
2420:102	Personnel Practices	3
2420:104	Introduction to Business	3
2420:105	Real Estate Principles	2
2420:121	Administrative Office Supervision	2
2420:170	Business Math	2
2420:180	Essentials of Law	3
2420:185	Real Estate Law	2

	Credits	
2420:211	Basic Accounting I	4
2420:243	Survey in Finance	3
2420:245	Real Estate Financing	2
2420:255	Valuation of Residential Property	2
2420:265	Real Estate Brokerage	2
2420:275	Real Estate Project	2
2440:120	Introduction to Information Processing	2
2520:212	Principles of Salesmanship	4
2540:119	Business English	3
2540:263	Business Communications	3
	Electives	6
	Total Credits	64

#### 2440: DATA PROCESSING

This program prepares individuals for careers in electronic data processing operating, programming, and systems analysis. This program gives a practical understanding of computers in business functions; extensive programming and processing experience is provided through laboratory assignments.

	Credits	
1100:	Physical Education	1
1100:105	Introduction to Public Speaking or	
1100:106	Effective Oral Communications	3
2020:131	Math Analysis I	4
2020:135	Math for Data Processing	3
2020:222	Technical Report Writing	3
2020:240	Human Relations	3
2020:247	Survey of Basic Economics	3
2420:104	Introduction to Business	3
2420:211	Basic Accounting I	4
2420:212	Basic Accounting II	2
2420:243	Survey of Finance	3
2440:120	Introduction to Information Processing	2
2440:131	Intro. to Programming	2
2440:132	Assem. Prog. & JCL	4
2440:133	COBOL Programming	2
2440:234	Adv. COBOL Programming	3
2440:235	Current Prog. Topics	2
2440:239	RPG II Programming	1
2440:241	Data Processing Systems	3
2440:251	Data Processing Projects	5
2540:119	Business English or	3
2020:121	English	4
	General Electives	4-5
	Total Credits	64

#### 2520: SALES AND MERCHANDISING

This program equips graduates to fill entry level positions in distributive business fields including retailing, wholesaling, and related services. The core curriculum includes courses in advertising, marketing, sales, and visual merchandising. The program provides emphasis in Retailing, Industrial Distribution, and Fashion.

	Credits	
1100:	Physical Education	1
1100:105	Introduction to Public Speaking	3
2020:121	English	4
2020:240	Human Relations	3
2020:247	Survey of Basic Economics	3
2420:101	Elements of Distribution	2
2420:111	Public Relations	2
2420:170	Business Math	2
2420:180	Essentials of Law	3
2420:211	Accounting	4
2520:103	Principles of Advertising	3
2520:104	Visual Merchandising	3
2520:105	Sales Promotion	3
2520:202	Retailing Fundamentals	4
2520:210	Consumer Service Fundamentals	2
2520:211	Math of Retail Distribution	3
2520:212	Principles of Salesmanship	4
2540:119	Business English	3
	Technical Requirements	12
	Total Credits	64

#### Technical Requirements

<i>Retailing Emphasis</i>		
2420:102	Personnel Practices	3
2420:243	Survey of Finance	3
2440:120	Introduction to Information Processing	2
	Technical Elective	4
<i>Industrial Emphasis</i>		
2420:102	Personnel Practices	3
2420:243	Survey of Finance	3
2440:120	Introduction to Information Processing	2
2520:201	Principles of Wholesaling	2
	Technical Elective	2
<i>Fashion Emphasis</i>		
7400:121	Textiles	3
7400:317	History of Costumes	3
7400:419	Clothing Construction	3
7400:439	Fashion	3

#### 2540: SECRETARIAL SCIENCE

Prepares students for the different but often overlapping fields of secretarial, stenographic, or clerical work; provides thorough training in typing, shorthand, and communications; includes courses that prepare graduates for work as executive and legal secretaries, and as medical assistants. An international option provides secretarial training for overseas assignments.

#### CORE PROGRAM

	Credits	
1100:	Physical Education	1
1100:111	English Composition or	
2020:121	English	4
2420:170	Business Mathematics	2
2540:119	Business English	3
2540:125	Business Machines	2
2540:150	Beginning Typewriting	3
2540:151	Intermediate Typewriting	3
2540:171	Shorthand Principles	4
2540:173	Shorthand and Transcription	3

		Credits
2540:241	Information Management	3
2540:257	Secretarial Machines	3
2540:263	Business Communications	3
2540:274	Advanced Dictation and Transcription	4
	Option requirements	26
	<b>Total Credits</b>	<b>64</b>

### OPTION REQUIREMENTS

#### Executive Secretarial Science

1100:105	Introduction to Public Speaking	3
2020:240	Human Relations	3
2020:247	Survey of Basic Economics	3
2420:102	Personnel Practices	3
2420:211	Basic Accounting I	4
2540:121	Office Problems	3
2540:253	Advanced Typewriting	3
2540:276	Executive Dictation and Transcription	4

#### Legal Secretarial Science

2020:240	Human Relations	3
2020:247	Survey of Basic Economics	3
2420:180	Essentials of Law	3
2420:211	Basic Accounting I	4
2540:254	Legal Typewriting	2
2540:277	Legal Dictation and Transcription	4
2540:279	Legal Office Procedures	3
	Technical electives	4

#### International Secretarial Science

2540:121	Office Problems	3
2540:253	Advanced Typewriting	3
2540:276	Executive Dictation and Transcription or	
2540:277	Legal Dictation and Transcription	4
	Beginning Foreign Language	8
	Intermediate Foreign Language	6
	Elective	2

#### Medical Assisting Option (total program)

1100:	Physical Education	1
2020:121	English	4
2020:240	Human Relations	3
1100:105	Intro. to Public Speaking	3
	OR	
1100:106	Effective Oral Communication	3
2540:151	Intermediate Typewriting	3
2420:211	Basic Accounting I	4
2540:119	Business English	3
2540:121	Office Problems	3
2540:150	Beginning Typewriting	3
2540:241	Information Management	3
2540:253	Advanced Typewriting	3
2540:257	Secretarial Machines	3
2540:263	Business Communications	3
2740:240	Medical Machine Transcription	2
2740:120	Medical Terminology	3
2740:130	Office Nursing Techniques I	2
2740:231	Office Nursing Techniques II	2
2740:232	Office Nursing Techniques III	2
2740:250	Medical Assisting Specialties	3
2840:100	Basic Chemistry	3
3100:106	Anatomy & Physiology	3
5550:211	First Aid	2
	Elective	3
	<b>Total Credits</b>	<b>64</b>

### 2550: OFFICE SERVICES TECHNOLOGY

The Office Services Technology career program emphasizes skill to development for clerical and record-keeping occupations and prepares the student to perform the various services that are a vital part of the modern business office. Studies include the development of skills in operating office machines and systems, records management, and personnel supervision.

		Credits
1100:	Physical Education	1
1100:105	Introduction to Public Speaking	3
2020:121	English	4
2020:240	Human Relations	3
2020:242	American Urban Society	3
2020:247	Survey of Basic Economics	3
2420:101	Elements of Distribution or	2
2420:104	Introduction to Business	3
2420:102	Personal Practices	3
2420:121	Administrative Office Supervision	2
2420:170	Business Mathematics	2
2420:180	Essentials of Law	3
2420:211	Basic Accounting I	4
2540:119	Business English	3
2540:121	Office Problems	3
2540:125	Business Machines	2
2540:150	Beginning Typewriting	3
2540:151	Intermediate Typewriting	4
2540:241	Information Management	3
2540:253	Advanced Typewriting	3
2540:257	Secretarial Machines	3
2540:263	Business Communications	3
	Electives	4-5
	<b>Total Credits</b>	<b>64</b>

### 2560: TRANSPORTATION

This program provides qualified personnel for the fields of transportation in such areas as sales, traffic and operations, personnel management, and public relations. The program includes courses in traffic practices and procedures, rate theory, and terminal management as they pertain to the movement of goods and people by rail, highway, water, and air. Transportation provides training to plan and supervise the movement of goods and people by rail, highway, water, and air. A Commercial Aviation option emphasizes the movement of material by the various methods of air transportation.

#### GENERAL OPTION

		Credits
1100:	Physical Education	1
1100:105	Introduction to Public Speaking or	
1100:106	Effective Oral Communications	3
2020:121	English	4
2020:222	Technical Report Writing	3
2020:240	Human Relations	3

	Credits		Credits
2020:247	3	1100:	1
2420:101	2	1100:105	3
2420:102	3	2020:121	4
2420:104	3	2020:131	3
2420:170	2	2020:222	3
2420:180	3	2020:240	3
2420:211	4	2020:242	3
2540:119	3	2420:211	4
2540:263	3	2540:284	2
2560:110	3	3100:111	4
2560:115	3	3100:112	4
2560:116	2	3100:130	3
2560:117	2	3100:211	3
2560:118	3	3100:212	1
2560:221	2	3100:265	4
	2	3100:365	3
2560:221	3	3150:121	3
2560:225	3	3150:122	3
2560:226	3	Electives	10
	64	Total Credits	64

### COMMERCIAL AVIATION OPTION

	Credits
1100:	1
1100:105	3
1100:106	3
2020:121	4
2020:240	3
2020:247	3
2420:101	2
2420:102	3
2420:104	3
2420:170	2
2420:180	3
2420:211	4
2440:120	2
2520:212	4
2540:119	3
2540:150	3
2560:110	3
2560:116	2
2560:118	3
2560:220	2
	2
2560:221	3
Electives	8
Total Credits	64

### 2750: CYTOTECHNOLOGY

A cytotechnologist specializes in screening microscope slides prepared by physicians or other medical personnel. Two years of study in this program includes courses in biology, chemistry, and medical technology, followed by twelve months of training in an approved hospital school. The hospital school requires separate admission. These admissions are highly competitive, and the University cannot guarantee placement in them.

### 2790: RESPIRATORY THERAPY TECHNOLOGY

This program prepares a person who, under the supervision of a physician, administers medical gases, medications, and operates equipment in the medical care of patients with respiratory disorders. Completion of this program qualifies the graduate to take either the Certification examination, Registry examination, or both.

	Credits
1100:	1
1100:106	3
2020:	3
2020:121	4
2020:222	3
2020:240	3
2020:242	3
2790:121	3
2790:122	3
2790:123	3
2790:131	3
2790:132	2
2790:133	5
2790:134	5
2790:141	2
2790:142	2
2790:201	3
2790:204	2
2790:223	3
2840:100	3
3100:103	3
3100:106	3
3100:107	3
General Elective	2
Total Credits	70

**2840: CHEMICAL TECHNOLOGY**

This program prepares students for technical positions in chemical and chemistry related laboratories and manufacturing plants. The curriculum includes the fundamentals of chemistry, physics and mathematics and stresses modern instrumental methods. There are five areas of emphasis in this program, each providing additional job opportunities to graduates. The areas are: Industrial, Rubber and Plastics, Geology, Environmental, and Forensic (or crime lab). A list of recommended general, basic and technical electives for each of the five areas of the program follows.

**CORE PROGRAM**

	Credits
1100: Physical Education	1
2020:121 English	4
2020:131 Math Analysis I	4
2020:222 Technical Report Writing	3
2840:101 Introductory Chemistry	3
2840:102 Introductory and Analytical Chemistry	3
2840:103 Chemical Calculations	2
2840:121 Organic Principles	4
2840:151 Basic Physics: Mechanics	3
2840:152 Basic Physics: Electricity and Magnetism	2
2840:153 Basic Physics: Heat, Light, & Sound	2
2840:201 Quantitative Analysis	4
2840:202 Instrumental Methods	4
2840:255 Literature of Science and Technology	1
2840:270 Natural and Synthetic Organic Polymers	4
General Electives	9
Emphasis Requirements	13
Total Credits	66

**Industrial Emphasis:**

2020:132 Math Analysis II	3
Technical Electives	10
(3940:401 Introduction to Elastomers recommended)	13

**Rubber and Plastics Emphasis**

2020:132 Math Analysis II	3
Technical Electives	10
(3940:401 Introduction to Elastomers and 3940:402 Introduction to Plastics recommended)	13

**Geology Emphasis**

2020:132 Math Analysis II	3
3370:101 Introductory Physical Geology	4
3370:230 Mineralogy	3
Technical Elective	3
	13

**Environmental Emphasis:**

3370:200 Environmental Geology	3
3100:130 Principles of Microbiology	3
Technical Electives	7
(3100:426 Applied Aquatic Ecology recommended)	13

**Forensic Emphasis:**

	Credits
2220:100 Introduction to Criminal Justice	3
2220:250 Criminal Case Management	6
Technical Elective	4
	13

**2860: ELECTRONIC TECHNOLOGY**

(An ECPD accredited Engineering Technology curriculum)

This program prepares individuals for work as technicians in the development, manufacture, installation, and maintenance of electronic equipment and systems. Added to basic instruction in mathematics, science, and electrical/electronic fundamentals is study of computers, communications systems, and industrial applications of electronics.

	Credits
1100: Physical Education	1
2020:121 English	4
2020:131 Math Analysis I	4
2020:132 Math Analysis II	3
2020:222 Technical Report Writing	3
2020:233 Math Analysis III	3
2020:240 Human Relations	3
2020:247 Survey of Basic Economics	3
2840:151 Basic Physics: Mechanics	3
2840:153 Basic Physics: Heat, Light & Sound	2
2860:120 DC Circuits	4
2860:122 AC Circuits	3
2860:123 Electronics I	4
2860:225 Electronics II	4
2860:237 Digital Circuits I	3
2860:238 Digital Circuits II	3
2860:242 Machinery & Controls	3
2860:251 Communications Circuits	3
2860:255 Elec. Design & Const.	2
2860:260 Electronics Project	2
2900:231 Control Principles	4
General Electives	4
Total Credits	68

**2880: INDUSTRIAL TECHNOLOGY**

This sequence of courses prepares students for entry level positions in the field of industrial management and engineering. In addition to basic technical subjects, study is concentrated on work measurement, safety procedures, plant layout, and quality control.

	Credits
1100: Physical Education	1
2020:121 English	4
2020:131 Math Analysis I	4
2020:132 Math Analysis II	3
2020:222 Technical Report Writing	3
2020:240 Human Relations	3
2420:211 Basic Accounting I	3

	Credits	
2880:100	Intro. to Manufacturing Management	2
2880:130	Work Measurement Procedures I	2
2880:141	Safety Procedures	3
2880:200	Manufacturing Profitability	3
2880:210	Controlling and Scheduling Production	2
2880:231	Plant Layout	3
2880:232	Labor-Management Relations	3
2880:235	Work Measurement Procedures II	2
2880:241	Quality Control Procedures	3
2920:121	Technical Drawing I	3
2920:247	Shop Methods	3
	Electives	14
	Total Credits	64

## 2900: INSTRUMENTATION TECHNOLOGY

This career area offers training with instruments and control devices used in automatic manufacturing and processing, power generation, space exploration, and communications systems. The program develops the principles and technical skills involved in the instrumental control of processes and operations in modern industry.

	Credits	
1100:	Physical Education	1
2020:121	English	4
2020:131	Math Analysis I	4
2020:132	Math Analysis II	3
2020:222	Technical Report Writing	3
2020:233	Math Analysis III	3
2020:240	Human Relations	3
2020:242	American Urban Society	3
2020:247	Survey of Basic Economics	3
2840:151	Basic Physics: Mechanics	3
2840:153	Basic Physics: Heat, Light, and Sound	2
2860:227	Measurements	3
2860:237	Digital Circuits I	3
2860:242	Machinery and Controls	3
2860:270	Survey of Electronics I	3
2860:271	Survey of Electronics II	2
2900:121	Fundamentals of Instrumentation	4
2900:231	Control Principles	4
2900:232	Process Control	3
2900:239	Pulse Circuit Testing	3
2900:240	Calibration and Standardization	1
2900:241	Instrumentation Project	2
	General Electives	3
	Technical Electives	2
	Total Credits	68

## 2920: MECHANICAL TECHNOLOGY

(An EPCD accredited Engineering Technology curriculum)

This curriculum prepares individuals to work at the technician level in the design, development, manufacture, testing, and servicing of mechanical equipment. Included in the program is basic instruction in mathematics, science, mechanics, technical drawing, and machine design.

	Credits	
1100:	Physical Education	1
1100:106	Effective Oral Communication	3
2020:121	English	4
2020:131	Math Analysis I	4
2020:132	Math Analysis II	3
2020:222	Technical Report Writing	3
2020:233	Math Analysis III	3
2020:240	Human Relations	3
2020:242	American Urban Society	3
2840:151	Basic Physics: Mechanics	3
2840:152	Basic Physics: Electricity and Magnetism	2
2840:153	Basic Physics: Heat, Sound, and Light	2
2920:121	Technical Drawing I	3
2920:122	Technical Drawing II	3
2920:242	Design Materials	3
2920:243	Kinematics	2
2920:244	Dynamics	2
2920:245	Mechanical Design I	5
2920:247	Shop Methods	3
2920:249	Applied Therm. Energy	2
2920:251	Fluid Power	2
2920:252	Thermo-Fluids Lab	1
2980:125	Statics	3
2980:241	Strength of Materials	3
	Technical Elective	2
	Total Credits	68

## 2980: SURVEYING AND CONSTRUCTION TECHNOLOGY

(An ECPD accredited Engineering Technology curriculum)

This program equips graduates for work in the construction industry or work as a land surveyor. Courses provide study in construction, materials, drafting, and surveying.

### CONSTRUCTION OPTION

	Credits	
1100:	Physical Education	1
2020:121	English	4
2020:131	Math Analysis I	4
2020:132	Math Analysis II	3
2020:233	Math Analysis III	3
2020:222	Technical Report Writing	3
2840:	Basic Physics (Elective)	2
2840:151	Basic Physics: Mechanics	3
2920:121	Technical Drawing I	3
2980:122	Basic Surveying	3
2980:123*	Surveying Field Practice	2
2980:125	Statics	3
2980:233	Construction Administration	2
2980:222	Construction Surveying	3
2980:231	Building Construction	2
2980:232	Construction	3
2980:234	Elements of Structures	3
2980:237	Materials Testing I	2
2980:238	Materials Testing II	2
2980:241	Strength of Materials	3

		Credits
2980:245	Cost Analysis and Estimating	3
2980:250	Structural Drafting	2
	General Electives	9
	Total Credits	68

\*Faculty may select substitute course for student.

### SURVEYING OPTION

1100:	Physical Education	1
2020:121	English	4
2020:131	Math Analysis I	4
2020:132	Math Analysis II	3
2020:222	Technical Report Writing	3
2020:233	Math Analysis III	3
2840:	Basic Physics (Elective)	2
2840:151	Basic Physics: Mechanics	3
2920:121	Technical Drawing I	3
2980:122	Basic Surveying	3
2980:123*	Surveying Field Practice	2
2980:125	Statics	3
2980:233	Construction Administration	2
2980:222	Construction Surveying	3
2980:224	Land Surveying	3
2980:225	Advanced Surveying	2
2980:226	Subdivision Design	2
2980:232	Construction	3
2980:237	Materials Testing I	2
2980:238	Materials Testing II	2
2980:241	Strength of Materials	3
3350:340	Cartography	3
	General Electives	9
	Total Electives	68

\*Faculty may select substitute course for student.

### DIPLOMA NURSING PROGRAM

The University of Akron, in cooperation with the following area hospital schools of nursing, Akron City, Akron General and St. Thomas in Akron, 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 three schools of nursing differ slightly in regard to courses taken and their sequence. The following courses are offered:

	Credits
3100:130 Microbiology	3
3100:106-107 Anatomy & Physiology	3 ea.
3150:124 Chemistry	3
3750:100 Intro. to Psychology	3
3750:130 Developmental Psychology	4
3850:100 Intro. to Sociology	4
7400:133 Nutrition Fundamentals	3

### ALLIED HEALTH PROGRAMS

The University of Akron, in cooperation with a number of area hospitals, provides credit instruction for students interested in careers in allied health fields including Surgical Assisting, and Radiologic Technology.

Students must meet the University entrance requirements and are regularly enrolled with college credit for the courses satisfactorily completed. A listing of the University courses is given on page of this bulletin.

Applications for these programs are handled through the hospitals where the clinical instruction is held. An associate degree program is not yet offered in these areas, however, one is presently under consideration in surgical assisting. Interested students may contact the office of the Dean of the Community and Technical College for further information.

### CERTIFICATE PROGRAM IN REAL ESTATE

A Certificate Program in Real Estate augments the present Business Management Technology (Real Estate) associate degree program. A full description of this certificate program may be found in the section of this Bulletin covering all certificate programs.



# The Wayne General and Technical College

John G. Hedrick, M.A., Dean  
 Martin Kemp, M.S., Business Manager  
 Robert McElwee, M.A., Coordinator of Curriculum and Advising

The Wayne General and Technical College, allied with The University of Akron for administrative and academic support, operates on the principle that students bring to the campus a wide range and variety of experience, needs, capacities, aspirations and interests. This principle has been incorporated in the planning of The Wayne General and Technical College. Wayne College thus exists for these specific purposes:

1. To provide the first and second year of baccalaureate instruction integral to the traditional four-year liberal arts and sciences programs. After successful completion of the first two years, students will be awarded the degree of Associate in Arts. These students can transfer as juniors to four-year colleges and universities.

2. To provide collegiate technical education leading to the degree of Associate in Applied Science in Business Management Technology, Electronic Technology, Mechanical Technology, Retail Management Technology, Secretarial Science, or Social Services Technology. Students will acquire specific skills leading to employment or advancement, if currently employed.

3. To provide programs of community service, adult education, and cultural activities as determined jointly with local community interest groups and other educational institutions as well as labor and business.

4. To provide continuing general education for all members of the community on a demand basis. Citizens at any age beyond high school are able to attend day or evening classes with ease of admission accorded by open-admission policies established throughout the Ohio system of higher education. Continuing Education is concerned with the common knowledge, skills and attitudes needed by each individual to be effective as a person, member of a family, employee and citizen in our free society.

## B. Instructional Programs

Consistent with the purposes and objectives of the Ohio Board of Regent's standards, The Wayne General and Technical College of The University of Akron will offer the following two major academic career choices:

1. *The College Transfer Program*, a replication of the liberal arts programs of the first two years of a baccalaureate college or university.

A growing number of students each year choose to take the first two years of collegiate study near home in a two-year college; The Wayne General and Technical College, or example.

2. *The Two-Year Technical Program* is designed to provide specialized collegiate technical programs organized to develop high levels of skill in specialized occupations and to serve the needs of employers in Wayne, Holmes, and Medina Counties.

## ADMISSION

Admission applications are available at the Admissions Office on campus or at The Wayne General and Technical College in Orrville.

## REGISTRATION

Campus students who wish to take a course(s) at Wayne College too, include the branch courses along with their other selections.

Wayne College students who wish to take a course(s) on campus too, include campus courses along with their other selections.

### Suggested Routes from:

#### Akron

US 224 and 76 to Ohio 57 to Wayne County 29 at yellow blinker, right to Wayne County 47.

#### Medina

Ohio 57 to Wayne County 29 at yellow blinker, right to Wayne County 47.

#### Wadsworth

Ohio 57 to Wayne County 29 at yellow blinker, right to Wayne County 47.

#### Rittman

Ohio 57 to Wayne County 29 at yellow blinker, right to Wayne County 47.

#### Wooster

US 30 to Ohio 57, north to Junction of Wayne County 29, left to Wayne County 47.

# The General College

Marion A. Ruebel, 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 Studies and the prerequisite 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.

### 1100: 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 Studies curriculum including English Composition, Literature, Speech,

Mathematics, Natural Science, Social Science, Western Cultural Traditions, Eastern Civilizations, and Physical Education. The General Studies program as it is now presented is the fruit of a half century of planning, revision 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 convinced that he knows what he wants to become.

Students who complete 30 semester credits and achieve a quality point ratio of 2.0 (C) or better are eligible for transfer to the Upper College of their choice. The College of Arts and Sciences, the College of Business Administration, and the College of Nursing have slightly different requirements for transfer, therefore, students planning to transfer to one of these three colleges should check with their advisor to learn the specific requirements for transfer.

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.

The required General Studies Courses are:

	Credits
1100:105 Intro. to Public Speaking	3
OR	
1100:106 Effective Oral Communication	3
1100:111-112 English Composition	8
1100:115-116 Institutions in the United States*	6
1100:120-190 Physical Education	1
1100:320-321 Western Cultural Traditions	8
1100:330-335 Eastern Civilizations**	4
Mathematics	3
Natural Science***	6
<b>Total</b>	<b>39</b>

\* The 6 credit requirement in the social science area also may be met through one of the following options.

A. Completion of a minimum of two courses totaling at least 6 credits selected from two of the following four sets of course offerings:

1. 3250:244, Introduction to Economic Analysis, 3 credits. (Students majoring in engineering are advised to take this as one of their selections.)  
or  
3250:201, Principles of Economics, 3 credits. (Students majoring in business, economics, etc., are advised to take this as one of their selections. Students doing so should plan to take 3250:202, 3 credits.)  
or  
3250:100, Introduction to Economics, 3 credits.
2. 3400:201, U.S. History to Civil War, 4 credits.  
or  
3400:202, U.S. History Since Civil War, 4 credits.
3. 3700:100, Government and Politics in U.S., 3 credits.

4. 3850:100, Introduction to Sociology, 4 credits.  
or  
3870:150, Cultural Anthropology, 4 credits.

- B. For Community and Technical College majors only, completion of the following three courses (total of 9 credits).  
2020:240, Human Relations, 3 credits.  
2020:242, American Urban Society, 3 credits.  
2020:247, Survey of Basic Economics, 3 credits.

\*\*Engineering students are only required to take 2 credits; all other students must take 4 credits.

\*\*\*Minimum of 6 credits of science. This requirement may be met either by taking courses in the Departments of Biology, Chemistry, Geology, or Physics, or by any combination of two out of four of the Natural Science courses, 1100:221, 222, 223, and 224 (3 credits each).

## *Reserve Officers Training Corps*

### 1500: DEPARTMENT OF AEROSPACE STUDIES

The Department of Aerospace Studies provides students with the opportunity of pursuing a commission in the United States Air Force while qualifying for graduation from The University of Akron. The United States Air Force has been in the forefront of contributions to flight, research and development, effective management of resources and people, and education largely because of the existence of a well-educated, versatile, and professional officer corps. The primary source of these officers is the Air Force ROTC.

The program is designed to prepare students to become officers who are: dedicated and responsible; critical and creative in their thinking; able to communicate clearly; and skilled in effective management.

Both the Four-Year Program and Two-year Program described below are open to full-time male and female students who will have completed at least a baccalaureate degree at commissioning.

#### PROGRAMS:

##### THE FOUR-YEAR PROGRAM

All full-time day students of The University of Akron may pursue the Four-Year Program. Enrollment procedures for the first two years of Air Force ROTC, known as the General Military Course (GMC), are the same as for any other university courses. The GMC consists of one hour of classroom work and one hour of Aerospace Studies Lab (Leadership Lab) each week, and provides 1.5 hour/semester of credit.

Credit for portions of the GMC may be given for completion of two or more years

of high school Junior ROTC, participation in Civil Air Patrol, military school training, or prior service in any branch of the U.S. Armed Forces.

Upon completion of the GMC requirements, cadets who wish to compete for the last two years of the program, the Professional Officer Course (POC), must meet the qualifications described below.

##### THE TWO-YEAR PROGRAM

The Basic Requirement for entry into the Two-Year Program is to have two academic years remaining, either at the undergraduate level or the graduate level, or a combination of the two. Entry into the Professional Officer Course is competitive in nature. Two-Year Program applicants must meet the qualifications described below. Students in the POC receive a non-taxable monthly subsistence allowance of \$100. Applications for the Two-Year Program should be made as early in the academic year as possible so that all requisites may be completed in time for summer field training. The POC consists of three hours of classroom work and one hour of Aerospace Studies Lab (Leadership Lab) each week, and provides 3.0 hours/semester of credit.

##### FIELD TRAINING

In the summer prior to entering the Professional Officer Course, all Four-Year Program AFROTC cadets and student applicants for the Two-Year Program must attend field training at an Air Force base where they will learn and make use of training and leadership techniques in close contact with other cadets.

Four-Year Program students spend four weeks at their encampment, while field training for Two-Year Program applicants lasts six weeks. The additional two

weeks for the Two-Year Program applicants are used to cover the academic work taken by cadets who completed the General Military Course (GMC), Uniforms, lodging, and meals are provided without charge, and travel pay is authorized to and from the individual's home or school. In addition, cadets and applicants receive pay at approximately half the rate of a second lieutenant.

#### FLIGHT TRAINING

As a pilot qualified student enrolled in the Air Force ROTC Flight Instruction Program (FIP), you can get an important start on your Air Force flying career.

When enrolled in FIP, you will receive up to 25 hours of flight instruction at an FAA approved civilian-operated flying school near the campus. Approximately 18 hours will be dual instruction and the other seven will be solo flying. In addition to the flight training, the student will participate in a ground school covering the rules and regulations pertaining to flying.

The Air Force pays for flight instruction, textbooks, navigational equipment, and transportation to and from the flying school.

#### BASE VISITS

Classroom instruction is made more meaningful for the cadet through visits to Air Force bases. To bring the scope of Air Force operations into a clearer perspective, Air Force ROTC strives to enable every cadet to make at least one such visit each year. Many cadets have the opportunity to make more.

#### Requirements for Admission:

##### GENERAL QUALIFICATIONS

General qualifications for entry into Air Force ROTC:

1. Be a citizen of the United States or applicant for naturalization.
2. Be a full-time student.
3. Be in sound physical condition.
4. Be of good moral character.
5. Meet age requirements as follows:
  - a. AFROTC four-year scholarship recipients must be at least 17 years of age and able to complete commissioning requirements prior to age 25.
  - b. If not on scholarship status, but designated for pilot or navigator training, be able to complete all commissioning requirements prior to age 26½.

c. If not on scholarship status and not qualified for flying training, be able to complete commissioning requirements prior to age 30.

##### ADDITIONAL QUALIFICATIONS FOR PROFESSIONAL OFFICER COURSE

Additional qualifications for admittance to the Professional Officer Course:

1. Be at least 17 years of age.
2. For the Four-Year Program cadet, complete the General Military Course or receive credit for Junior ROTC, Civil Air Patrol, military school training, or prior service.
3. For the Two-Year student applicant, complete the six-week Field Training Course.
4. Receive a satisfactory score on the Air Force Officer Qualifying Test (AFO-QT).
5. Pass an Air Force physical examination.
6. Be interviewed and selected by a board of Air Force Officers.
7. Enlist in the Air Force Reserve prior to entry into the Professional Officer Course.

##### REQUIREMENTS FOR COMMISSIONING

1. Successfully complete the Professional Officer Course and Field Training.
2. Earn at least a baccalaureate degree.
3. Agree to accept, if offered, a commission in the United States Air Force.
4. Agree to serve for a period of not less than four years on active duty after commissioning; or, if accepted for a flying training program, agree to serve for a period of not less than five years of active duty as a flying officer after completion of pilot or navigator training.

##### SCHOLARSHIPS

Air Force ROTC college scholarships are available to qualified applicants in both the Two and Four-Year AFROTC Programs covering periods of four, three, and two years. Each scholarship provides full tuition, laboratory and incidental fees, and full reimbursement for curriculum-required textbooks. In addition, all scholarship cadets receive \$100 monthly non-taxable subsistence allowance.

Four-year scholarships are available for applicants in pilot, navigator and scientific/

engineering career fields. Applicants will be evaluated on the basis of their:

CEEB Scholastic Aptitude Test (SAT) or the American College Test (ACT) results.

High School academic record.

Extracurricular and athletic activities.

Air Force Officers Qualifying Test scores.

Passing an Air Force medical examination.

All three and two-year scholarships are awarded on a competitive basis and applicants are evaluated on their:

Air Force Officers Qualifying Test.

Collegiate grade point averages.

Extra-curricular and athletic activities.

Screening and nomination board rating.

Academic major and potential active duty career field.

Scholarship information may be obtained by contacting the Department of Aerospace Studies.

#### FINANCIAL ALLOWANCES

All cadets enrolled in the Professional Officer Course will receive a non-taxable subsistence allowance of \$100 per month.

#### UNIFORMS AND TEXTBOOKS

All AFROTC uniforms and textbooks are provided by the Air Force both for on-campus courses and at field training.

### 1600: DEPARTMENT OF MILITARY SCIENCE

The University's Army Reserve Officer Training Corps (ROTC) was established in 1919, making it one of the oldest in the country. The main goal of the Army program is to provide both the Active Army and Army Reserve and National Guard with commissioned male and female officers whose civilian education and attitudes contribute to the development of a military defense structure which reflects as well as defends our society. The graduates of this program perpetuate and strengthen the tradition of our nation's citizen soldier concept.

Students enrolled in Army ROTC have an unusual opportunity to study and participate in leadership and management experiences which are unique to the college curriculum. Leadership, self discipline, responsibility and physical stamina are stressed as students learn to plan, organize,

motivate and lead others. Program goals are to develop decision making capabilities through detailed examination of leadership factors; expand oral and written communication arts; provide some technical training in basic military skills; and develop an understanding of the relationship between the student's basic degree field and its application in one of 47 management fields in the U.S. Army.

#### THE FOUR-YEAR PROGRAM

All full time students enrolled in The University of Akron or Wayne General and Technical College may enroll in the Army Four-year program. Freshmen and Sophomores enroll in the Basic Military Course (MS I, MS II) of the four-year program for 1.5 credits per semester. Military Science I and II are held two hours each week and include: Leadership fundamentals, military history, marksmanship, orienteering, national security affairs, and Army organization. Books and uniforms (for sophomores) are provided free. ROTC, taken as an elective, offers credit towards graduation and is included in the grade point average but imposes no obligation on students to complete all semesters of the Basic Course. The Professor of Military Science may award advance standing for students who have participated in high school ROTC, military schools, the Reserve or National Guard or active military service.

Students who complete the Basic military course may apply for enrollment in the Advanced Course which is described below.

#### THE TWO-YEAR PROGRAM

Students who have completed the Basic Course or attend a six weeks basic military skills training program may apply for Military Science III and IV — the Advanced Course. Course studies are held four hours a week for three credits. They include: methods of instruction, advanced leadership, application of tactics, branches of the Army, resource management, case studies in military/political relationships, military history, and officer responsibility. The course includes a six-week paid summer camp usually between the junior and senior years. Students in this program receive free books and uniforms and are paid \$100 monthly. They are under obligation to complete the course and accept a commission as a Second Lieutenant in the Army. Upon graduation students will either serve with the active Army or in a Reserve Component.

## CADET ACTIVITIES

The Department of Military Science offers numerous activities to enrich classroom instruction; provide a better understanding of the military and military life; and improve technical skills. These include:

- Military Post Orientation Visits
- Adventure and Survival Training—  
mountaineering, canoeing, skiing,  
camping, orienteering, boating
- Precision drill
- Competitive rifle marksmanship
- Military history club
- Tactics Club

## QUALIFICATIONS FOR ENROLLMENT

1. United States citizenship. (Alien students may be enrolled under special circumstances).
2. Full time student (Advanced course students must be enrolled in baccalaureate degree course).
3. Good moral character.
4. Age requirements as follows:
  - a. Be at least 17 for enrollment in the basic course
  - b. Be under 28 years old by time of commission (Waiverable for veterans)
  - c. Scholarship students must be under 25 by commissioning date
5. Mentally and physically fit

## QUALIFICATIONS FOR ADVANCE COURSE

1. Basic qualifications for enrollment above
2. Completion of Basic Course, Basic Summer Camp, Veteran, or 90 hours Campus Seminar
3. Qualify on the Army physical evaluation
4. Permission of the Professor of Military Science
5. Be in good academic standing with the university

## REQUIREMENTS FOR COMMISSIONING

General requirements for a commission include:

1. Completion of a Baccalaureate or Advanced degree
2. Completion of the Advanced Army ROTC Course
3. Agreement to incur a maximum active service obligation as follows:

	Active Service
Basic Program (Freshman & Sophomore)	None
Advanced Program (Junior and Senior)	3 years
Scholarship Program	4 years

## RESERVE COMPONENTS OPTION

Army ROTC students who have completed the ROTC Basic and Advance Program may apply for a position in the Army National Guard or the Army Reserves and have no obligation to serve with the active Army. If accepted to either component the student may be commissioned a 2nd Lieutenant regardless of whether he or she has completed the university requirements for a degree. The 2nd Lieutenant in a Reserve Component will attend meetings one weekend per month and be paid over \$100 for each month.

## SCHOLARSHIPS

In addition to four-year scholarships offered to high school seniors, the Army offers three, two, and one year scholarships on a competitive basis to men and women enrolled in the program. These scholarships provide free tuition, fees, text materials and a non-taxable monthly stipend of \$100 per month for the period of the scholarship. Army scholarship students who qualify as Distinguished Military Graduates may apply for a Regular Army commission. All scholarship students must agree to spend four years on active duty.

## UNIFORM AND TEXTBOOKS

Textbooks for all courses and equipment for enrichment activities are provided free by the Department of Military Science. Uniforms are issued free to Military Science II students for retention upon completing the program.

## FINANCIAL ALLOWANCES

Advance Course members and all scholarship students are paid a non-taxable subsistence allowance of \$100 per month while in the program. Students attending Basic or Advanced summer camp are paid travel, meals, housing, and a salary.

# Community and Technical College

Robert C. Weyrick, M.S., Dean  
David T. Dolan, Ph.D., Assistant Dean  
Frederick J. Sturm, M.A., Assistant to the Dean

## BACCALAUREATE PROGRAMS

The baccalaureate-level programs in engineering technology are intended to fill the widening gap in modern industry between the professional engineer and the engineering technician. The graduate of a program works in close support of engineers, translating conceptual ideas into functioning systems and providing supervisory direction for the implementation of these ideas by technicians and craftsmen.

These programs are designed as transfer programs to permit qualified engineering technology students to continue their education to the baccalaureate degree. During his/her first and second years, the student follows an associate degree program in the corresponding engineering technology. The third and fourth years provide the additional study required for the baccalaureate degree. Emphasis is placed on advanced training in the student's field of specialization, broadened knowledge of related technical fields, extended general education, and basic management training.

The programs are available in Electronic Technology and Mechanical Technology. It is intended that graduates will find employment in manufacturing, technical sales and service, application engineering, inspection and testing, and the more standardized aspects of engineering design.

The requirements for the Bachelor of Science in Electronic Technology degree or the Bachelor of Technology in Mechanical Technology degree are:

1. Compliance with the general University requirements for a baccalaureate degree as listed in the University Bulletin.
2. Compliance with the requirements of the General Studies program as outlined in the University Bulletin.
3. Completion of the requirements for the Associate Degree in a related engineering technology at The University of Akron or other accredited institution.
4. Successful completion of a minimum of 135 credits including Associate Degree program, General Studies courses, and the following course requirements:

### BACHELOR OF SCIENCE IN ELECTRONIC TECHNOLOGY (An ECPD accredited Engineering Technology curriculum)

For the First and Second year requirements, see Associate Degree program in Electronic Technology.

#### Third and Fourth Year Requirements

	Credits	
1100:106	Effective Oral Communications	3
1100:111	English Composition	4
1100:112	English Composition	4
1100:320	Western Cultural Traditions	4
1100:321	Western Cultural Traditions	4
1100:33-	Eastern Civilization	2
1100:33-	Eastern Civilization	2
2020:334	Math for Technical Applications	3
2840:101	Introductory Chemistry	3
2860:350	Advanced Circuits	3
2860:351	Indust. Electrical Systems	3
2860:352	Digital Systems	3
2860:353	Control Systems	3
2860:400	Data Analysis	3
2860:402	Inspection Trips	1
2860:406	Communications Systems	3
2860:410	Technology Project	1
2920:310	Economics of Technology	3
3470:251	Descr. Stat. & Prob.	1
3470:252	Distributions	1
4450:206	Fortran (Sci/Engr)	2
6500:331	Production & Systems Mgmt.	3
6500:332	Production & Operations Mgmt.	3
	Technical Electives	5
		67
	Total credits (including Associate Degree program)	135

### BACHELOR OF TECHNOLOGY IN MECHANICAL TECHNOLOGY

For First and Second year requirements, see Associate Degree Program in Mechanical Technology.

#### Third and Fourth Year Requirements

	Credits	
1100:111	English Composition	4
1100:112	English Composition	4
1100:317	Western Cultural Traditions	4
1100:318	Western Cultural Traditions	4

	<i>Credits</i>		<i>Credits</i>
1100:33- Eastern Civilization	2	2920:310 Economics of Technology	3
1100:33- Eastern Civilization	2	2920:346 Mechanical Design II	3
2020:247 Survey of Basic Economics	3	2920:347 Production Machines and Processes	3
2020:334 Math for Tech. Applications	3	2920:401 Inspection Trips	1
2840:101 Introductory Chemistry I	3	4450:206 Fortan (Science/Engineering)	2
2840:102 Introductory Chemistry II	3	6500:301 Management Principles and Concepts	3
2860:201 Survey of Electronics I	3	6500:321 Quantitative Business Analysis I	3
2860:211 Survey of Electronics II	2	Technical Electives	4
2860:410 Technology Project	1		<hr style="width: 100%; border: 0.5px solid black;"/>
2880:241 Quality Control Procedures	3		67
2900:231 Control Principles	4		
		<b>Total Credits (including Associate Degree program)</b>	<b>135</b>

# The Buchtel College of Arts and Sciences

Claibourne E. Griffin, Ph.D., Dean  
Paul S. Wingard, Ph.D., Associate Dean

## OBJECTIVES

The Buchtel College of Arts and Sciences serves the objectives of The University of Akron, which exists that learning may be procured, preserved, and enlarged. More particularly, the Buchtel College seeks to foster:

1. The commitment to humanity — that loyal devotion to the heritage contained in those disciplines growing out of the ancient, liberal arts which teach man both his limitations and potentialities. The College seeks to provide an appropriate environment for a student to acquire an ability to evaluate, integrate, and understand the conditions of man's existence, to understand himself in the natural world and in a particular civilization or society. No course or combination of courses can insure such understanding, and there is no schooling that can guarantee wisdom. Therefore, that College requires the student to study ideas and experiences that are the subject matter of a variety of disciplines:

2. The nature of civility — those actions whereby virtue, the advancement of society, and wise and humane government are encouraged:

3. The advancement of learning — that substantive knowledge discovered and cultivated by critical curiosity, tested by experimentation, propagated by instruction, and capable of affecting the life of man so that he may in a free society exercise a responsible liberty. The most enduring contribution which the College can make is to help the individual acquire the skill, motivation, and breadth of knowledge to continue his intellectual development throughout his life.

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

The Buchtel College of Arts and Sciences is one of six upper colleges at The University of Akron. Its name truthfully implies that its traditions date back farther than those of the other five 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 the College of Liberal Arts

which was subsequently renamed the Buchtel College of Arts and Sciences. Then, and now the liberal arts goal has been to offer broad training to the college student so that he/she can prosper in life and sustain a creative appreciation of the arts and sciences.

The college is composed of three administrative divisions. They are as follows:

### I. THE HUMANITIES DIVISION

It is concerned with the intellectual traditions that have formed man and with their application to the present and future growth of the human being by affording insights into contemporary life and by promoting the development of the individual as a creative, critical, and articulate person through the study of the classics, languages, literature, and philosophy.

### II. THE NATURAL SCIENCES DIVISION

It is the most professionally-oriented division in this college, with the highest number of graduates continuing their education in specific areas of advanced study. In undergraduate years, a Natural Sciences student has a course of study with a strong emphasis in biology, chemistry, geology, mathematics or physics.

### III. THE SOCIAL SCIENCES DIVISION

It stresses intelligent participation in community affairs through education in such fields as history, economics, geography, political science, psychology and sociology.

### REQUIREMENT FOR ADMISSION

To be admitted to the Buchtel College of Arts and Sciences the student must have completed satisfactorily at least 30 credits of work, and have the approval of the Dean of the college.

### DEGREES GRANTED

*Humanities Division:* Bachelor of Arts  
*Social Sciences Division:* Bachelor of Arts,  
Bachelor of Science in Labor Economics,  
Bachelor of Science in Political Science/Criminal Justice

**Natural Science Division: Bachelor of Arts,  
Bachelor of Science, Bachelor of  
Science in Medical Technology**

#### REQUIREMENTS FOR BACCALAUREATE DEGREES

1. A student transferring into the Buchtel College of Arts and Sciences must have completed the equivalent of, or take, English 1100:111, 112, 3 credits of Modern University Mathematics, and the remainder of the General Studies Program.

The requirements for the Bachelor's Degree in the Buchtel College of Arts and Sciences must include, in addition to courses used to meet General Studies and language requirements, a minimum of 47 credits consisting of:

a. 300 and 400 level courses (both in the student's major and outside the major), and

b. Any other courses outside the major department as specified and approved by the student's major adviser and the department or division head (permission should be obtained prior to enrollment).

2. All candidates, except for those in the Labor Economics, Natural Sciences Division major, Medical Technology, and the Political Science/Criminal Justice curricula must have demonstrated the ability to use two languages.

If the candidate is a native-born speaker of English, this ability will be shown by the completion of a second year of an approved foreign language on the University level.

If the candidate is not a native-born speaker of English, this ability will be shown by the completion of the General Studies sequence of English 1100:111, 112.

3. Completion of requirements in a major field of study (see Divisions of Instruction) and the recommendation of the student's major department.

4. The student must have a minimum grade point average of 2.0 in all work in his/her major.

5. Any student who wishes to receive a second baccalaureate degree must complete 32 credits of course work in addition to the 128 credits necessary for his/her first degree; 16 of these credits must be 300 or 400 level courses or other approved courses.

6. The general University requirements for a baccalaureate degree are set forth on pages 81-82 of this *General Bulletin*.

#### MAJOR FIELD

To qualify for graduation a student must concentrate or major in the work of

either a department of a division of the college. The major will consist of at least 24 credits. Part or all of these credits may be taken in specifically required courses depending upon the major chosen. The longer and more professionally-oriented majors should be started during the first year when the student is still under the guidance of the Office of Student Service.

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 transferred to the College, the head of his/her major department becomes his/her 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 or the natural sciences. The exact requirements for these majors will be found on the following pages in the section headed "Departments of Instruction". As soon as the student contemplating a divisional major is transferred to the College, the chairman of his/her major division becomes his/her academic adviser.

#### PREPARATION FOR HIGH SCHOOL TEACHING

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

The number of credits in a teaching field required for certification may be

determined by reference to the section entitled Teaching Fields located in the College of Education section of this Bulletin.

1. In addition to meeting the requirements in a teaching field a student must also take the following courses in psychology and in the College of Education.

	Credits
3750:100 Introduction to Psychology	3
5100:150 Introduction to Professional Education	3
5100:250 Human Development and Learning	3
5300:295 Exploratory Experience in Secondary Schools	1
5300:310 Principles of Secondary Education	3
5300:311 Instructional Techniques in Secondary Education	3
5100:350 Educational Measurement and Evaluation	2
5100:450 Problems in Education	2
5300:403 Student Teaching Seminar	1
5300:495 Student Teaching	8
Total	29

## DIVISIONS OF INSTRUCTION

### 3100: BIOLOGY

The Bachelor of Science, The Bachelor of Arts and the Bachelor of Science in Medical Technology degrees are offered.

*Requirements for the B.S. degree with a major in Biology and the B.S. in Medical Technology degree.*

The General Studies and the second year of a foreign language. Biology students must obtain 36 credits in biology to qualify for a Bachelor of Science degree. Additional courses in biology or other sciences are usually necessary to satisfy the admission requirements of graduate and professional schools for advanced work and professional studies.

All majors for a B.S. degree in biology take the following sequence of courses which will provide an understanding of the fundamentals of modern biology. During the first year, students intending to major in Biology should consult a member of the Biology Faculty.

*First Year:* 3100:111-2 Principles of Biology; 3150:132-3-4, Principles of Chemistry, (or with permission 3150:121-2 Inorganic Chemistry); 3450:147-8 Elementary Functions I, II; or Modern University Mathematics 3450:111-2-3, 3450:121-2-3, 3470:251-2-3.

*Second Year:* 3100:211 General Genetics; 3100:214 Organic Evolution; 3100:217 General Ecology; 3150:201-2 Organic Chemistry and Biochemistry I and II; or 3150:263-4-5-6 Organic Chemistry.

*Third Year:* 3100:311 Cell Biology and 3100:384 Techniques and Instrumentation Lab. The student

would then be expected to specialize during the third and fourth years in one of the areas listed below.

### AREAS OF SPECIALIZATION WITH RECOMMENDED COURSES

#### BOTANY

3100:444 Biology of Thallophytes; 3100:445 Plant Morphology; 3100:447 Plant Physiology; 3100:449 Plant Biosystematics.

Electives: 3100:341-2 Flora and Taxonomy I & II; 3100:441 Plant Development; 3100:442 Plant Anatomy. Advisers: H. Dollwet, J. Frola, L.W. Macior, D. Ott, W. Stoutamire.

#### ECOLOGY

3100:422 Conservation of Biological Resources; 3100:424 Limnology; 3100:464 General and Comparative Physiology; 3300:275 Specialized Writing; 3350:495 Soil and Water Field Studies; 3370:101 Introductory Physical Geology; 3450:221, 222 Analytic Geometry-calculus; 3450:417 Computational Linear Algebra; 3470:251-256 Statistics; 4450:206 Fortran Programming; and either 3100:331 Microbiology; 3100:426 Applied Aquatic Ecology; 3100:444 Biology of Thallophytes; 3150:423, 425 Analytical Chemistry; or one course from each group — 3100:351 Invertebrate Zoology and 3100:353 General Entomology; 3100:356 Ornithology and 3100:458 Vertebrate Zoology; 3100:341 or 342 Flora and Taxonomy. See advisor for additional details.

Advisers: J. H. Olive, F.S. Orcutt, W. A. Sheppe.

#### HIGH SCHOOL TEACHING

For State Certification see "Preparation for High School Teaching," on previous page and page XXX.

3100:265 Introductory Human Physiology; 3100:341 Flora & Taxonomy I; 3100:351 Invertebrate Zoology; 3100:383 Lab Techniques and Instrumentation; 3100:458 Vertebrate Zoology.

Electives: 3100:331 Microbiology; 3100:342 Flora and Taxonomy II; 3100:426 Applied Aquatic Ecology; 3100:428 Biology of Behavior; 3100:444 Biology of Thallophytes; 3100:445 Plant Morphology; 3100:464 General and Comparative Physiology; 3100:485 Laboratory Animal Management.

Advisers: L. W. Macior, R. Nokes, J.H. Olive.

#### MEDICAL TECHNOLOGY

A three year program (96 credits) at The University of Akron. (A foreign language is not required).

3100:331-2 Microbiology; 3100:355 Parasitology; 3100:361-2 Human Anatomy and Physiology; 3100:383 Lab Techniques and Instrumentation; 3100:437 Immunology; 3150:335-6 Analytical Chemistry for Laboratory Technicians. The student will have the option of 3100:214 Organic Evolution and/or 3100:217 General Ecology. 3100:212 Genetics Lab is also optional.

The three year University curriculum is followed by 12 months (32 cr.) of clinical Medical Technology instruction in an AMA approved School of Medical Technology. The University is affiliated with the following hospital schools: Akron City Hospital, Akron General Medical Center, Barberton Citizens Hospital, Canton Aultman Hospital, Cleveland Metropolitan General Hospital, Mt. Sinai Hospital of Cleveland, St. Alexis Hospital (Cleveland), St. Thomas Hospital, and The Children's Hospital Medical Center of Akron. The student must apply to a Hospital School for separate admission. The University cannot guarantee placement. Students may train at other approved schools after obtaining special permission from the Head, Department of Biology. Students majoring in Medical Technology in this University are not required to have their transcripts evaluated by NAACLS before entering the clinical (laboratory/hospital) phase of their pro-

gram. This exemption by NAACLS from the transcript evaluation requirement does not imply any approval or accreditation of the medical technology curriculum in this institution.

The University grants the B.S. in Medical Technology after receipt of evidence of satisfactory completion of the hospital instructional program.

Advisers: L. Higbie, R. F. Keller, D. Nunn.

**MICROBIOLOGY**

3100:331-2 Microbiology; 3100:437 Immunology; 3100:431 Bacterial Physiology or 3100:435 Virology.

Electives: 3100:433 Pathogenic Bacteriology; 3100:461-2 Human Physiology; 3150:401-2 Biochemistry; 3100:444 Biology of Thallophytes; 3100:355 Parasitology.

Advisers: E. Flaumenhaft, N. Ledinko, D. Nunn, L. W. Watson.

**PHYSIOLOGY AND PRE-PROFESSIONAL**

Including pre-medical, pre-dental, pre-veterinary, pre-pharmacy students.

3100:466-7 Developmental Anatomy; 3100:461-2 Human Physiology; 3650:261-2 Physics for Life Sciences I & II.

Electives: 3100:365 Histology I; 3100:480 Radiation Biology; 3450:221-2-3 Analytical Geom-Calculus I, II, III; 3650:267-8 Life Sciences Physics Computations I & II; 3150:423-4 Analytical Chemistry; 3150:425-6 Analytical Chemistry Lab.

Advisers: D. Ely, J. Gwinn, R. Keller, R. Mostardi, R. Nokes.

**ZOOLOGY**

A minimum of 13 hours from the following: 3100:351 Invertebrate Zoology; 3100:428 Biology of Behavior; 3100:458 Vertebrate Zoology; 3100:464 General and Comparative Physiology; 3100:466-7 Developmental Anatomy.

At least one of the following courses should also be included: 3100:341 Flora and Taxonomy I; 3100:342 Flora And Taxonomy II; 3100:444 Biology of Thallophytes; 3100:445 Plant Morphology.

Electives: 3100:353 General Entomology; 3100:355 Parasitology; 3100:356 Ornithology; 3100:365-6 Histology; 3100:422 Conservation of Biological Resources; 3100:485 Laboratory Animal Management.

Advisers: D. Jackson, S. Orcutt, W. Sheppe.

**Requirements for the B.A. degree with a major in Biology:**

The General Studies requirements and the second year of a foreign language. At least 17 credits in the humanities or social sciences, including at least two of the following 3400:477 Western Science & Technology to 1800; 3400:478 Western Science & Technology 1800-; 3600:464 Philosophy of Science. At least 24 credits in the biological sciences which must include 3100:111-2 Principles of Biology; 3100:211 General Genetics; 3100:214 Organic Evolution; 3100:217 General Ecology; and 3100:311 Cell Biology or, with permission, 3100:130 Principles of Microbiology. At least one year of chemistry, including, preferably, some biological chemistry (3150:129-130 General Chemistry is suggested).

Adviser: D. L. Jackson

**3150: CHEMISTRY**

**Requirements for a B.S. degree with a major in Chemistry:**

1. The general studies and the second

year of German\* 53 credits

2. At least 45 credits in the department which must include:

	Credits
3150:132 Principles of Chemistry I	4
3150:133 Principles of Chemistry II	3
3150:134 Qualitative Analysis	2
3150:263 Organic Chemistry Lecture I	3
3150:264 Organic Chemistry Lecture II	3
3150:265 Organic Chemistry Laboratory I	2
3150:266 Organic Chemistry Laboratory II	2
3150:313 Physical Chemistry Lecture I	3
3150:314 Physical Chemistry Lecture II	3
3150:315 Physical Chemistry Laboratory I	2
3150:316 Physical Chemistry Laboratory II	2
3150:423 Analytical Chemistry Lecture I	3
3150:424 Analytical Chemistry Lecture II	3
3150:425 Analytical Chemistry Laboratory I	2
3150:426 Analytical Chemistry Laboratory II	2
3150:463 Advanced Organic Chemistry	5
3150:472 Advanced Organic Chemistry	3
Total	45

3. The mathematics requirement is:

Completion of 3400:235 Differential Equations 3

4. The physics requirement is:

3650:291-292 Elementary Classical Physics I and II 8

\* Certain other languages may be substituted with the approval of the Chemistry faculty. Approval should be sought prior to the completion of 60 credit hours.

**3200: CLASSICS**

(3200: Classics, 3210: Greek, 3220: Latin)

**Requirements for a B.A. degree with a major in Classics, Greek or Latin:**

1. The General Studies 39 credits

2. At least 24 in the department including:

	Credits
3200:161-162 Comparative Literature	6
3200:313-314 Classical Archaeology	6
Total	12
Classics Electives	12

Language courses must be above the 200 level in order to be included in this total. In the case of a Latin major, three (3) credits in this language (preferably in Latin Grammar and Idiom) must be taken during the senior year.

**Certification requirements:**

Students wishing to be certified for public school teaching with Latin as the principal teaching field must complete 26 credits in that language. In addition they must complete the required credits in a second academic teaching field. See Teaching Fields section under the College of Education.

## 3250: ECONOMICS

The Bachelor of Arts and the Bachelor of Science in Labor Economics degrees are offered.

*Requirements for a B.A. degree with a major in Economics.*

1. The General Studies and the second year of a foreign language. 53 credits.

2. At least 30 credits in the department, including:

	Credits
3250:210-202 Principles of Economics	6
3250:400 Macro Economic Theory	3
3250:410 Micro Economic Theory	3
	12
Economics Electives	18
Total	30

## 3. Mathematics: Modern University

Mathematics 9

## 4. Statistics: One of the following:

6500:321-322 Quantitative Business Analysis I and II 6

OR

3470:251 Descriptive Statistics and Problems	1
3470:252 Distributions	1
3470:253 Hypothesis Testing	1
3470:255 Regression and Correlation	1
3470:256 Experimental Design	1
3470:257 Time Series and Index Numbers	1
Total	6

OR

3470:461 Applied Statistics 4

5. Electives 30-32

*Requirements for a B.S. degree in Labor Economics:*

1. The General Studies, 39 credits.

2. At least 30 credits in the department, including:

	Credits
3250:201-202 Principles of Economics	6
3250:330 Labor Problems	3
and two of the following	
3250:333 Labor Economics	3
3250:431 Labor and the Government	3
3250:432 The Economics and Practice of Collective Bargaining	3
	15
Economics Electives	15
Total	30

## 3. Statistics: one of the following:

6500:321-322 Quantitative Business Analysis I and II 6

OR

3470:251 Descriptive Statistics and Problems	1
3470:252 Distributions	1
3470:253 Hypothesis Testing	1
3470:255 Regression and Correlation	1
3470:256 Experimental Design	1
3470:257 Time Series and Index Numbers	1
Total	6

OR

3470:461 Applied Statistics 4

4. At least 8 credits in Upper College

Sociology, History, Psychology, Geography or Political Science.

5. Electives 45-47

## 3300: ENGLISH

*Requirements for a B.A. with a major in English:*

1. The General Studies and the second year of a foreign language 53 credits.

2. At least 32 credits in the Department including:

	Credits
3300:316 Shakespeare	3
3300:287 Appreciation of Poetry	3
3300:219 English Literature	4
3300:220 English Literature	4
	14
English Electives	18
Total	32

(Of the 18 elective credits, at least 4 courses totaling at least 10 credits must be taken on the 400 level. These courses must include two 400 level courses in English Literature and one 400 level course in American Literature — none of these three courses to be chosen from 3300:480 - 481.)

3. Electives 43

## 3350: GEOGRAPHY

*Requirements for a B.A. degree with a major in Geography:*

1. The General Studies and the second year of a foreign language, 53 credits.

2. At least 26 credits in Geography including:

	Credits
3350:210 Physical and Environmental Geography	3
3350:220 Economic Geography	3
3350:230 Rural and Urban Settlement	3
3350:240 Maps and Map Reading	3
3350:340 Cartography	3
3350:481 Introduction to Geographic Research	2
3350:483 Introduction to Spatial Analysis	2
3350:496 Field Research Methods	3
	22
Geography Electives	4
Total	26

3. At least one course from the following:

3350:350 Anglo-America	3
3350:353 Latin America	3
3350:356 Europe	3
3350:358 U.S.S.R.	3
3350:360 Asia	3
3350:363 Africa South of the Sahara	3

4. Electives 49

## 3370: GEOLOGY

*Requirements for a B.S. degree with a major in Geology:*

1. The General Studies and the second year of a foreign language. 53 Credits.

2. At least 39 credits in Geology, including:

	Credits
3370:101 Introductory Physical Geology	4
3370:102 Introductory Historical Geology	4
3370:210 Geomorphology	3
3370:230 Mineralogy: Crystallography	3
3370:230 Mineralogy: Minerals	3
3370:350 Structural Geology	4
3370:360 Introductory Invertebrate Paleontology	4
3370:395 Field Methods in Geology	2
3370:432 Optical Mineralogy	3
3370:433 Petrography	3
3370:496 Geology Field Camp	6
Total Required in Geology	39

3. Non-Geology courses required for majors:

3100:111, 112 Principles of Biology	8
3150:132, 133 Principles of Chemistry I, II	7
3150:134 Qualitative Analysis	2
3450:221 Analytic Geometry - Calculus I	4
3650:231, 232 Concepts of Physics I, II	8
OR	
3650:291, 292 Elementary Classical Physics I, II	8
Total	29

4. Electives 7

Depending upon a student's major field of interest within Geology, additional work in a supporting science will be strongly recommended. During the first year, students intending to major in Geology should consult a member of the Geology Faculty.

*Requirements for a B.S. degree with an option in Geophysics:*

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

2. At least 30 credits in Geology including:

	Credits
3370:101 Introductory Physical Geology	4
3370:102 Introductory Historical Geology	4
3370:350 Structural Geology	4
3370:441 Fundamentals of Geophysics	3
3370:446 Exploration Geophysics	3
3370:496 Geology Field Camp	6
Geology Electives	6
Total	30

Recommended Geology Electives: 3370-230, 271, 404, 435, 437, 470

3. Non-Geology courses required:

3150:132, 133 Principles of Chemistry	7
3450:221, 222, 223 Analytic Geometry-Calculus I-III	12
3450:235 Differential Equations	3
3650:291, 292 Elementary Classical Physics I-II	8
3650:431 Mechanics	3
3650:436 Electricity and Magnetism	3
Science Electives	3

Recommended Science Electives: 3650:301, 410, 411, 412, 445, 481, 482, 4450-206.

### 3400: HISTORY

*Requirements for a B.A. degree with a major in History:*

1. The General Studies and the second year of a foreign language (French, German or Russian suggested) 53 credits

2. A minimum of 30 credits in History including:

	Credits
3400:405 Historical Methods	2
Other History courses	28
Total	30

Of the 28 remaining history credits a student must take some distribution of the courses in American and European History. A suitable pattern would be:

3400:201-202 U.S. Survey	8
3400:207-208 Modern Europe	8
3. Electives	12

### 3450: MATHEMATICS

The Bachelor of Arts and the Bachelor of Science degrees are offered in Mathematics, Applied Mathematics and Statistics.

*Requirements for a B.S. or a B.A. degree with a major in Mathematics:*

1. The General Studies and the second year of French, German and Russian 53 credits.

2. At least 40 credits in the department including: \*

	Credits
3450:221 Analytic Geometry - Calculus I	4
3450:222 Analytic Geometry - Calculus II	4
3450:223 Analytic Geometry - Calculus III	4
3450:235 Differential Equations	3
3450:311 Abstract Algebra	3
3450:312 Linear Algebra	3
3450:445 Introduction to Topology	3
3450:421 Advanced Calculus I	3
3450:422 Advanced Calculus II	3
Total	30
Mathematics Electives	10
Total	40

(Elective credits must be in approved 300/400 level courses in mathematics)

3.A For the B.S. degree: complete 18 credits of course work outside the department and beyond the General Studies in a suitable area of concentration as approved by the department.

3.B For The B.A. degree: complete 18 credits of Humanities or Social Science beyond the General Studies. The 18 credits are to be from more than one department.

4. Electives 17

\*The courses 1100:211 Numbers Communication; 3450:101-139 Modern University Mathematics, 147-148 Elementary Functions, 149 Pre Calculus Mathematics; 301 History of Mathematics do not meet major requirements.

**Requirements for a B.S. degree or a B.A. degree with a major in Applied Mathematics:**

1. The General Studies and the second year of French, German or Russian 53 credits.

2. At least 40 hours in the department including: \*

	Credits
3450:221 Analytic Geometry - Calculus I	4
3450:222 Analytic Geometry - Calculus II	4
3450:223 Analytic Geometry - Calculus III	4
3450:235 Differential Equations	3
3450:312 Linear Algebra	3
3450:421 Advance Calculus I	3
3450:422 Advanced Calculus II	3
3450:427 Numerical Analysis I	3
3450:436 Mathematical Models	3
3470:451 Theoretical Statistics	3
	33
Mathematics Electives	7
	Total 40

(Elective credits must be in approved 300/400 level courses in mathematics)

3.A For the B.S. degree: complete 18 credits of course work outside the department and beyond the General Studies in a suitable area of concentration as approved by the department.

3.B For the B.A. degree: complete 18 credits in the Humanities and Social Sciences beyond the General studies, The 18 credits are to be from more than one department.

**4. Electives 17**

\*The courses 1100:211 Numbers Communication; 3450:101-139 Modern University Mathematics; 147-148 Elementary Functions, 149 Pre Calculus Mathematics; 301 History of Mathematics do not meet major requirements.

**COMPUTER SCIENCE  
CERTIFICATE PROGRAM**

A computer science certificate program is available for qualified students. Please see page 133 for complete details.

**3470: STATISTICS**

**Requirements for a B.S. degree or a B.A. degree with a major in Statistics are:**

1. The General Studies and the second year of French, German or Russian 53 credits.

2. At least 40 credits in the department including:\*

	Credits
3450:221 Analytic Geometry-Calculus I	4
3450:222 Analytic Geometry-Calculus II	4
3450:223 Analytic Geometry-Calculus III	4

	Credits
3450:235 Differential Equations	3
3450:312 Linear Algebra I	3
3450:421 Advanced Calculus I	3
3450:422 Advanced Calculus II	3
3470:451 Theoretical Statistics I	3
3470:452 Theoretical Statistics II	3
3470:461 Applied Statistics	4
3470:463 Experimental Design	3
	37
	Mathematics Elective 3
	Total 40

(Elective course must be an approved 300/400 level course in the department)

3.A For the B.S. degree: complete 18 credits of course work outside the department and beyond the General Studies in a suitable area of concentration as approved by the department.

3.B For the B.A. degree: complete 18 credits of Humanities or Social Sciences by the General College. The 18 credits are to be from more than one department.

**4. Electives 17**

\*The courses 100:211 Numbers Communication; 3450:101-139 Modern University Mathematics; 147, 148 Elementary Functions, 149 Pre Calculus Mathematics; 301 History of Mathematics; 3470:251-257 Introduction to Statistics do not meet major requirements.

**3500: MODERN LANGUAGES**

3500: Hebrew, Modern Persian, Modern Languages; 3520: French; 3530: German; 3550: Italian; 3570: Russian; 3580: Spanish

**Requirements for a B.A. degree with a major in French, German, Russian or Spanish:**

1. The General Studies

2. Completion of 24 credits above the second year (200) level: 6 credits in composition & conversation; 6 credits in literature; 6 credits in culture; and 6 credits of electives in the major field.

**3600: PHILOSOPHY**

**Requirements for a B.A. degree with a major in Philosophy:**

1. The general studies and the second year of a foreign language 53 credits.

2. Philosophy Courses: A minimum of 30 credits in the department which must include:

	Credits
3600:101 Introduction to Philosophy	3
3600:120 Introduction to Ethics	3
3600:170 Introduction to Logic	3
3600:211 History of Ancient Philosophy	3
360:212 History of Medieval Philosophy	3
3600:313 History of Modern Philosophy	3
	18

Of the additional credits, 6 must be earned in 300/400 level courses

Total	30
-------	----

3. Electives in a selected concentration	Credits 12-16
4. Electives	29-33

**3650: PHYSICS**

Both the Bachelor of Science degree and the Bachelor of Arts degree are offered. The B.S. degree is intended for persons seeking the most detailed and quantitative preparation in physics available in an undergraduate curriculum; students preparing for graduate study in physics or another physical science should usually satisfy all the requirements for the B.S. degree. The B.S. degree. The B.A. degree, by contrast, is provided primarily for persons desiring a useful background in physics, but whose professional objectives may not require graduate study in physics or a related physical science.

*Requirements for a B.S. Degree with a major in Physics:*

1. The General Studies and the second year of a foreign language (44 credits).
2. Physics courses: A minimum of 40 credits. Included should be:

	Credits
3650:291-292 Elementary Classical Physics I, II	8
3650:301 Elementary Modern Physics	3
3650:406 Waves	3
3650:407 Quantum Physics	3
3650:410 Electronics	3
3650:411-412 Intermediate Laboratory I, II	4
3650:430 Statistical Physics	3
3650:431 Mechanics	3
3650:436 Electricity and Magnetism	3
3650:451-452 Advanced Laboratory I, II	4
	37
Physics Electives	3
Physics Course Total	40

*Notes:*

(a) Additional physics courses are usually necessary to satisfy the admission requirements of graduate schools for advanced work in physics or certain other physical sciences.

(b) Courses 1100:224, 3650:130, 3650:133, 3650:137, and 3650:141 are not applicable toward the required 40 credits of physics courses.

**3. Mathematics**

3650:221-222-223 Analytic Geometry-Calculus I, II, III	12
3450:235 Differential Equations	3
Mathematics Course Total	15

**4. Chemistry:**

3150:132-133 Principles of Chemistry I, II	7
--	---

**5. Computer Science**

4450:206 Fortran (Sci/Eng)	2
----------------------------	---

**6. Electives**

	20
Total required credits for B.S. degree	128

*Requirements for a B.A. degree with a major in Physics:*

1. The General Studies and the second year of a foreign language. (44 credits).

2. Physics courses: A minimum of 24 credits. Included should be:

	Credits
3650:291-292 Elementary Classical Physics I, II	8
3650:410 Electronics	3
3650:411-412 Intermediate Laboratory I, II	4
Total	15
Physics Electives	9
Physics Course Total	24

Courses 110:224, 3650:130, 133, 137, 138 and 141 are not applicable toward the required 24 credits of physics courses without special permission.

**3. Mathematics:**

223 Analytic Geometry-Calculus I, II, III	12
---	----

**4. Electives**

	48
Total required credits for B.A. degree	128

*Comment on Degree Programs*

The preceding requirements specify the minimum curriculum for the B.S. and B.A. degrees with a major in Physics. Students expecting to specialize in a particular professional area should consider utilizing part or all of their elective courses toward one of the important program options listed below. These programs are intended to be illustrative only; a considerable degree of flexibility is possible, depending upon the needs and interests of individual students.

Some physics students may consider it important in their bachelor's degree programs to prepare themselves in greater depth in other science areas (besides physics and mathematics) than may usually be possible within the traditional four-year departmental degree curricula. These students may therefore prefer to work toward the B.S. in Natural Science degree, which in effect allows the substitution of 16 credits of science courses (either in one additional scientific discipline, or equally in two additional scientific disciplines) for the two year foreign language requirement. For further information, refer to the Natural Sciences Division Major section of the General Bulletin, or contact the Department of Physics.

*Areas of Specialization in Physics, with recommended Courses:*

I. Applied Physics/Engineering Physics Option (B.S. degrees recommended). A total of 32 credits to include: 3650:321, 404, 421, 438; 4200:305; 4300:202; 4400:231-232, 333-334; 4600:125, 310.

II. Biophysics Option (B.S. or B.A. degrees). A total of 27 credits to include: 3100:111-112, 211, 214, 311, 480; 3150:263-264; 3650:421.

III. Chemical Physics Option (B.S. degrees recommended). A total of 20 credits to include: 3150:263-264, 313-314, 315-316; 3650:421, 471.

IV. Computer Physics Option (B.A. or B.S. degrees). A total of 21 credits to include: 4400:231-232, 333-334; 4450:306, 407, 410.

V. Geophysics Option (B.S. or B.A. degrees). A total of 18 credits to include: 3370:101, 102, 350, 441, 446.

VI. Polymer Physics Option (B.S. degrees recommended). A total of 24 credits to include: 3150:263-264, 313-314; 3650-421; 3940:401, 402, 411-412-413.

VII. Physics/Astrophysics/Astronomy Pre-Graduate School Option (B.S. degrees recommended).

A total of 34 credits to include: 3650:321, 331-332, 404, 420, 421, 438, 445, 446, 481-482, 399.

### COOPERATIVE INDUSTRIAL EMPLOYMENT PLAN

For academically qualified undergraduate students majoring in Physics, an optional cooperative plan is available which provides a scheduled sequence of professionally-oriented industrial employment (totalling a full calendar year) alternating with periods of on-campus classroom instruction. This Co-Op Plan requires a five-year period for the completion of the bachelor's degree program in Physics, with the Spring term of the third year plus the Fall and Summer terms of the fourth year typically spent off-campus with a participating industrial employer.

Arrangements for student entry into the Co-Op Plan are on an individual basis, and must be initiated by the student during the second year of undergraduate study. For further information about the Co-Op Plan, contact the Department of Physics.

### 3700: POLITICAL SCIENCE

The Bachelor of Arts in Political Science and the Bachelor of Science in Political Science/Criminal Justice degrees are offered.

*Requirements for a B.A. with a major in Political Science.*

1. The General Studies and the second year of a foreign language 53 credits.

2. At least 30 credits in the department including:

	Credits
3700:100 Government and Politics in the U.S.	3
3700:200 Comparative Politics	4
3700:201 Introduction to Political Science	3
3700:303 Introduction to Political Thought	3

	Credits
3700:310 International Politics and Institutions	4
3700:461 The Supreme Court and Constitutional Law	4
	21
	Political Science Electives 9
	Total 30
(Political Science electives must include at least one 400 level course in Political Science)	
3. Electives	45

### Requirements for a B.S. in Political Science/Criminal Justice:

1. Completion of all requirements for the Associate degree in Criminal Justice Technology established by the Community and Technical College.

2. Completion of General Studies requirements. 39 credits

3. Completion of at least 47 credit hours of 300 or 400 level courses in addition to the General Studies requirements.

4. At least 6 credits of course work which will introduce student to a foreign culture. Such courses shall be selected by the student with the approval of his advisor in the Department of Political Science. Courses may be chosen from among those offered in any of the following departments: Classics, Modern Languages, History, Political Science, Anthropology, and Geography.

5. At least 30 credit hours in Political Science, including the following courses:

	Credits
3700:100 Government and Politics in the U.S.	3
3700:210 State and Local Government and Politics	3
3700:341 The American Congress	4
3700:360 Judicial Process	3
3700:370 The American Bureaucracy	4
3700:380 Metropolitan Politics	4
3700:391 Internship in Government and Politics	2-3
3700:461 Supreme Court and Constitutional Law	4
3700:480 Urban Policy Problems	3

Total 30-31

If the student is unable to take any of the aforementioned courses in Political Science as a result of problems in scheduling, the Head of the Department of Political Science may permit the substitution of appropriate departmental courses.

### SPECIAL CURRICULAR TRACKS IN POLITICAL SCIENCE

The Political Science Department offers three special curricular tracks for students interested in Pre-Law, the International Service, or National, State, or Local Government Service. In addition to the requirements for the major, each of these tracks includes electives appropriate for prepara-

tion for careers in law, government service or International Service.

Information about these curricular tracks may be obtained from the Head of the Department of Political Science.

### 3750: PSYCHOLOGY

*Requirements for a B.A. with a major in Psychology:*

1. The General Studies and the second year of a foreign language 53 credits.

2. At least 30 credits in the department including:

	Credits
3750:100 Introduction to Psychology	3
3750:110 Quantitative Methods in Psychology	3
3750:120 Introduction to Experimental Psychology	4
	10
Psychology Electives	20
Total	30

3. Electives 45

Students should consult with their faculty advisor to plan a program of psychology electives geared to their educational objectives.

### 3850: SOCIOLOGY

(3850: Sociology, 3870: Anthropology)

Sociology is usually defined as a social science concerned with the systematic study of human society. More specifically, it focuses upon patterned human behavior and attempts to predict and explain this behavior.

*Requirements for a B.A. degree with a major in Sociology.*

1. The General Studies and the second year of a foreign language. 53 credits.

2. Minimum of 30 credits in Sociology courses including:

	Credits
3850:100 Introduction to Sociology	4
3850:301 Methods of Social Research I	3
3850:302 Methods of Social Research II	3
3850:403 History of Sociological Thought	3
3850:404 Contemporary Sociological Theories	3
	16
Sociology Electives	14
Total	30

(3870:150 Cultural Anthropology can be counted as part of these hours.)

3. Electives 45

A student should consult with his/her department adviser in using electives to enhance his/her specialty area, i.e., academic sociology, deviance and corrections, family, agency and life cycle, urban planning and social research, etc.

*Requirements for a B.A. degree with a major in Sociology/ Anthropology:*

1. The General Studies and the second year of a foreign language. 53 credits.

2. Minimum of 31 credits in the Department including:

		Credits
3850:100	Introduction to Sociology	4
3850:301	Methods of Social Research I	3
3850:302	Methods of Social Research II	3
3850:403	History of Sociological Thought	3
3850:404	Contemporary Sociological Theories	3
		16
3870:150	Cultural Anthropology	4
3870:151	Physical Anthropology	3
3870:256	New World Prehistory	3
3870:461	Language and Culture	3
		13

A minimum of 2 additional hours of credits to be selected from the following courses.

3870:257	Indians of South America	3
3870:258	Indians of North America	3
3870:357	Magic, Myth and Religion	3
3870:455	Culture and Personality	3
3870:463	Types of Kinship and Social Organization	3
	Total	31

3. Electives 44

### HUMANITIES DIVISION MAJOR

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

1. 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 6 credits in each of any five of the following: the Classics, English, French, German, Greek, Italian, Latin, Philosophy, Russian and Spanish.

2. At least 6 credits in the Department of History.

### NATURAL SCIENCES DIVISION MAJOR

The Natural Sciences Division consists of the Departments of Biology, Chemistry, Geology, Mathematics and Statistics, Physics and Polymer Science. The divisional major must include:

1. The General Studies

2. At least 24 credits from one of the departments of the Natural Sciences Division.

3. At least 16 credits from another of the following disciplines: Biology, Chemistry, Engineering, Geology, Mathematics and/or Statistics, Physics, or Polymer Science.

4. At least 16 credits from a third of these disciplines; or alternatively, at least 8 credits in each of two other of these disciplines.

A foreign language is strongly recommended.

The courses for the Natural Science Division Major must be selected from those courses eligible for inclusion in the major of these disciplines.

For further information please contact the Office of the Dean, Buchtel College of Arts and Sciences, Akron, Ohio 44325.

# The College of Engineering

Coleman J. Major, Ph.D., Dean  
 Joseph A. Edminister, M.S.E., J.D., Assistant to the Dean  
 Donald R. Burrowbridge, M.S., Director Cooperative Program

## 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 with 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, and

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

At the undergraduate level the College has coursework leading to the following degrees: Bachelor of Science in Engineering, in Chemical, Civil, Electrical and Mechanical Engineering and the Bachelor of Construction Technology.

At the graduate level the degrees awarded are the Master of Science in Engineering, the Master of Science in Chemical, Civil, Electrical and Mechanical Engineering and the Doctor of Philosophy in Engineering.

The program of study at the undergraduate level is principally the five year Co-Op plan. While this plan is optional, by far the greater number of students elect the Co-Op method of obtaining their bachelor's degree.

Along with the emphasis on preparation for professional practice within the College, the University policy assures that each student obtains a substantial exposure to the humanities.

Graduates are prepared to either go on to masters and doctoral level study in engineering or to obtain employment in the engineering profession directly upon receipt of the baccalaureate degree.

## THE COOPERATIVE PLAN

The optional cooperative plan provides for a coordinate sequence of alternate periods of classroom instruction and industrial employment during the cooperative phase of the five-year course.

The Cooperative plan provides simultaneously for the development of fundamental principles in the classroom and for their application in industrial practice. The Student has the opportunity to find the type of work and industrial organization in which he/she can best apply his/her individual ability. He/she gains an appreciation of the problems of labor and management by first-hand experience. He/she develops mature judgement 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/her 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 students are considered full-time students by the University while in industry assignments.

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 subprofessional experience.

## REQUIREMENTS FOR ADMISSION

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

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

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

All beginning students register in the General College. Those admitted in Engineering will be eligible for transfer to the College of Engineering after satisfactory completion of 30 credits of work and the approval of the Dean.

### DEGREES

The College of Engineering offers curricula leading to the degrees of Bachelor of Science in Chemical, Civil, Electrical and Mechanical Engineering, Bachelor of Science in Engineering, and Bachelor of Construction Technology.

For the Master's and Doctor's degree programs in Engineering, see the Graduate School Section.

### REQUIREMENTS FOR GRADUATION

1. Compliance with University requirements, chapter 3, this BULLETIN.

2. All incoming freshmen shall complete the credit requirements listed in the appropriate schedule of required courses.

3. The recommendation of the student's department.

Any Junior or Senior Engineering student with a quality point ratio of 2.500 over-all and 2.750 Engineering or better may substitute not more than two approved Upper College courses in mathematics, science or engineering for an equal number of certain required engineering courses.

### 4200: CHEMICAL ENGINEERING

The goal of chemical engineering education is the development of the intellectual capacity and abilities to apply the principles of transport phenomena, equilibria, and kinetics, involving chemical and physical transformations, to the creative resolution of technological problems for the benefit of mankind and his surroundings.

The chemical engineer like all other engineers is trained in mechanics, materials and their properties, economics, systems and their controls, etc. The chemical engineer differs from all other engineers because he alone is responsible for materials separations and the conversion of matter; separations such as air into its components of oxygen, nitrogen, argon, and conversions such as natural gas into plastics, coal into liquid fuel.

Chemical engineers find satisfying and rewarding careers in all walks of life, but

mainly in the chemical process industries. Usually they become involved with inorganic and organic chemicals, rubber and plastics, detergents, petroleum products, metals, pharmaceuticals, dyestuffs and food products.

The chemical engineer will usually be employed in one or more of the following activities: research and development, plant design and construction, process control, plant operations, sales and management. In addition to the processing industries, chemical engineers are increasingly in demand in such areas of current interest as water and air pollution, biological engineering and energy engineering.

### CHEMICAL ENGINEERING CURRICULUM

	Credits
<i>General Studies</i>	
	28
<i>Natural Science</i>	
3150:132,3	Principles of Chemistry I, II
	7
3150:134	Qualitative Analysis
	2
3450:221,2,3	Analytic Geometry-Calculus I, II, III
	12
3450:235	Differential Equations
	3
3450:	Advanced Mathematics Elective
	2
3650:291,2	Elementary Classical Physics I, II
	8
	34
<i>Advanced Chemistry Courses</i>	
3150:263,4	Organic Chemistry I, II
	6
3150:265	Organic Chemistry Lab
	2
3150:313,4	Physical Chemistry I, II
	6
	14
<i>Engineering Core Courses</i>	
4200:120	Engineering Fundamentals
	1
4200:305	Materials Science
	2
4300:201	Statics
	3
4400:320	Basic Electrical Engineering
	4
4450:206	Fortran (Science and Engineering)
	2
4600:125	Engineering Graphics
	2
	14
<i>Chemical Engineering Courses</i>	
4200:200	Material and Energy Balances
	4
4200:321	Fluid and Thermal Transfer Theory
	3
4200:322	Thermal and Mass Transfer Theory
	3
4200:325	Equilibrium Thermodynamics
	4
4200:351	Fluid and Thermal Operations
	3
4200:352	Transport Laboratory
	2
4200:353	Mass Transfer Operations
	3
4200:354	Operations Laboratory
	1
4200:430	Chemical Reaction Engineering
	3
4200:435	Process Analysis and Control
	3
4200:441	Process Economics and Design
	4
4200:442	Plant Design
	4
	37
<i>Electives</i>	
	Advanced Chemistry or Polymer Science
	3
	Chemical Engineering Design
	3
	Free Elective, advisor approved
	3
	9
	Total
	136

## 4300: CIVIL ENGINEERING

The Civil Engineer is dedicated to planning, designing, and building to make our environment more attractive. Civil Engineers work with others to renovate urban areas; to develop new housing systems; to plan community facilities; to build new water storage systems; to design new systems for waste disposal; to expand airport and harbor facilities; to build and maintain local streets and inter-city highways; to design all types of buildings and bridges; to build dams, reservoirs and flood control systems; to build tunnels; and to design foundations.

The Civil Engineering curriculum at The University of Akron is divided into two options: Design and Construction. The Design Option allows specialization in (1) environmental engineering, (2) foundation engineering, (3) hydraulic engineering, (4) structural engineering and (5) transportation engineering. The Construction Option includes introductory work in the five areas above but specializes in the engineering and financial aspects of construction. Each option contains a group of elective courses.

Civil Engineering graduates work for consultants, manufacturers, construction companies, utilities and for government bodies of all levels. More Civil Engineers than any other type own their own businesses.

		Credits	
4600:310	Fluid Mechanics	3	3
4600:322	Dynamics	3	3
4400:320	Basic Electrical Engineering	<u>4</u>	<u>4</u>
		25	23
<i>Civil Engineering Courses</i>			
4300:230	Surveying	4	4
4300:306	Theory of Structures	3	—
4300:311	Geotechnical Engineering	5	5
4300:341	Hydraulics and Hydrology	4	4
4300:323	Water Supply and Wastewater Disposal	3	—
4300:361	Transportation Engineering	3	—
4300:380	Engineering Materials Lab	1	1
4300:401	Steel Design	2	—
4300:403	Reinforced Concrete Design	3	—
4300:424	Water/Wastewater Laboratory	1	—
4300:448	Hydraulics Laboratory	1	—
4300:471	Construction Administration	2	2
4300:472	Construction Engineering	—	3
4300:481	Civil Engineering Systems	<u>2</u>	<u>2</u>
		34	21
<i>Business Courses</i>			
6200:201,2	Accounting I, II	—	8
6200:321	Business Law I	—	3
6400:371	Business Finance	—	<u>3</u>
			14
<i>Construction Technology Courses</i>			
2980:231	Building Construction	—	2
2980:241	Cost Analysis and Estimating	—	<u>3</u>
	Technical Electives	<u>9</u>	<u>5</u>
	Total	136	136

## CIVIL ENGINEERING CURRICULUM

	Design Credits	Con- struction Credits
General Studies	28	28
Natural Science		
3150:132,3 Principles of Chemistry I, II	7	7
3370:101 Introductory Physical Geology	4	4
3450:149 Pre-Calculus Mathematics	3	3
3450:221,2,3 Analytic Geometry-Calculus I, II, III	12	12
3450:235 Differential Equations	3	3
3450: or Mathematics or		
3470: Statistics Elective	3	3
3650:291,2 Elementary Classical Physics I, II	<u>8</u>	<u>8</u>
	40	40
<i>Engineering Core Courses</i>		
4300:130 Introduction to Engineering	1	1
4200:305 Materials Science	2	2
4300:201 Statics	3	3
4300:202 Intro. to Mechanics of Solids	3	3
4450:206 Fortran (Science & Engineering)	2	2
4600:305 Thermal Science	2	—
4600:125 Engineering Graphics	2	2

## 4400: ELECTRICAL ENGINEERING

The many branches of electrical engineering include: production and distribution of electrical energy; research, development, manufacture, and operation of electrical and electronic products; and systems for instrumentation, automation, tracking and telemetry.

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 virtually all aspects of modern life. Students wishing to specialize in Computer Science will find a set of appropriate electives available to them.

The wide, use of electrical means for measurement, control, and computation has resulted in the need for electrical engineers in all types of industries. Students wishing employment upon graduation will find many varied opportunities.

Students wishing to continue their education in Graduate School or in Law or

Medical School will find specialized programs of preparation are available within the framework of the Electrical Engineering Department.

### ELECTRICAL ENGINEERING CURRICULUM

	Credits
<b>General Studies</b>	<b>28</b>
<b>Natural Science</b>	
3150:132, 3 Principles of Chemistry I, II	7
3450:221,2,3 Analytical Geometry-Calculus I, II, III	12
3450:235 Differential Equations	3
3450: Mathematics Elective	2
3650:291, 2 Elementary Classical Physics I, II	8
3650:301 Elementary Modern Physics	3
	<u>35</u>
<b>Engineering Core Courses</b>	
4400:140 Engineering Design	1
4200:305 Materials Science	2
4300:201 Statics	3
4300:202 OR Intro. to Mechanics of Solids	
4600:322 OR Dynamics	3
4450:206 Fortran (Science and Engineering)	2
4600:125 Engineering Graphics	2
4600:305 Thermal Science	2
	<u>15</u>
<b>Electrical Engineering Courses</b>	
4400:231,2,3 Circuits I, II, III	9
4400:343 Electrical Measurements	4
4400:353 Electromagnetic Fields I	4
4400:359 Transmission Lines and Networks	3
4400:361 Physics of Electronic Devices	3
4400:362 Electronic Circuits	4
4400:363 Switching and Logic	4
4400:371 Control Systems I	3
4400:381, 2 Energy Conversion I, II	7
	<u>41</u>
<b>Technical Electives</b>	<b>15</b>
<b>Free Electives</b>	<b>2</b>
	<u>2</u>
<b>Total</b>	<b>136</b>

### BACHELOR OF SCIENCE IN ENGINEERING

This degree program was established to introduce flexibility into the College of Engineering. Within the 66 credit hours of the Option portion of the program, the student can study business administration, industrial management, environmental, pre-medical, or any other field he/she may choose along with his/her engineering studies. The program of study may be very narrow as in the case of a student wishing to specialize in structural design, foundations and soil mechanics. For another student interested in patent law, the program may be broad, touching on chemical, mechanical and electrical engineering subjects. Each student's program is designed to meet his/her announced goals.

Entrance to this program is restricted. The student requests admission by letter to the Dean of Engineering, outlining in some detail his/her particular objective and how the BSE program may enable him/her to prepare for his/her career goal. The mathematics, physics and chemistry requirements are identical to those of the four departments of the College of Engineering.

	Credits
<b>General Studies and Science Core</b>	<b>60</b>
<b>Program Options - Engineering</b>	<b>40</b>
<b>Program Options - may be any college</b>	<b>26</b>
<b>Free Electives</b>	<b>10</b>
	<u>10</u>
<b>Total</b>	<b>136</b>

### 4600: MECHANICAL ENGINEERING

Mechanical engineering is concerned with the design and analysis of physical systems. A high level of professional competence in this field can only be achieved through an extensive study of mathematics, mechanics, fluid flow and the thermal sciences. Among the many subtopics included in these major headings are stress analysis, vibrations, compressible and incompressible fluid flow, thermodynamics, energy conversion, environmental control, heat transfer, and automatic controls. The typical mechanical engineering design problem may involve any one or possibly all of these areas in the design of a complex system.

Mechanical engineers are employed in a variety of jobs by a large number of companies. The jobs include management, design, analysis, safety, production, and plant engineering. The types of companies include automotive, petroleum, power, aerospace, tire, consulting, publishing, insurance, and manufacturers in general.

The Curriculum is designed to emphasize fundamentals which will place the graduate in a strong position to pursue further education through either formal or informal channels.

### MECHANICAL ENGINEERING CURRICULUM

	Credits
<b>General Studies</b>	<b>28</b>
<b>Natural Science</b>	
3150:132, 3 Principles of Chemistry I, II	7
3450:221,2,3 Analytic Geometry-Calculus I, II, III	12
3450:235 Differential Equations	3
3450: Mathematics Elective	2
3650:291, 2 Elementary Classical Physics	8
3650:293, 4 Physics Computations I, II	2
	<u>2</u>
	<b>34</b>

	Credits
<b>Engineering Core Courses</b>	
4600:160 Engineering Design-Mechanical Eng.	1
4600:125 Engineering Graphics	2
4300:201 Statics	3
4300:202 Intro. To Mechanics of Solids	3
4300:380 Engineering Materials Laboratory	1
4400:320 Basic Electrical Engineering	4
	14
<b>Mechanical Engineering Courses</b>	
4600:300, 1 Thermodynamics I, II	7
4600:310 Fluid Mechanics	3
4600:315 Heat Transfer	3
4600:320 Dynamics	3
4600:336 Analysis of Mechanical Components	3
4600:360 Engineering Analysis	3
4600:380 Mechanical Metallurgy	2
4600:431 Vibrations	3
4600:493 Measurements Laboratory	2
4600:494 Mechanical Engineering Laboratory	1
4600:321 Kinematics of Machines	3
4600:337 Design of Mech. Components	3
4600:400 Thermal System Components	3
4600:401 Design of Energy Systems	2
4600:460 Concepts of Design	3
4600:461 Design of Mechanical Systems	2
4600:440 Control Systems	3
	49
Technical Electives (includes 3 cr. hr. design)	8
Free Electives, advisor approval	3
	Total 136

#### 4980: CONSTRUCTION TECHNOLOGY

The curriculum in Construction Technology is designed to produce a graduate with a strong fundamental knowledge of technology, combined with management ability and a familiarity with business, economics and personnel management. The program is designed to provide graduates for positions in field supervision and estimating for the construction industry.

The program is a "two-plus-three" arrangement with one full year of on-the-job experience. All students must complete the Associate Degree Program in Surveying and Construction Technology before entry into this baccalaureate program.\* Transfer-ees who have completed other two-year programs where the course content compares favorably will be admitted as candidates for the degree Bachelor of Construction Technology.

#### CONSTRUCTION TECHNOLOGY CURRICULUM

	Credits
<b>General Studies</b>	
	21
<b>Required Courses, Technical</b>	
4300:481 Civil Engineering Systems	2
4980:352 Field Management	2
4980:354 Foundation Construction Methods	3

	Credits
4980:461 Construction Formwork	3
4980:462 Mechanical Service Systems	3
4980:463 Electrical Service Systems	3
	16
<b>Required Courses, Business</b>	
6200:201,2 Accounting I, II	8
6400:371 Business Finance	3
6500:301 Management Principles and Concepts	3
	14
<b>Group I, Electives Business and Management</b>	
3250:330 Labor Problems	3
3250:333 Labor Economics	3
3250:432 Economics and Practice of Collective Bargaining	3
6400:318 Risk Management and Insurance	2
6400:321,2 Business Law I, II	3,3
	Group Minimum 8
<b>Group 2, Accounting</b>	
6200:301 Cost Accounting	3
6200:317,8 Intermediate Accounting	4,4
6200:460 Controllership Problems	3
	Group Minimum 3
<b>Group 3, Statistics</b>	
3470:251 Descriptive Statistics & Probability	1
3470:252 Distributions	1
3470:253 Hypothesis Testing Parameters	1
6500:321 Quant. Business Analysis I	3
	Group Minimum 3
<b>Group 4 Economics</b>	
2920:310 Economics of Technology	3
3250:202 Principles of Economics	3
4400:421 Engineering Economy	2
	Group Minimum 2
Technical Elective*	1
	68

\*Where the eight semester credit hours of English are met either by transfer credits, courses taken as part of the associate degree program, or by examination the credit hours shall be technical elective hours so that the program total of 68 cr. hrs. is satisfied.

# The College of Education

H. Kenneth Barker, Ph.D., Dean

## OBJECTIVES

The purpose of the College of Education is to further the objectives of The University of Akron by providing quality undergraduate and graduate programs for students of Education and by helping them attain the following:

Special experiences, knowledge, and skills particularly useful for teaching in urban and inner city schools, in keeping with the urban mission of the University.

A knowledge of a major field and related fields of inquiry and the ability to use this knowledge in explaining the realities of life today.

A knowledge of instructional materials and new technology and skill in recognizing and utilizing instructional tools most suitable for specific purposes.

A knowledge of the social issues relevant to education and living in a pluralistic society and the competence to translate implications of changes in society into instructive action as teacher-citizens as well as teacher-scholars.

An understanding of the learner and the learning processes and the ability to translate these into appropriate teaching behaviors in acting and reacting with students. An appreciation of the values and feelings essential for working with young people and with colleagues and the ability to develop empathic relationships in a wide variety of professional and social roles in the school and community.

Skill in the acquisition of inquiry techniques appropriate to generalizing knowledge and choices and practice in using them to inquire into educational problems in rational, defensible ways.

Human relations skills, including an appreciation of the values and feelings essential for working with young people and with colleagues and the ability to develop relationships in a wide variety of professional and social roles in pluralistic schools and communities.

To accomplish these objectives, this Upper College offers a variety of programs for the preparation of elementary and secondary teachers, counselors, school administrators and other educational personnel. The baccalaureate degrees, Bachelor of Arts in Education, Bachelor of Science in Education and Bachelor of Science in Technical Education are offered. Graduate degrees include the Master of Arts in Education, the Master of Science in Education, the Master of Science in Technical Education and the Ph.D. and Ed.D. degrees.

Programs leading to each degree include a balanced offering of a foundation in general education, an intensive study in depth of the teaching and/or administration area, and those professional courses and other learning experiences which attempt to combine theory and practice.

In addition to the regular degree programs, special courses and related services such as institutes and workshops are regularly offered with the planning assistance of public school personnel.

Throughout its history, the College of Education has maintained a close relationship with the Akron Public Schools. Perkins Normal School which was founded by the Akron Board of Education, became the Teachers College of the University in 1921, expanding into the College of Education in 1935. Today, the public school administration of Akron and surrounding school districts cooperate in advisory capacities to the College of Education. Their schools are used widely for observation and for the assignment of student teachers. Approximately one-half of the teachers in the Akron Public Schools are former students of the University.

## REQUIREMENTS FOR ADMISSION

To be admitted to the College of Education, the student must be able to meet the following criteria:

1. Completion of at least 30 credits with at least a 2.0 quality point average.\*
2. Demonstration of those qualities of character and personality deemed essential for a professional person in education. This determination is made by instructors conducting the education courses in the

\*Secondary Education students must have 8 hours in teaching field with a 2.5 average.

general college, by the staff in the Office of Student Services, and if necessary, by measuring performance by means of standardized evaluation instruments.

3. Demonstrated evidence of the ability to attain a 2.5 quality point average in his choice of major fields.

All students preparing for certification may be evaluated by the College of Education Undergraduate Committee, subject to review by the Dean. Such evaluation will occur whenever there is reason to believe the student does not measure up to criteria for professional development established by the faculty of the college. 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/she be apprised that he/she has certain weaknesses which must be corrected before he/she 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 or Assistant Dean of the College of Education.

Art	Mr. Wolf
Business Education	Mr. Eley Mrs. King
Elementary	Mrs. Alleman, Mr. Arms, Mrs. Atwood, Mr. Barr, Miss Bruno, Mr. Christman, Mr. Ferguson, Mr. Hoch, Miss Leyden, Mr. McKnight, Mr. Meconi, Mrs. Noble, Miss Reuter, Mrs. Seifert, Mr. Sovchik, Mrs. Spencer, Mr. Steinen, Mr. Williams
Secondary	Mr. Bradley, Miss Cook, Mr. Eley, Mr. Foster, Mrs. King, Mrs. Lindbeck
Home Economics & Family Ecology	Mrs. Armstrong
Music	Mr. Nolin
Physical Education	Mr. Maluke

Special Education	Mr. Arn, Mr. Kovacevich
Speech & Mass Media Communications	Miss Lewis
Theatre Arts & Dance	Mr. Dunlap
Speech and Hearing Therapy	Mr. Davis
Technical Education	Mr. Sugarman
Graduate	Mr. Adolph, Mr. Bradley, Mr. Esposito, Mr. Birdsell, Mr. Hoedt, Mr. Rich,

#### REQUIREMENTS FOR BACHELOR'S DEGREE

Students prepare to teach any one of the following areas or fields: Nursery School, Kindergarten-Primary, Elementary; the conventional academic fields found in junior senior high schools; and the special fields of Art, Business, Home Economics, Music, Physical Education, Slow Learners, and Speech and Hearing Therapy; and post-secondary Technical Education. A minimum of 128 credits with a grade point ratio of 2.0 must be completed to qualify for the Bachelor's degree.

The specific subjects required for degrees in certain fields are set forth in subsequent pages. In all cases, the requirements include courses in the general studies, subject matter areas, and professional sequences.

The B.A. in Education degree is granted to those whose major is one of the academic fields or in Speech and Hearing Therapy. The B.S. in Education is granted to those whose major is in the other special fields or in elementary education. The B.S. in Technical Education is awarded to those who complete the requirements of that program.

#### STUDENT TEACHING

Student teaching is done in the public schools under the direction of supervising teachers and a representative of the College of Education faculty.

In order to qualify for student teaching a student must maintain a 2.5 average in his/her teaching field. Satisfactory work also must be done in other teaching fields and in professional education to warrant recommendation for a teaching certificate.\*

\*Music majors, before assignment for student teaching, are required to pass the General Musicianship Examination described in the Music section of the College of Fine and Applied Arts. To avoid possible delay in graduation, it is necessary for the student to take the examination six months prior to the anticipated assignment for student teaching.

## RECOMMENDATIONS FOR CERTIFICATION

Every teacher in Ohio public schools is required to have a certificate covering the fields in which he/she 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/her 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 certification requirements of The University of Akron.

### STUDENTS ENROLLED IN OTHER COLLEGES AT THE UNIVERSITY OF AKRON

Some students who receive degrees from other colleges in the University may also wish to qualify for teaching. They will be recommended for certification after completing their major and minor requirements and the pre-professional and professional courses included in the RECOMMENDED SEQUENCE FOR SECONDARY EDUCATION listed later in this chapter. Such students must be closely advised during the last two years.

Any student in the University who is not enrolled in the College of Education and who wishes to teach should register with the Dean of the College of Education by completing the form "Admission to Teacher Education" at the time of promotion to Upper College or two years prior to the time he/she expects to be eligible to teach.

### ELEMENTARY EDUCATION

The Elementary program is for those preparing to teach in grades one to eight inclusive. The requirements for a major in Elementary Education are as follows:

	Credits
A. General Studies Courses*	39
B. Pre-Professional Education Courses	
7100:191 Design	2
3750:100 Intro. to Psychology	3

\*Six hours of science are included in the General Studies requirements. Two of these six hours must be in biological science to meet certification requirements.

		Credits
3350:100	Intro. to Geography	3
3350:350	Anglo-America	3
	One of the following three courses:	
3700:100	Gov. & Pol. in the U.S.	3
3400:201	U.S. History to Civil War	4
3400:202	U.S. History since Civil War	4
		14-15

### C. Professional Education Courses

	Basic: (10 credits)	
5100:150	Intro: Professional Educ.	3
5100:250	Hum. Dev. & Lrng.	3
5100:350	Ed. Measurement & Eval.	2
5100:450	Problems in Education	2
	Elementary Education (35 credits)	
5200:141	Handicrafts	2
5200:286	Children's Literature	3
5200:321	Art for the Grades	2
5200:333	Science Elementary Grades	3
5200:335	Teaching of Language Arts	5
5200:336	Teaching Elementary Sch. Math	3
5200:337	Teaching of Reading	3
5200:338	Teaching of Social Studies	3
5200:339	Prin. Diag. Tchg. of Reading	3
5200:365	Comp. Mus. Elem. Teachers	4
5550:334	Games & Rhythms-Elem. Grades	2
5570:101	Personal Health	2
	Laboratory Experience (12 credits)	
5200:100	Student Participation	1
5200:200	Student Participation	1
5200:300	Student Participation	1
5200:403	Seminar in Student Teaching	1
5200:495	Student Teaching	1
		57

### D. Area of Specialization: 12-20

An area of specialization must be selected by the student with approval of his/her advisor. The student is urged to select an area of specialization which he/she believes will contribute to his/her success as a teacher. The number of hours required (12-20) is above and beyond the number of hours required in any other part of the program (A, B, or C above).

E. Electives:	6
Total Credits Required	128-137

### KINDERGARTEN-PRIMARY

The Kindergarten-Primary program is for students preparing to teach in the kindergarten through the third grade. Any elementary certificate will be validated for kindergarten teaching provided the applicant submits evidence of completion of the following 16 hours of course work:

Required:	Credits	
7400:265	Child Development	3
5200:330	Early Elementary Educ. I	3
5200:331	Early Elementary Educ. II	3

## Credits

Electives (choose 7 hours from the following):

5550:211	First Aid	2
2610:440	Dev. Char.: Excep. Indiv.	3
5100:410	Audio Visual Education	2
5200:497	Independent Study	1-3
3750:130	Developmental Psychology	4

By taking the following courses, students in the Elementary program may also receive University recommendations as Director of Teaching in Nursery Schools:

Required:

7400:265	Child Development	3
5200:310	Intro. to Early Childhood Educ.	2
5200:311	Curr. Preschool Learning Ctrs.	2
5200:360	Nursery School Laboratory	3

Electives (choose 6 hours from the following):

7400:460	O & S Child Care Ctrs.	3
5550:211	First Aid	2
7400:401	Fam. Life: Econ. Deprived	2
5200:497	Independent Study	1-3
5610:440	Dev. Char.: Excep. Indiv.	3
7400:275	Play & Creative Exper.	4
5100:410	Audio Visual Education	2
3750:130	Developmental Psychology	4
7400:290	Admin.: Child Care Ctrs.	3

#### OTHER AREAS OF SPECIALIZATION

Elementary majors may choose other areas of specialization from an approved list developed by the department. Included are mathematics, reading, inner city education, music, geography, learning disorders, special education, science, physical education, visual arts, world of work, and others.

Students are urged to consult department advisors for details and requirements.

#### 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.

#### PROGRAM FOR CERTIFICATION OF NON-PROFESSIONAL DEGREE HOLDERS FOR ELEMENTARY SCHOOL

To qualify for a Provisional Elementary

Certificate, the holder of a baccalaureate degree in fields other than Education should complete a program of course work equivalent to that required for a major in Elementary Education.

#### Requirements

I. Pre-Professional Education and General Studies: A student may be required to take courses from the Pre-Professional Education and General Studies sections if previous transcripts reveal an insufficient background in those areas or in courses listed under Elementary Education

#### II. Professional Education

A. Basic		Credits
5100:150	Intro. Professional Education	3
5100:250	Hu. Dev. & Lrng.	3
5100:350	Ed. Meas. & Eval.	2
5100:450	Problems in Education	2

#### B. Elementary Education

5200:141	Handicrafts	2
5200:286	Children's Literature	3
5200:300	Student Participation	1
5200:321	Art for the Grades	2
5200:333	Science for Elem. Grades	3
5200:335	Teaching of Language Arts	5
*5200:336	Tchg. Elem. Sch. Math	3
5200:337	Teaching of Reading	3
5200:338	Teaching Social Studies	3
5200:339	Prin. Diag. Tchg. of Reading	3
5200:365	Comp. Mus. Elem. Teachers	4
5200:403	Seminar in Student Teaching	1
5200:495	Student Teaching	8
5550:334	Games & Rhythms	2
5570:101	Personal Health	2

III. If certification for teaching Kindergarten is desired, the following courses must be scheduled:

5200:330	Early Elementary Educ. I	3
5200:331	Early Elementary Educ. II	3

\*If a time period of four (4) years has lapsed since taking this course, or its equivalent, a basic mathematics or mathematics education course must be completed.

#### RETRAINING FROM SECONDARY TO ELEMENTARY CERTIFICATE

The holder of a Provisional, Professional, or Permanent High School or Special Certificate may obtain a Provisional Elementary Certificate valid for elementary teaching (grades 1-8) upon submitting evidence of the satisfactory completion of the following credits:

	Credits	
5200:451	Elementary Education	3
5200:337	Teaching of Reading	3
5200:336	Tchg. Elem. School Math	3
5100:250	Hum. Dev. & Lrng.	3

Such a certificate shall be designated as a **RETRAINING** certificate and shall be made standard upon evidence of the completion of the following course work in elementary education:

	<b>Credits</b>
5200:141 Handcrafts	2
5200:286 Children's Literature	3
5200:300 Student Participation	1
5200:321 Art for the Grades	2
5200:333 Science for Elem. Grades	3
5200:335 Teaching of Language Arts	5
5200:338 Teaching of Social Studies	3
5200:339 Prin. Diag. Tchg. of Reading	3
5200:365 Comp. Mus. Elem. Teachers	4
5550:334 Games & Rhythms	2
5570:101 Personal Health	2

If additional hours are needed in the Social Sciences, a choice should be made from the following:

3700:100 Gov. & Pol. in the U.S.	3
OR 4 credit hours from the following:	
3400:201 U.S. History to Civil War	4
3400:202 U.S. History since Civil War (If no previous geography credits are recorded)	4
3350:100 Intro. to Geography	3

If the student desires certification for teaching Kindergarten, the following six credit hours must be scheduled:

5200:330 Early Elementary Education I	3
5200:331 Early Elementary Education II	3

Student teaching is required in this program if evidence of teaching experience under the original certificate is lacking or it is deemed advisable by the Dean of the College of Education, the Director of Student Teaching, and the Head of the Department of Elementary Education. A 2.5 grade point average in professional course work is required to enroll in student teaching.

Completion of the above credits does not necessarily constitute qualification for the B.S. degree in Elementary Education at The University of Akron. To qualify for the degree, certain additional requirements must be met.

#### **CERTIFICATION FOR TEACHING MUSIC\* IN THE ELEMENTARY SCHOOL**

Any student who completes a regular four-year program qualifying him for a Four-Year Provisional Elementary Certificate may have that certificate validated for teaching music in the elementary school by completing the following courses.

	<b>Credits</b>
7500:151, 152 Music Theory I, II (3 each)	6
7500:154, 155 Music Lit. I, II (2 each)	4
7500:161 Sight Singing I	2

		<b>Credits</b>
7500:107	Class Voice	2
7500:261	Keyboard Harmony I	2
5200:323	Music Tchg. Elem. Grades	2
5200:395	Fld. Exp. Elem. Sch. Music	2
7500:356	Music Teaching Handicapped	
	OR	
7500:358	Functional: Class Guitar	2
7510:	Music Organizations	2
5200:497	Independent Study (Music Student Teaching)	2
	<b>Total</b>	<b>26</b>

\*Such certificates may also be validated in the following fields: visual arts, educational media, reading, outdoor education, physical education. Consult the Department of Elementary Education for details.

#### **DUAL CERTIFICATION PROGRAM ELEMENTARY AND SECONDARY**

This curriculum prepares teachers for both 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.

Students in this program must meet the requirements for Elementary Education; must complete 5300:310, Principles of Secondary Education (3 credits), and 5300:311, Instructional Techniques in Secondary Schools (3 credits); and must meet the requirements in 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.

\*Student Teaching is required in both fields.

#### **SECONDARY EDUCATION**

The secondary program is for students preparing to teach in junior and senior high schools. A list of the specific requirements for the various teaching fields will be provided for the student by his/her College of Education advisor or by the Head of the Department of Secondary Education.

The general requirements for a major in Secondary Education are as follows:

	<b>Credits</b>
1. General Studies Courses:	39
2. General Professional and Pre-Professional Courses:	

3750:100	Introduction to Psychology	3
5100:150	Introduction: Professional Education	3
5100:250	Human Development & Learning	3
5300:295*	Exploratory Experiences: Sec. Schools	1-2
5100:350	Educational Measurements & Evaluation	2

## Credits

5300:310	Principles of Secondary Education	3
5300:311**	Instructional Techniques in Sec. Ed.	3
5300:495	Student Teaching	8
5300:403	Student Teaching Seminar	1
5100:450	Problems in Education	2

31-32

3. Courses in Teaching Field(s) and Electives:		58
Total Required for Degree:		128

\*Not required for those PROMOTED to upper college prior to Sept. 1, 1972.

\*\*Students with the following teaching majors substitute courses indicated for 5300:311 - Art 7-12 certification, 5300:316; Art K-12, 5200:334 and 5300:316; Music, 5300:325, 5300:396; Home Economics, 5400:351; Physical Education, 5550:193, 5550:194.

## 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 state requirement in the teaching field is 30 credits or more. However, if a student chooses one of the special teaching fields, as listed below, he/she will not be required to prepare in a second field.

For selection of required courses for a teaching field and the recommended sequence for his/her secondary education program, a student should consult the Head of the Department of Secondary Education who will appoint an advisor.

## STATEMENT OF MINIMUM NUMBER OF CREDITS REQUIRED FOR APPROVAL IN VARIOUS TEACHING FIELDS\*

## COMPREHENSIVE SUBJECTS

Field:	Hours
Art (K-12)	50
Business Education (with shorthand)	45
Business Education (without shorthand)	45
Communications	60
Consumer Homemaking & Multi-area Vocational	55
Data Processing	55
Family Life Education	60
Sales Communication	45
Science	60
Social Studies	60

\*Many fields require more than the minimum. Please see the department for specific program.

## SPECIFIC SUBJECTS

Field:	First Teaching Field	Second Teaching Field
	Min. Hours	Min. Hours
Biology	52	33
Bookkeeping Basic Business		22
Chemistry	52	29
Consumer Homemaking Vocational		43
Earth Science	50	43
Economics		24
English		
General Science	38	26
Geography		21
Health Education (K-12)		30
Health Education (7-12)		20
History	31	30
Home Economics		32
Home Economics—Non Vocational	47	
Foreign Languages	30	30
Latin and Greek	20	20
Mathematics	27	20
Physics	51	43
Political Science		27
Sales Communication		22
Social Psychology		22
Sociology		22
Speech & Theatre (K-12)	42	
Speech and Theatre Arts	39	33
Stenography and Typing		26
Visual Art		36

## SPECIAL FIELDS

Art—As determined by Art Department  
 Music—As determined by Music Department  
 Physical Education (Men and Women)—As determined by Physical Education Department  
 Speech and Hearing Therapy—As determined by Speech and Hearing Department

## SPECIAL EDUCATION

## Comprehensive Special Education Major

This program provides for an in-depth preparation in the areas of mental retardation, learning disabilities, and orthopedically handicapped. The course of study incorporates vital courses from the areas of Secondary Education, Elementary Education, Counseling and Educational Foundations. The program components include the General Studies, General Professional Education, Special Education Studies (the major field) including full-time student teaching and related competency studies. Completion of this program enables one to be certified in Special Education at both Elementary and Secondary levels for each of the areas of preparation.

**COMPREHENSIVE PROGRAMS IN  
SPECIAL EDUCATION—  
GUIDELINES FOR STUDY**

**PLAN "A": Dual Certification - Learning Disabilities and Educable Retarded**

**PLAN "B": Dual Certification - Educable and Moderately-Severely-Profoundly Retarded**

**PLAN "C": Dual Certification - Educable Retarded and Orthopedically Handicapped**

*General Studies (Required 40 hrs.)*

See General College for specific course requirement and alternatives.

**Professional Education Studies**

Plan "A" (Eliminate OH Teaching area) - 31 hours.

Plan "B" (Eliminate LD and OH Teaching area) - 23 hours.

Plan "C" (Eliminate LD Teaching area) - 31 hours

**Credits**

5100:150	Introduction to Professional Education	3
5100:250	Human Development and Learning	3
5100:350	Educational Measurements and Evaluation	2
5100:450	Problems in Education	2
5300:310	Principles of Secondary Education	3
5610:201	Participation EMR-LD (Plan A)	1
5610:202	Participation EMR-OH (Plan C)	1
5610:203	Participation EMR-TMR (Plan B)	1
5610:495	Student Teaching EMR (Plans A, B, C)	8
5610:495	Student Teaching LD (Plan A)	8
5610:495	Student Teaching OH (Plan C)	8
5610:403	Student Teaching Seminar (Plans A, B, C)	1

**Related Competency Studies (25 hours)**

3750:100	Introduction to Psychology	3
5200:335	Teaching the Language Arts	5
5200:336	Teaching of Elementary School Mathematics	3
5200:337	Teaching of Reading	3
*5570:101	Personal Health	2
*5550:211	First Aid	2
**5200:321	Art for the Grades	2
**5200:323	Music Teaching Elementary School	2
**5550:334	Games and Rhythms Elementary Grades	2
7700:430	Aspects of Normal Language Development	3
5600:410	Personnel Services in Schools	2

\*Student Required to choose one

\*\*Student required to choose two

**Special Education Studies (24-27 hours)**

5610:440	Developmental Characteristics of Exceptional Individuals	3
5610:441	Developmental Characteristics of Mentally Retarded Individuals	4
5610:443	Developmental Characteristics of Learning Disabled Individuals	3

**Credits**

5610:445	Developmental Characteristics of Orthopedically Handicapped Individuals (Plan C)	3
5610:446	Developmental Characteristics of Behaviorally Disordered Individuals (Plan A)	3
5610:450	Educational Adjustment: Preschool and Primary Level Exceptional Individuals	3
5610:451	Educational Adjustment: Intermediate Level Exceptional Individuals	3
5610:452	Educational Adjustment: Secondary Level Exceptional Individuals	3
5610:456	Classroom Behavior Management Exceptional Individuals	2
*5610:457	Clinical Teaching Practicum Children with Learning Problems	3

\*Final course before student teaching, advanced permission required

**Electives**

Plan "A" (5 hours)

Plan "B" (16 hours)

Plan "C" (5 hours)

Student will choose electives in consultation with a Special Education advisor.

**COMBINATION SPECIAL EDUCATION —  
ELEMENTARY EDUCATION PROGRAM**

The addition of 18 to 33 special education credit hours, including student teaching, to the standard elementary education program in lieu of elementary education elective hours will provide the student a special area of preparation in the form of a non-certification minor, or certification minor in the areas of mental retardation, learning and/or behavioral disorders or in the area of teaching orthopedically handicapped children. Completion of any of these latter minors in the elementary program will lead to a teaching certificate valid in the regular and in a specified special classroom.

**SPECIAL EDUCATION AS A  
SECONDARY TEACHING FIELD**

The addition of a 31-36 Special Education credit hours, including student teaching, to the professional education courses required of secondary teachers may comprise a second teaching field in mental retardation, learning disabilities or orthopedically handicapped.

Specific program details for either of the above combinations with Elementary or Secondary can be obtained from the Department of Counseling and Special Education.

## **SPEECH AND HEARING THERAPY**

A baccalaureate degree certification program in the area of Speech and Hearing Therapy is available to the student desiring to function in this capacity in the public schools. Specific program detail can be obtained from the Department of Counseling and Special Education and/or the Department of Speech Pathology and Audiology.

## **TECHNICAL EDUCATION**

The undergraduate program in Technical Education is designed to prepare instructors and other educational personnel for post-secondary educational institutions, industry, and public and private agencies engaged in the education and training of technicians. The program is divided into the following major classifications: Business Technologies, Engineering Technologies, Health Technologies, Natural Science Technologies and Public Service Technologies. The baccalaureate program is intended to produce instructors primarily for teaching

subjects within a technical specialty and is not intended to produce post high school mathematics, physics, chemistry, English or instructors for other general education offerings. Graduates of this program would be awarded the degree of Bachelor of Science in Technical Education.

Students may elect other areas so long as the courses are available and their advisors approve.

The Technical Education program includes work in four areas: General Studies; the technical specialty; Professional Education; and occupational experience. Specific course requirements may be secured from the Department of Secondary Education or from the advisors in Technical Education.

Requirements for graduation. In addition to the general requirements of the College of Education, a student in Technical Education must obtain at least a 2.0 average in (A) all major departmental professional courses (5400), (B) all professional education courses, and (C) a 2.5 average in all technical courses directly related to the student's teaching field.

# The College of Business Administration

James W. Dunlap, Ph.D., Dean

The College of Business Administration is a professional College of the University that is dedicated to teaching, business research and public service. The College, a member of the American Assembly of Collegiate Schools of Business, the national accrediting agency for colleges of business administration, offers undergraduate and graduate degree programs during the day and evening.

## 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 in business to prepare students for professional careers in commerce, industry and government. Specific objectives of the College in terms of student achievement include the following:

Competence in the basic functional areas of business enterprise;

Analytical ability and balanced judgment in the solution of business problems;

Understanding of human behavior and the impact of social, political and economic forces in the decision-making process;

Facility in the use of management tools of accounting, quantitative techniques and communications;

Development of a business code of ethics; and,

Desire to continue the pursuit of knowledge and the achievement of excellence in the area of administration.

Additional objectives of the College of Business Administration are: to act as a service division by offering courses to students in other colleges; to serve the business community of the state and region by sponsoring conferences, short courses and management development programs; to foster and encourage research in business; to offer graduate instruction and opportunities for research to students at the master's level; to prepare students for entering law school; and to prepare students for advanced research and study in business and economics.

The College of Business Administration, organized on a departmental basis, offers programs of study in accounting, finance, management, marketing and international business. Three baccalaureate degrees are offered; the Bachelor of Science in Accounting, the Bachelor of Science in Business Administration and the Bachelor of Science in Industrial Management.

The College of Business Administration offers, through Graduate School, advanced professional business study leading to the degree of Master of Business Administration with concentrations in Accounting, Finance, Management, Marketing, and International Business. In addition, the Master of Science in Accounting and the Master of Science in Management are offered.

At The University of Akron there has been a long and eventful history of education relating to the field of commerce and industry. Beginning in 1919 courses were offered in the Department of Commerce. Eventually the department became the nucleus of the College of Business Administration, which was established in 1953.

Since its inception, the College curriculum has been designed with equal emphasis on broad basic principles as well as immediate practices. Classroom knowledge is consistently made more significant by field trips and inspection tours to witness business operations.

Similarly, the College maintains a sound balance between education in the arts, humanities and sciences and professional business courses. Half of the courses of study at the undergraduate level are in the areas of liberal arts, and sciences; the remaining courses are divided between general business subjects and the student's indicated area of specialization.

## REQUIREMENTS FOR ADMISSION

The College will accept students who have completed sufficient course work to indicate possession of the necessary ability and desire to earn a Business Administration degree. The number of credits to have been completed will vary from student to student, but will be at least 45 credits at the time of acceptance.

\*Enrollment in upper college business courses is limited to students who have:

1. Applied for promotion or transfer

2. Successfully completed at least 90 credits

3. Earned at least a 2.0 inclusive grade average and at least a 2.0 grade average in Business Administration and Economics courses.

\*Exceptions to any or all of these may be granted by the Dean.

### TRANSFER OF COURSES AND ADVANCED STANDING

In order for courses taken outside of the General College or the College of Business Administration to be accepted as part of an approved program of study in lieu of College and departmental requirements, the courses to be transferred must be of an equivalent level. The College of Business Administration will consider the following in granting credit: the content, complexity and grading standards of courses taken elsewhere; and the suitability of courses taken elsewhere for the program of study chosen here. Subject matter reserved for junior and senior level courses in this College will not be transferable through courses taken in any two-year institution. All work transferred may be subject to examination to validate credits.

### REQUIREMENTS FOR GRADUATION

1. A minimum of 128 semester credits, including the work in the General College. Not more than one credit of physical education activities may be included.

2. Other requirements, including the residence requirement, listed in this Bulletin.

3. At least 2.0 quality point average in (a) all major departmental courses, (b) all business and economics courses, and (c) all courses undertaken here and elsewhere.

4. Recommendation of the student's department head.

To receive an undergraduate degree from the College of Business Administration, a student must successfully complete the following, or approved equivalents:

1. The General Studies, except 1100:211, Numbers Communication.

2. Mathematics, 111, 112, 113, 114, 121, 122, 123, 138.\*

3. Economics 201 and 202.\*

4. Accounting 201 and 202.\*

5. Behavioral Science (Psychology or Sociology) — two sequential courses in one discipline.\*

6. The upper-college Core courses required:

- (a) A law course (6400:320 or 321)\*\*
- (b) Business Finance, 6400:371
- (c) Management: Principles and Concepts, 6500:301
- (d) Quantitative Business Analysis I and II, 6500:321 and 322.
- (e) A computer course (6500:323 or 6200:355)\*\*
- (f) Marketing Principles, 6600:300
- (g) Business Policy, 6500:409

\*These are pre-Business Administration requirements.

\*\*Accounting majors must take 6200:355 and 6400:321; other majors take 6500:323 and 6400:320.

## DEPARTMENTS OF INSTRUCTION

### 6200: ACCOUNTING

The functions of accounting are essential to the decision-making process in commerce, industry and government. Because of the important role it plays in economic affairs, accounting has attained the professional status of law and medicine.

Three major fields of employment for accountants are public, private and governmental accounting. Regardless of the areas of concentration, standards, ethics and the mastery of accounting concepts and procedures are essential to all three. Accounting graduates who choose public accounting may become seniors, managers, principals or partners in public accounting firms. A student who chooses an accounting career in private industry may hold the position of accountant, cost accountant, senior accountant, budget director, internal auditor, treasurer or controller. Federal, state and local governments provide a wide variety of job opportunities at the professional level for well-educated accountants. There are exceptional opportunities for professional advancement regardless of the type of institution graduates may choose.

The accounting curriculum is designed to prepare the student for professional service, including sitting for the 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 both public and private accounting rest on the same foundation, to receive the Bachelor of Science in Accounting degree, a student must complete the College requirements and the following departmental requirements:

- 6200:301 Cost Accounting
- 6200:317, 318 Intermediate Accounting I & II
- 6200:430 Taxation I
- 6200:440 Auditing

6200:460 Controllership Problems  
 6400:322 Business Law II  
 3250:380 Money and Banking  
 OR  
 6400:338 Financial Intermediaries

In addition to the accounting courses required in the above program, students preparing for a career in public accounting are advised to take 6200:420 (Advanced Accounting) and 6200:431 (Taxation II). Majors preparing for careers in industrial accounting should take elective courses in Management.

Because of the increasing demand for accountants with a knowledge of computer theory and practice, majors are advised to elect 6200:454 (Accounting Systems). Courses in mathematics beyond finite mathematics are also strongly recommended.

### 6400: FINANCE

The Department of Finance offers demanding courses which try to develop a student's ability to gather, organize, analyze and utilize financial data. This requires that the student be familiar with the institutional setting in which firms operate and, within this framework, they must understand the present state of financial theory, its uses and limitations. When a student majors in Finance, the goal is not a specific entry job but rather a state of readiness to provide flexible response to new areas of opportunities in the financial area.

Career opportunities exist in three major fields. The Financial Management of Non-Financial Institutions Area offers employment in Profit as well as non-profit firms where the emphasis is on the uses and sources of financial funds. The area of Management of Financial Institutions offers opportunities to those who choose careers in commercial banking and other credit-granting institutions. Those interested in Investments Management find opportunities with brokerage firms and specialized departments in many financial as well as non-financial organizations. In most cases it is not possible to select direct entry at a level one desires into some of these areas, but on-the-job training is required in allied fields. It is for this reason our suggested preparation is broad in scope.

To receive a Bachelor of Science in Business Administration with a major in Finance, a student must complete the College requirements and the following departmental requirements:

6200:301 Cost Accounting  
 6200:317, 318 Intermediate Accounting I & II  
 6400:338 Financial Intermediaries  
 6400:343 Investments  
 6400:479 Problems in Finance  
 3250:400 Macro-Economics  
 OR  
 3250:410 Micro-Economics

Two Finance Department electives selected from:

6400:314 Credits & Collections  
 6400:318 Risk Management & Insurance  
 6400:436 Commercial Bank Management  
 6400:447 Security Analysis

Electives should be considered especially by those students who aim for careers in Financial Management from the following four courses:

	Credits
6400:400 Investing in Real Estate	3
6400:425 Business and Society and the substitution of	3
6400:321-322 Business Law	3
OR	
6400:320 The Legal Environment of Business	4

### 6500: 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 the 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. The major in industrial management recognizes the unique directional problems of the firm involved in manufacturing producer goods.

The graduate with an Industrial Management degree finds many employment opportunities with industrial firms; in

staff, supervisory, and other management positions. He/she possesses, in addition, the required basic understanding for effectively managing facilities, equipment and personnel in a variety of activities such as transportation, warehousing, research or institutional management. Also, the graduate has the fundamental preparation to undertake advanced study leading to a master's degree.

Departmental philosophy decrees that the student entering the field of management will have a solid basic liberal background within the framework of the Management curriculum.

To receive the Bachelor of Science in Industrial Management with a major in Management, a student must complete the College requirements, the common departmental requirements; and a concentration. The common departmental requirements are as follows:

6500:331	Production & Systems Management
6500:332	Production & Operations Management
6500:341	Personnel Management
6500:408	Management Problems*

There are two concentrations: Production or Personnel

The Production concentration requirements are:

6500:433	Business Operational Planning
6500:434	Production Planning & Control

The Personnel concentration requirements are:

6500:342	Personnel Relations
6500:443	Advanced Personnel Management

\*The student's "problem" will be related to his area of concentration -- Production or Personnel.

### INDUSTRIAL ACCOUNTING EMPHASIS

The Industrial Accounting emphasis jointly administered by the Accounting Department and the Management Department is designed to benefit the student who may wish to pursue a career in the field of accounting, but who does not wish to become a C.P.A. The courses selected are those which will furnish the student with a background in the operational management of production activities as well as in the accounting and budgeting procedures utilized in the control of these activities. The curriculum leads to the degree, Bachelor of Science in Industrial Management.

The student selecting the Industrial Accounting emphasis must successfully complete the College requirements and the following courses:

		Semester Hours
6200:301	Cost Accounting	3
6200:355	Intro to Electronic Data Processing	
	OR	
6500:323	Intro to Computer Applications for Business	3
6200:460	Controllership Problems	3
6500:341	Personnel Management	3
6500:331	Production & Systems Management	3
6500:332	Production & Operations	3
6500:433	Business Operational Planning	3
6500:434	Production Planning & Control	3
Recommended electives:		
6200:317	Intermediate Accounting	4
6200:318	Intermediate Accounting	4

### 6600: MARKETING

The chief marketing executive in the firm is responsible for sustaining customer acceptance of his/her firm's products and services, and for finding new opportunities for his/her firm through the development of new and improved products and services; effective advertising and other communications programs; efficient physical distribution of the firm's products and services so that they are accessible to present and prospective users; and pricing of the firm's offerings. He/she is also responsible for organizing the various functions involved in the marketing effort. He/she attempts to allocate the resources of his/her firm for maximum impact in the markets which he/she feels are most profitable in order to provide the firm with a high and continuing flow of money income.

The Marketing curriculum is designed to provide the student with a clear understanding of the nature and uses of marketing techniques and their varying combinations in a total marketing plan. The student is also given a sound basis for further scholarly research in such areas as consumer and buyer behavior, operational and symbolic aspects of products and services, the communications techniques and theory, and organizational behavior as these relate to the objectives of the firm. Thus, the student becomes aware of current practices in the marketing discipline as well as the latest theoretical developments.

To receive a Bachelor of Science in Business Administration degree with a major in Marketing, a student must complete the College requirements and the following departmental requirements:

6600:460 Marketing Research  
6600:480 Marketing Cases and Problems

Three advanced Marketing courses selected from 6600: courses beyond the Col-

lege requirement for 6600:300 Marketing Principles.

The following courses are recommended as electives:

	<i>Credits</i>
3250:380 Money and Banking	3
3250:400 Macro-Economics	3
3350:220 Economic Geography	3
3750:340 Social Psychology	4
3850:320 Social Stratification	3

# The College of Fine And Applied Arts

Gerard L. Knieter, Ed.D., Dean

## OBJECTIVES

The purpose of the College of Fine and Applied Arts is to further the objectives of The University of Akron by providing a quality program of undergraduate and graduate education in the artistic, technological, clinical and studio experience in speech, the dramatic arts, music, the visual arts and the family life arts, and

To maintain curricula for the preparation of student majors in these areas.

To prepare such students for graduate study and career opportunities on the level of professional competence.

To provide instruction designed to meet specific curricular needs of all the Colleges of the University.

To serve the elective interests of students seeking diversity and enrichment in their academic programs,

To encourage the development of technical knowledge and professional skills which underlie the communicative functions of human expression, and

To nurture and expand, through this congregation of the arts, not only a knowledge of man's creative and cultural heritage but also a perceptual and aesthetic awareness of direct sensory experience through creation and performance.

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

## REQUIREMENTS FOR ADMISSION

To be admitted to the College of Fine and Applied Arts the student must have completed satisfactorily at least 30 credits of work with at least a 2.0 G.P.A. and have the approval of the Dean. Students transferring to the University's Art Department from another institution must submit a portfolio of their work for approval prior to admission. Students transferring from another college or institution into the Music Department must submit to a departmental placement examination.

## REQUIREMENTS FOR BACCALAUREATE DEGREES

1. Electives included in the 128 credits of total work required for the degree may consist of any courses offered for credit in the University's four-year degree programs, provided that the prerequisites as set forth in this Bulletin are met, and further provided that not more than two credits of physical education activities, eight of applied music, or four of music organizations are included. (Credit limitations on applied music and music organizations do not apply to the Bachelor of Music degree.) While credits from another institution or college may be accepted, their application toward graduation will depend upon the nature of the student's intended program of study.

2. The recommendation of the Head of the student's major department.

3. All candidates for a Bachelor of Arts degree in the College of Fine and Applied Arts must have demonstrated their ability to use English and one other language.

4. Other requirements as set forth in the section on "Requirements for Graduation" in Chapter 3 and on the following pages.

## DEGREES

The following baccalaureate degrees are granted in the College of Fine and Applied Arts:

Bachelor of Arts  
 Bachelor of Arts in Deitetics  
 Bachelor of Arts in Foods and Nutrition  
 Bachelor of Arts in Textiles and Clothing  
 Bachelor of Arts in Family and Child Development  
 Bachelor of Arts in Speech Pathology and Audiology  
 Bachelor of Arts in General Speech  
 Bachelor of Arts in Theatre Arts  
 Bachelor of Arts in Mass Media Communication  
 Bachelor of Arts in Communication/Rhetoric  
 Bachelor of Arts in Ballet  
 Bachelor of Music  
 Bachelor of Fine Arts

## THE MAJOR FIELD

To qualify for graduation, a student must concentrate or earn a major in the work of a department of the college. The major will consist of from 24 to 62 credits in addition to the required General Studies and, in the case of the Bachelor of Arts degree, foreign language courses. Part or all of these credits may be taken in specifically required courses depending upon the major chosen. The longer and more professionally-oriented majors should be started during the first or second year when the student is still under the guidance of the Office of Student Services. The shorter majors need not be declared before the end of the second year when the student is ready for transfer to the College of Fine and Applied Arts.

A student will select a department in which to earn a 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. When a student has selected his/her major, he/she should consult with the head of that department. As soon as the student is transferred to the College, the head of his/her major department becomes his/her adviser.

## DEPARTMENTS OF INSTRUCTION

### 7100: ART

*Requirements for a Bachelor of Arts degree with emphasis in either Studio Art or History of Art are:*

-General Studies requirements.  
-Completion of a second year of an approved foreign language.  
-Completion of requirements in either Studio Art Emphasis or History of Art Emphasis.

23-25 hours of open electives bringing total to 128 credit hours for graduation.

**Studio Art Emphasis:** A minimum of 41 credits in Studio Art coursework including one course in each of six different areas of emphasis; i.e., Printmaking, Sculpture, etc. Survey of History of Art I and II (7100:100, 101) plus one additional advanced level art history course.

**History of Art Emphasis:** Survey of History of Art I and II (7100:100, 101); a minimum of 38 credits in the History of Art. A minimum of one History of Art Seminar, one Special Problems in History of Art course,

and one Special Topics in History of Art course. A minimum of 12 credits in Studio Art coursework to include at least four different areas of emphasis; i.e., Painting, Photography, etc. (7100:275 recommended).

*Requirements for a Bachelor of Fine Arts Degree are:*

-General Studies requirements.  
-A portfolio review for admission to the B.F.A. program after completion of 3 semesters of regular work and prior to the completion of 36 semester credits in studio art.

-Minimum of 21 hours in at least one area of major emphasis (except in Graphic Design emphasis).

-Minimum total of 56 credits in Art Studio (except in Graphic Design emphasis).

Survey of History of Art I and II plus two additional advanced level art history courses (except in Graphic Design emphasis).

16-21 hours of open electives bringing total to 128 credit hours for graduation.

-Senior Exhibition.

## PRINTMAKING:

	Credits
Prerequisites Before First Major Course:	
7100:100 Survey of History of Art I	4
7100:101 Survey of History of Art II	4
7100:131 Drawing I	3
7100:144 Two-Dimensional Design	3
7100:231 Drawing II	3
A minimum of two of these four Major Courses:	
7100:213 Lithography	3
7100:214 Serigraphy	3
7100:215 Relief Printing	3
7100:216 Intaglio Printing	3
Additional Major Courses:	
7100:317 Printmaking II (may be repeated)	3
7100:418 Advanced Printmaking (may be repeated)	3
Additional Required Courses:	
7100:121 Three-Dimensional Design	3
7100:233 Life Drawing	2
7100:275 Photography I	3
7100:375 Photography II	3
A Choice of One of These Painting Courses is Required:	
7100:245 Acrylic Painting	3
7100:246 Water Color Painting	3
7100:247 Oil Painting	3

## SCULPTURE:

	Credits
Prerequisites Before First Major Course:	
7100:100 Survey of History of Art I	4
7100:121 Three-Dimensional Design	3
Major Courses:	
7100:222 Introduction to Sculpture	3
7100:322 Sculpture: Molding & Casting	3

	Credits
7100:323 Sculpture: Fabrication	3
7100:421 Three-Dimensional Design Application	3
7100:422 Advanced Sculpture	9
Additional Required Courses:	
7100:101 Survey of History of Art II	4
7100:131 Drawing I	3
7100:144 Two-Dimensional Design	3
7100:231 Drawing II	3
7100:232 Instrument Drawing	3
7100:275 Photography I	3

**DRAWING:**

	Credits
Prerequisites Before First Major Course	
7100:100 Survey of History of Art I	4
7100:131 Drawing I	3
Major Courses:	
7100:231 Drawing II	3
7100:232 Instrument Drawing	3
7100:233 Life Drawing	2
7100:331 Drawing III	3
7100:333 Advanced Life Drawing	2
7100:431 Drawing IV	3
Additional Required Courses:	
7100:101 Survey of History of Art II	4
7100:121 Three-Dimensional Design	3
7100:144 Two-Dimensional Design	3

**PAINTING:**

	Credits
Prerequisites Before First Major Course:	
7100:100 Survey of History of Art I	4
7100:131 Drawing I	3
7100:144 Two-Dimensional Design	3
Major Courses:	
7100:245 Polymer Acrylic Painting	3
7100:246 Water Color Painting	3
7100:247 Oil Painting	3
7100:348 Painting II - To be repeated in different media.	6
7100:449 Advanced Painting	6
Additional Required Courses:	
7100:101 Survey of History of Art II	4
7100:121 Three-Dimensional Design	3
7100:231 Drawing II	3
7100:233 Life Drawing	2

**CERAMICS:**

	Credits
Prerequisites Before First Major Course:	
7100:100 Survey of History of Art I	4
7100:121 Three-Dimensional Design	3
7100:131 Drawing I	3
Major Courses:	
7100:254 Ceramics I	3
7100:354 Ceramics II	3
7100:454 Advanced Ceramics	15
Additional Required Courses:	
7100:101 Survey of History of Art II	4
7100:144 Two-Dimensional Design	3
7100:231 Drawing II	3

**METALSMITHING:**

	Credits
Prerequisites Before First Major Course:	
7100:100 Survey of History of Art I	4
7100:101 Survey of History of Art II	4
7100:121 Three-Dimensional Design	3
7100:131 Drawing I	3

	Credits
7100:144 Two-Dimensional Design	3
Major Courses:	
7100:266 Metalsmithing I	3
7100:268 Enameling on Metal	3
7100:366 Metalsmithing II	3
7100:466 Advanced Metalsmithing	12
Additional Required Courses:	
7100:232 Instrument Drawing	3
7100:283 Drawing Techniques	3
2920:247 Shop Methods & Practices	3

**PHOTOGRAPHY:**

	Credits
Prerequisites Before First Major Course	
7100:100 Survey of History of Art I	4
7100:131 Drawing I	3
7100:144 Two-Dimensional Design	3
Major Courses:	
7100:275 Photography I	3
7100:375 Photography II	3
7100:376 Photographics	3
7100:475 Advanced Photography	12
Additional Required Courses:	
7100:101 Survey of History of Art II	4
7100:121 Three-Dimensional Design	3
7100:213 Lithography, OR	
7100:214 Serigraphy	3
7100:231 Drawing II	3
7100:233 Life Drawing	2
7100:300 Art Since 1945	3
7100:317 Printmaking II	3
3650:137 Light-Color-Camera and Perception	3

**GRAPHIC DESIGN:**

	Credits
Prerequisite before first Major course:	
7100:131 Drawing I	3
7100:232 Instrument Drawing	3
Major Courses:	
7100:283 Drawing Techniques	3
7100:284 Intro. to Graphic Design	3
7100:286 Commercial Design Theory	3
7100:288 Letter Form & Typography	3
7100:387 Advertising Layout Design	3
7100:388 Advertising Production & Design	3
7100:389 Corporate Identity & Graphic Systems	3
7100:480 Advanced Graphic Design	3
7100:484 Illustration	3
7100:485 Advanced Illustration	3
7100:486 Packaging Design	3
7100:488 Publication Design	3
Additional Required Courses:	
7100:100 Survey of History of Art I	4
7100:101 Survey of History of Art II	4
7100:231 Either Drawing II	3
7100:233 OR Life Drawing	2
7100:275 Photography I	3
2240:222 Advertising Photography	3

Note: Students whose major program is Graphic Design may:

1. Substitute 7100:284, Introduction to Graphic Design wherever 7100:144, Two-Dimensional Design is indicated as a prerequisite.

2. Waive 7100:100, Survey of History of Art I as a prerequisite to either 7100:275, Photography I, or 7100:231, Drawing II.

## HONORS PROGRAM

As a participant in the honors program, the student must complete a minimum of twelve credits of honors work, to be divided in such a way that not more than eight credits are received in either course work (7100:499) or research project 7100:405, 409, 490. Thus, the maximum number of credits possible would be sixteen.

The student must complete some written or studio project, and earn an average grade of B or better in all honors work attempted.

## ART EDUCATION

Students wishing to earn a B.F.A. or a B.A. degree and be certified to teach art should contact the Art Department for certification requirements and curriculum outlines. General requirements are as follows:

For a B.F.A. with an emphasis in all areas except Graphic Design:

General College Courses	39 credits
Professional Education Courses	29 credits
Art Courses for Major and Certification	66-68 credits
Total	134-136 credits

For a B.F.A. with an emphasis in Graphic Design:

General College Courses	39 credits
Professional Education Courses	29 credits
Art Courses for Major and Certification	72-79 credits
Total	140-142 credits

For a B.A.:

General College Courses	39 credits
Foreign Language	14 credits
Professional Education Courses	29 credits
Art Courses for Major and Certification	49-50 credits
Total	131-132 credits

Students wishing to earn a B.S. in Education degree with a major in art should contact either the Art Department or the College of Education for certification requirements and curriculum outlines.

## 7400: HOME ECONOMICS AND FAMILY ECOLOGY

The following are requirements for all majors in Home Economics and Family Ecology:

The General Studies

The second year of a foreign language (an optional requirement for the Bachelor

of Arts in Dietetics) 7400: 147, 201, 265, 301, and 362. Additional requirements for specific degrees are as follows:

### **For the Bachelor of Arts in Textiles and Clothing: Business Option**

Art: 7100:191

Business Management Technology: 2420:170 or Sales and Merchandising: 2520:211

Accounting: 6200:201 or Business Management Tech: 2420:211

Marketing: 6600:300 or Business Management Tech: 2420:101

Marketing: 6600:340 or Sales and Merchandising: 2520:202

Marketing: 6600:350 or Sales and Merchandising: 2520:103

Home Economics and Family Ecology: 740:121, 123, 133, 147, 158, 159, 201, 265, 301, 305, 311, 317, 395 or 422, 362, 419, 439, 449.

### **Communication Option**

Art: 7100:191

Mass Media-Communication: 190, 181, 282, 283, 288

Home Economics and Family Ecology: (Same as Business Option)

### **For the Bachelor of Arts in Family and Child Development**

Psychology: 3750:100, 130

Elementary Education: 5200:360

Social Work: 7750:276

Home Economics and Family Ecology: 7400:132, 141, 147, 159, 201, 204, 218, 255, 265, 301, 395, 362, 401, 422, 485

Workshops or Seminars: Drug Education, Family Life and Sex Education

Emphasis with appropriate courses in education meets requirements toward Family Life Education Certification.

### **For emphasis in Child Development and Child Care Programming add:**

Home Economics and Family Ecology: 7400:275, 295, 460/560

This option meets requirements for Child Care administration and teaching.

### **For the Bachelor of Arts in Dietetics:**

Both the Coordinated Undergraduate Program (CUP) in General Dietetics and the Traditional Program in General Dietetics lead to a bachelor of arts degree.

The Traditional Program requires an approved internship following graduation (or an advanced degree) to become eligible for membership in the American-Dietetic Association (ADA) and for the registration examination. The Coordinated Program (CUP) integrates clinical experiences within

the junior and senior years, allowing ADA membership and registration after graduation from the 4 year program.

The following options meet accreditation requirements:

**CUP Option**

- Biology: 3100:130, 265
- Chemistry: 3150:129, 130, 202
- Economics: 3250:100
- Psychology: 3750:100
- Sociology: 3850:191
- Home Economics and Family Ecology: 7400:147, 201, 245, 265, 301, 314, 316, 328, 340, 362, 381, 414, 416, 420, 428, 480

**Traditional Dietetics Option:**

- Food Service Management: 2280:135, 236, 243
- Biology: 3100:130, 265, 381
- Chemistry 3150:129, 130, 202
- Economics: 3250:100
- Psychology: 3750:100
- Sociology: 3850:191
- Accounting: 6200:201
- Management: 6500:341
- Marketing: 6600:300
- Home Economics and Family Ecology: 7400:147, 201, 245, 265, 301, 316, 340, 362, 381, 412, 416, 420, 422, 426, 430

**For the Bachelor of Arts in Foods and Nutrition:**

- Food Service Managment: 2280:236, 243
- Data Processing: 2440:120
- Psychology: 3750:100
- Management: 6500:341
- Marketing: 6600:300, 340
- Mass Media-Communication: 7600:203, 281, 282, 283, 288
- Home Economics and Family Ecology: 7400:147, 201, 204, 245, 265, 301, 316, 340, 362, 415, 416, 420, 422, 450

**Home Economics Education:**

Requirements for majors in Home Economics Education leading to a B.S. Degree in Education may be obtained through the College of Education. The following options are available.

- Home Economics Non-Vocational Education
- Home Economics-Vocational Consumer-Homemaking
- Home Economics-Vocational Job Training
  1. Child Care Services
  2. Community and Home Services
  3. Fabric Services
  4. Food Service

Certification requirements and curriculum outlines for all options are available in the College of Education and in the Department of Home Economics and Family Ecology.

**7500: MUSIC**

A written and aural/oral examination in the fundamentals of music and an audition in a performance area is administered prior to entrance to the University to those students who intend to follow a musical degree program. Students must contact the office of the Department of Music to arrange for the examination.

**CORE CURRICULUM IN MUSIC**

	<i>Credits</i>
7500:151 Theory I	3
7500:152 Theory II	3
7500:154 Music Literature I	2
7500:155 Music Literature II	2
7500:161 Sight Singing I	2
7500:162 Sight Singing II	2
7500:251 Theory IV	3
7500:252 Theory V	3
7500:261 Keyboard Harmony I	2
7500:262 Keyboard Harmony II	2
7500:351 History of Music I	3
7500:352 History of Music II	3
	30

**Requirements for the Bachelor of Arts Degree:**

	<i>Credits</i>
1. The General Studies and second year of a foreign language	39
2. The core curriculum in music	30
3. 7510: Music Organization (4 semesters)	4*
4. 7520: Applied Music	8*
5. 7500:157 Student Recital (4 semesters)	0*
6. Electives	47
	128

\*NO MORE THAN FOUR (4) credits in applied music may be included in the minimum of 128 credits required for the degree. It is recommended that students attend Student Recital, participate in music organizations and continue their study of applied music beyond the minimum requirements.

The Bachelor of Arts music major is intended as a cultural course or as preparation for graduate study but not as professional preparation for a performance or teaching career.

**Requirements for the Bachelor of Music Degree:**

**Performance Major**

	<i>Credits</i>
1. The General Studies	39
2. 7520: Applies Music-Primary Instrument	32+
7520: Applied Music-Secondary Instrument	4
3. 7510: Music Organization (8 semesters)	8
4. 7500:157 Student Recital (8 semesters)	0
5. At least 50 credits in 7500: courses including the core curriculum in music and	30
7500:361 Conducting	2
7500:371 Analytical Tech. I	2

	Credits
7500:451 Intro. To Musicology	2
7500:452 Composition	2
7500:453 Bibliography and Research	2
7500:454 Orchestration	2
7500:455 Advanced Conducting	2
6. Electives	6
7. Senior Recital	0++
	133

8. Minimum vocal and keyboard proficiencies must be attained before graduation.

+ Passage to the 500 level in the primary applied level is required prior to graduation.  
 ++ A Junior recital is recommended but not required.

### Theory-Composition Major

	Credits
1. General Studies	39
2. 7520: Applied Music-Primary Instrument	16+
7520: Applied Music-Composition	8
3. 7510: Music Organization (8 semesters)	8
4. 7500:157 Student Recital (8 semesters)	0
5. The core curriculum in music and	30
7500:361 Conducting	2
7500:362 Choral Arranging	2
7500:371 Analytical Tech. I	2
7500:372 Analytical Tech. II	2
7500:451 Intro to Musicology	2
7500:452 Composition	2
7500:453 Bibliography and Research	2
7500:454 Orchestration	2
7500:455 Advanced Conducting	2
7500:471 Counterpoint	2
7500:472 Advanced Orchestration	2
6. Senior recital of original composition	0
7. Keyboard Proficiency of the passage to the 300 level.	
8. Minimum vocal proficiency must be attained.	
9. Electives	7
	130

+ Passage to the 300 level in the primary applied area is required before graduation.

### Requirements for the Bachelor of Music Degree — Music Education or the Bachelor of Science in Education — Music Major

	Credits
1. The General Studies	39
2. 7520: Applied Music-Primary Instrument	16+
3. 7510: Music Organization (8 semesters)	8
4. 7500:157 Student Recital (8 semesters)	0
5. The core curriculum in music and	
7500:254 String Instruments Tech. I	2
7500:354 Woodwind Instrument Tech.	2
7500:355 Brass-Percussion Instr. Tech.	2
7500:361 Conducting	2
7400:454 Orchestration	2
5200:323 Music Teach. in the Elem. School	2
5300:325 General Music in the Secondary School	2
Vocal and Keyboard majors must take:	
7500:360 Choral Techniques	2
5200:324 Field Experience in Elementary School	2
Approved music electives	2

Instrumental major (not string or piano) must take:

7500:455 Advanced Conducting	2
5300:326 Field Experience in Inst. Music	2
Approved music electives	2
String majors must take:	
7500:255 String Inst. Tech. II	2
7500:455 Advanced Conducting	2
5300:326 Field Experience in Inst. Music	2

6. Professional education and Psychology including Student Teaching	25
	138

7. 1/2 recital during 12 months prior to graduation but not during the semester of Student Teaching.

8. Minimum vocal, keyboard and conducting proficiencies must be attained before assignment to Student Teaching.

+ Passage to the 300 level in the primary applied area is required before graduation.

Departmental electives for music education majors include: 7500:255, 305, 306, 362, 460, 461, 462, 463, 464, and such other courses agreed upon in consultation with the Coordinator of Music Education (Department of Music).

For details of the above Music degree requirements and minimum standards of achievement please see the Music Department Handbook available from the Music Department, Guzzetta Hall.

### 7600: MASS MEDIA/COMMUNICATION

*Requirements for the Bachelor of Arts degree:*

1. The General Studies
2. The second year of a foreign language
3. The Departmental "Core" Curriculum (12 credits)
4. The requirements of one area of concentration, either General Speech; Mass Media/Communication; or Communication and Rhetoric.

*Requirements for the Bachelor of Arts in General Speech; the Bachelor of Arts in Mass Media/Communication; the Bachelor of Arts in Communication and Rhetoric:*

1. The General Studies
2. The Departmental "Core" Curriculum (12 credits)
3. The requirements of one area of concentration, either General Speech; Mass Media/Communication; or Communication and Rhetoric.
4. A related sequence of 14 additional credits, either from among Departmental offerings or offerings of other departments, approved by the student's advisor.

**The "Core" Curriculum**

The following "Core" curriculum is required of all majors in the Department of Mass Media/Communication:

	<i>Credits</i>
7600:202 Introduction to Journalism	3
7600:245 Argumentation OR	
7600:344 Public Discussion	3
7600:252 Ethical Persuasion OR	
7600:393 Interpersonal Communication	3
7600:351 Survey of Speech Comm.	3
	12

**Areas of Concentration:  
GENERAL SPEECH**

This program is designed for the student who wishes to become a speech communication "generalist," or who wants to pursue a secondary school teaching career, or who is initially uncertain about a more specialized concentration.

In addition to the "Core" curriculum (12 credits), the student must complete a minimum of twenty-six (26) credits in a speech distribution requirement. At least six (6) of those credits must be earned in each of the following three areas: (1) the Departmental concentration in Communication and Rhetoric, (2) the Departmental concentration in Mass Media/Communication, (3) the Department of Theatre Arts and Dance.

**MASS MEDIA/COMMUNICATION**

This program introduces students both to the theory and to the production techniques and capabilities they will need to pursue careers in radio or television broadcasting, film, or print or electronic journalism. The skills learned may be applied to a number of related fields, including especially an emphasis within the Department on organizational communication.

In addition to the "Core" curriculum (12 credits), the students must complete a minimum of twenty-four (24) credits within the Department. All mass Media/Communication majors should take 7600:281, 282, 283, 288, and 301. Other recommended courses include 7600: 384, 392, 481, 483, and 484. Electives should include at least 12 hours in a related field.

**COMMUNICATION AND RHETORIC**

This program provides training in all aspects of the theory and practice of oral communication. Course work is available in communication theory, group dynamics, interpersonal communication, persuasion and propaganda analysis, classical through

contemporary rhetoric, argumentation, the history of public discourse, and public address. Many majors are preparing for careers in teaching, public administration, public relations, politics, law, business, or industrial/organizational communication.

In addition to the "Core" curriculum (12 credits), the student must complete twenty-six (26) credits from among Departmental offerings. The courses must include: 7600:190, 245 or 344, 252 or 393, and 392. Other courses recommended for the major include: 7600:310, 384, 385-6, 410, 445, 454, 470, and 484. Electives should be selected in consultation with the advisors.

**7700: SPEECH PATHOLOGY AND AUDIOLOGY**

*Requirements for the Bachelor of Arts degree:*

1. Completion on the General Studies requirements\*
2. Completion of the second year of a foreign language
3. Completion of the following: 7700-:110, 111, 130, 140, 210, 211, 230, 240, 241, 250, 271, 321, 322, 330, 340, 350, 351, 352, 450, 451

*Requirements for the Bachelor of Arts in Speech Pathology and Audiology degree: (Tagged)*

1. Completion of the General Studies requirements\*
2. Completion of a core of courses in psychology and related disciplines (see your advisor for specific courses)
3. Completion of the following: 7700-:110, 111, 130, 140, 210, 211, 230, 240, 241, 250, 271, 321, 322, 330, 340, 350, 351, 352, 450, 451

Students planning to obtain a Certificate from the State Department of Education with a degree from the College of Fine and Applied Arts should consult with his advisor about those requirements.

\*Courses in the Biology Department are required to fulfill the Natural Science requirement. (see your advisor for specific courses)

**7750: SOCIAL WORK**

*Requirements for Bachelor of Arts Degree with a Major in Social Work (45-46 credits)*

1. Completion of all the General College and College of Fine and Applied Arts requirements. In meeting the General Studies requirements the student must complete 3850:100 Introduction to Sociology as part of the Social Science requirement,

and 1100:221 Natural Science: Biology or some other human biology course as part of the Natural Science requirement.

2. Completion of the following courses:

**Social Work**

	<i>Credits</i>
7750:276 Introduction to Social Welfare	4
7750:270 Poverty in the United States	3
7750:401 Social Work Practice I	3
7750:402 Social Work Practice II	3
7750:403 Community Organization	3
7750:495 Field Experience: Social Agency (2 semesters)	total 6
7750:421 Field Experience Seminar (2 semesters)	total 2
7750: Elective in Social Work	3
7750: Elective in Social Work	3

**Courses in Other Departments**

Research/statistics requirement may be met by completing one of the following or sets:

3850:301 Methods of Social Research I	3
3750:110 Quantitative Methods in Psychology	3
3470: (Three of the modular courses)	3

Racial and Intergroup Relations requirement may be met by completing one of the following:

3859:421 Racial and Cultural Intergroup Relations	3
3400:413 Black Social and Intellectual History	3
3700:342 Minority Group Politics	3
2020:245 The Black American	2

And the following:

3850:404 Contemporary Sociological Theories	3
3750:130 Developmental Psychology	4
3750:420 Abnormal Psychology	3

**7800: THEATRE ARTS AND DANCE**

**Requirements for the Bachelor of Arts Degree:**

1. The General Studies
2. The second year of a foreign language
3. The Departmental "Core" Curriculum (10 credits)
4. The requirements of one area of concentration, either Theatre Arts or Ballet

**Requirements for the Bachelor of Arts in Theatre Arts or the Bachelor of Arts in Ballet**

1. The General Studies
2. The Departmental "Core" Curriculum (10 credits)
3. The requirements of one area of concentration, either Theatre Arts or Ballet
4. A related sequence of 14 additional credits, either from among Departmental offerings or offerings of other departments, approved by the student's adviser.

**The "Core" Curriculum**

The following "Core" curriculum is required of all majors in the Department of Theatre Arts and Dance.

Introduction to Theatre (7800:261)	3 credits
Introduction to Ballet (7800:124)	2 credits
Oral Interpretation I (7800:175)	3 credits
Acting I (7800:371)	2 credits
	10 credits

**Areas of Concentration:**

**BALLET**

The Ballet Major is designed for the student who wishes to continue professional training in dance with the added security of the Bachelor of Arts degree. Upon completion of the degree, it is expected that the student will be able to work as a performer or teacher on a professional level.

Admission to the program is by audition only. Every student must pass a sophomore jury in Ballet technique at the end of two years study in order to be admitted to upper division standing in the Ballet Area. All students are required to study Ballet technique every quarter they are enrolled and to successfully complete two semesters of Ballet Technique IV for graduation.

Upon entering the program, the student is placed at that level of Ballet Technique the faculty feels will ensure progress. In some cases a student may be required to audit the level below the one in which he is placed in order to do remedial work on those aspects of basic technique that need attention.

The ballet area also offers courses for students with little or no previous dance experience who intend to major in other fields. Introduction to Ballet, 7800:124, and Fundamental Ballet Technique, 7800:224, give the student enough training to enter the Ballet program on a diminished level.

The following is a suggested four-year schedule. It is understood that depending on progress and previous training the time needed to complete the degree may be longer or shorter. Please see the area director of Ballet for further explanation.

**Four-Year Course Outline in Ballet**

Majors should attempt to earn a minimum of 63 hours in the first two years. The following courses should be completed by the end of the sophomore year.

<i>Major Area Requirements</i>	<i>Credits</i>
7800:122, 222 Ballet Technique I and II	20
7800:126 Choreography Improvisation	2

	Credits
7800:127 Choreography: Established Forms	2
7800:226, 227 Choreography: Sound and Movement I and II	4
7800:116, 117 Ballet Analysis I and II	4
7800:229 Contemporary Dance Techniques	4
Subtotal	36

General Studies Requirements	
1100:105 Introduction to Public Speaking	3
or	
1100:106 Effective Oral Communication	
1100:111-112 English Composition and Type of Literature	8
1100:115-116 Institutions	6
1100:120-185 Physical Education	1
1100:211 Numbers Communication	3
1100:221-224 Natural Science	6
Subtotal	27
Total	63

Sophomore jury taken by all majors at the end of two years study.

In addition to the lower division courses, these must be completed for graduation:

Major Area Requirements	
7800:322-422 Ballet Technique III and IV	20
7800:320 Dance Notation	2
7800:423 History of the Dance	2
7800:424 20th Century Dance	2
7800:425 Development of Ballet	2
7800:426-427 Techniques of Teaching Ballet I and II	4
Subtotal	32

General Studies and Other Requirements	
1100:320-321 Western Cultural Traditions	8

	Credits
7500:301-302 Music Appreciation	4
1100:330-335 Eastern Civilizations	4
Electives	7
Departmental "Core" Curriculum	10
Subtotal	33
Total	65
Grand Total Minimum Requirement for Graduation	128

### THEATRE ARTS

The Theatre Arts concentration is designed to prepare the student for competency in all areas of theatre — acting and directing, theatre history and criticism, and technical theatre — in order that he/she can acquire the skills to teach theatre courses, to undertake graduate work in theatre or to undertake professional post-baccalaureate work in the hope of entering the professional theatre.

In addition to the "Core" of 10 credits, the student must complete 47 credits\* from Departmental offerings. The courses must include 367 and 368. Electives\*\* should be selected in consultation with the student's academic advisor.

Through consultation with his/her advisor, the student may wish to follow a program in Acting/Directing, Technical Theatre, or History/Criticism.

\*If the student elects the B.A. in Theatre Arts, 14 additional hours must be taken in lieu of a foreign language.

\*\*A total of 18 credits.

# The College of Nursing

Lillian J. DeYoung, Ph.D., Dean

## PHILOSOPHY

The College of Nursing, an integral part of The University of Akron, accepts the responsibility for promoting the general mission of the University, which is the dissemination and pursuit of knowledge, the nurturing of intellectual curiosity, the search for truth and a conscious effort to serve the (nursing) student in the urban community.

The College of Nursing faculty believe that the primary focus of professional nursing is man: a complex holistic being having physiological, psychosocial, spiritual and cultural dimensions, and that man is a unique, thinking, interacting, adapting, valuing being who is constantly in the process of becoming and whose goal is self-actualization. Man is an ecological being who effects and is effected by the total environment. The individual is a part of a diverse and dynamic society which possesses structure. As such, man functions as a facilitator of thoughts, values, beliefs, attitudes and actions which effect the health care system.

Health is viewed as a purposeful adaptive response to internal and external stimuli in order to maintain stability. Diminished health is viewed as a disturbed adaptive response which results in disre-equilibrium and inability to utilize effectively the usual health promoting resources. Health and the various degrees of health are viewed as a continuum. Quality health care is the right of individuals, families, groups and communities. Consumers of health care are participants in the decisions which affect their status on the health/diminished health continuum.

The goal of the professional nurse is to assist individuals, families, groups and communities to attain, maintain and/or regain an optimal level of health and to be supportive when optimal levels of health can no longer be achieved. Professional nursing practice is germane to any setting where health maintenance or support is a goal.

The professional practitioner utilizes the nursing process defined as a series of progressive interdependent steps which unite nursing action with critical thinking, integration of knowledge and decision-making. This process is a dynamic methodology which is scientifically based and goal-directed with feedback mechanisms in the

form of continuous evaluation and modification. The professional nurse utilizes research findings in each step of the nursing process; assessment, nursing diagnosis, planning, intervention and evaluation. The ever expanding role of the professional practitioner implies the exercise of social responsibility and increasing visibility in decision-making processes which affect the delivery of health care. The professional nurse is directly accountable to clients and colleagues in the health professions and must accept responsibility for maintaining quality nursing care.

The Faculty defines education as a lifelong process which implies that the concept of learning is an essential part of the educational process. The student and faculty work in concert to achieve learning goals. The student is self-directed in meeting learning goals. Both faculty and students have a responsibility to collaborate in the planning, implementation and evaluation of the educational program.

It is the Faculty's responsibility to facilitate an environment conducive to learning. Students have varied experiences and needs, therefore, the educational program must make provisions for the learner's individuality which includes variable progression and opportunities to practice new behaviors. The Faculty recognizes that positive reinforcement motivates learning and, therefore endeavors to design experiences with expectations for success.

## CHARACTERISTICS OF THE GRADUATE

The graduate of the program will be able to function in any setting and will be able to do the following:

1. Assess health status and health potential of clients involving them in the nursing process designed to achieve an optimal level of health.
2. Utilize nursing actions to maintain stability, restore equilibrium, provide health promoting resources, and be supportive when optimal levels of health cannot be achieved.
3. Utilize decision-making processes in defining client needs and appropriate interventions for achieving an optimal level of health.

4. Initiate and/or adapt to changes affecting the health care system.

5. Accept responsibility for own nursing interventions and be accountable to clients and colleagues in the health professions for nursing practice.

6. Develop self through the internalization of the belief that learning is a live-long process.

7. Utilize relevant nursing theories and concepts from the physical, biologic, social, and behavioral sciences in the application of the nursing process.

8. Demonstrate awareness of the political, social and cultural processes.

9. Utilize research findings in practice of nursing and promote extension of nursing research.

10. Develop competence in the leadership role for the advancement of professional nursing and health care.

11. Share in the responsibility for optimal health care of clients by collaborating, consulting and coordinating with other members of the health team.

12. Clarify own values in relation to nursing practice.

#### REQUIREMENTS FOR ADMISSION AND CONTINUATION IN THE PROGRAM

1. Applicants are expected to meet the general University admissions requirements.

2. ADMISSION TO THE PROGRAM IN NURSING DOES NOT GUARANTEE THE STUDENTS PLACEMENT IN THE NURSING COURSES AT THE TIME THEY MAY WISH TO PURSUE THEM. The College reserves the right to approve admission to those individuals whose abilities, attitudes, and character promise satisfactory achievement of the College objectives.

3. Transfer students may receive credit for quality work earned in approved colleges. Enrollment of transfer students is contingent upon University facilities.

4. Registered nurses who received their preparation in hospital or associate degree programs are evaluated individually. RN students are expected to meet the same course requirements as the generic student and those of The University of Akron. It is expected that the registered nurse will want to challenge by examination and receive credit for selected nursing courses.

5. In order to be tentatively enrolled for the Summer session in Nursing Theories and Concepts, 8200:200 (for the Summer session between the sophomore and junior year), a student in the track of nursing must have completed a minimum of 61 semester hours of credit during the freshman and sophomore year with an accumulative grade point average of 2.5 for the freshman and sophomore year.

At the time of programming for the junior year, the advisors in the Counseling and Advising Division will prepare a request for inter-college transfer for qualified students who are tentatively enrolled in Nursing Theories and Concepts, 8200:200. When Fall semester grades are available for these students, their transcripts containing their academic performance for the three semesters during their freshman and sophomore year will be forwarded along with the intercollege transfer to the College of Nursing. Action on these intercollege transfers will take place by the College of Nursing during the Spring semester and final acceptance in the Nursing Theories and Concepts course for the summer session will be contingent upon acceptance by the College of Nursing of the intercollege transfer request.

6. Students must achieve a grade point average of 2.5 or higher on a 4.0 scale in the nursing major (8200: course numbers).

7. Acceptance of the student in the College of Nursing is the responsibility of the Dean in consultation with the Dean of the General College and the Admission Committee of the College of Nursing.

8. Students are responsible for their transportation to and from the institutions and agencies used for education experiences. A valid driver's license and the use of an automobile are essential during the Senior nursing courses.

9. The College of Nursing reserves the right to revise the curriculum to meet the changes in a changing health oriented society.

#### REQUIREMENTS FOR GRADUATION

*A candidate for a baccalaureate degree in nursing is required to:*

1. File an application with the Registrar in the final academic year. (Refer to the current Schedule of Classes Bulletin for date.)

2. Complete a minimum of 131 credits toward the degree and earn a minimum of 2.5 grade point average in the nursing major, and a 2.0 grade point average for all collegiate work attempted at The University of Akron.

3. Obtain approval of appropriate college faculty, University Council, and the Board of Trustees.

4. Complete the last 33 credits in the baccalaureate program at The University of Akron.

5. Discharge all other obligations (financial, academic, etc.) to the University.

6. Complete all requirements which were in effect at the time of transfer to the College of Nursing.

7. Participate in Commencement exercises (unless excused by the University).

### PROGRAM OF STUDIES

Freshman Year		Credits
<i>Fall Semester</i>		
1100:111	English Composition	4
1100:115	Institutions	3
3150:129	General Chemistry I	4
3450:111-112-113	Math Modules	3
8200:100	Intro to Nursing	1
		<u>15</u>
<i>Spring Semester</i>		
1100:112	English Composition	4
1100:116	Institutions	3
3150:130	General Chemistry II	4
3470:251	Descriptive Stats.	1
3850:100	Intro to Sociology	4
1100:120-190	Phys. Educ.	1
		<u>17</u>
Total Credits		32

Sophomore Year		Credits
<i>Fall Semester</i>		
3100:361	Human Anat & Phys	3
3100:130	Prin of Microbiology	3
3750:100	Intro to Psychology	3
1100:106	Effective Oral Communication	3
3600:101	Intro to Philosophy	3
	OR	
3600:120	Intro to Ethics	3
	OR	
3600:170	Intro to Logic	3
		<u>15</u>
<i>Spring Semester</i>		
3100:362	Human Anat & Phys	3
3750:130	Devel. Psychology	4
3100:381	Human Genetics	2
3100:105	Ecology & Biological Resources	2
3850:340	The Family	3
	OR	
7400:201	Relational Patterns in Marriage and Family	3
		<u>14</u>
Total Credits		29

#### Summer Session between Sophomore and Junior Year

8200:200	Nursing Theories and Concepts	5
Total Credits		5

Junior Year		Credits
<i>Fall Semester</i>		
1100:320	Western Cult. Trad.	4
8200:300	Nursing Process Applied to Man's Adaptation in Health	12
		<u>16</u>

<i>Spring Semester</i>		
1100:321	Western Cult. Trad.	4
8200:320	Nursing Process Applied to Man's Maladaptation	12
		<u>16</u>

Total Credits 32

Senior Year		Credits
<i>Fall Semester</i>		
1100:330-335	Eastern Civilizations	2
8200:400	Nursing Process in Complex Situations	10
	Elective	5
		<u>17</u>

<i>Spring Semester</i>		
1100:330-335	Eastern Civilizations	2
8200:420	Advanced Nursing Practice	10
	Elective	4
		<u>16</u>

Total Credits 33

Total Hours	131	Semester Credit Hours	
		Nursing Hours	50
		General Studies	34
		Physical & Biological Studies	21
		Social Science	17
		Electives	9
		Total	131

### AGENCIES

The agencies cooperating in providing the laboratory experiences in the courses in nursing are:

Akron City Hospital  
 Akron General Medical Center  
 Barberton Citizens Hospital  
 Fallsview Mental Health Center  
 Green Cross General Hospital  
 Portage Path Community Mental Health Center  
 The Children's Hospital of Akron  
 The City of Akron, Department of Public Health  
 Visiting Nurse Service of Akron

# University Honors Program

Arno K. Lepke, Ph. D., Master

The University of Akron's Honors Program had been designed to recognize and to support highly motivated and achievement oriented students in any major program. Emphasizing close student faculty relationships, honors work offers unique learning experiences which should help each participant to discover his/her own potential, capabilities and sense of direction.

The major features and provisions of the honors program include:

**Scholarships:** Honors students who maintain a minimum 3.25 cumulative grade point average are eligible for substantial honors scholarships which are annually renewable.

**Exemptions from Requirements:** Honors students are not subject to the General Studies requirements except for Physical Education. Instead, each student completes an individualized distribution requirement which includes a balanced amount of diversified course work in the humanities, the social sciences, and the natural sciences. The major objective of this requirement is to expose the student to a broad spectrum of knowledge which is both reasonable and appropriate to his/her major field. The student and his/her preceptor plan the components of this requirement which is subject to the approval of the Honors Council.

**Acceleration:** To meet degree requirements, honors students may use credits awarded for satisfactory achievement on Advanced Placement high school tests, the College Level Examination Program (CLEP), and/or other approved placement procedures — including bypassed credits — to a maximum of 20 credits. Credits may also be earned through "credit by examination" when approved by the department in which the examination is to be administered.

**Major Requirements:** Honors students complete all requirements for a departmental or divisional major. If honors work exists in the major department, at least one of the contributing honors courses must be completed.

**Advising:** Faculty preceptors serve as special advisers for honors students in each department. They assist in the development of the student's major program, the selection of courses which are appropriate for the distribution requirement, and in all other aspects of academic and professional planning.

**Open Classroom:** Honors students may attend undergraduate classes or lectures for which they are not formally enrolled. They have free access to all courses and programs.

**Access to Graduate Courses:** With the permission of the student's preceptor and the instructor, honors students may be enrolled in graduate courses for either undergraduate or graduate credit. This provision applies especially to graduate courses which may be of immediate benefit to the completion of the Senior Honors Project and/or the specific requirements for a given research paper.

**Credit/Non-credit Option:** Upon completion of one-half of all degree requirements, honors students may enroll in one course per semester on a credit/non-credit basis. All elective credits thus earned are not considered in calculating grade point average, but they count as hours completed toward graduation requirements.

**Colloquia:** Beginning at the sophomore level, all honors students attend one colloquium per year, one in the humanities, another in the social sciences and the third in the natural sciences. These one-semester, two-credit lecture and discussion sessions are interdisciplinary in scope. They provide an opportunity for all honors students to meet together and to explore the breadth and the interrelations of academic studies. The intent of these colloquia is to provide significant insights, especially in areas which lie outside the student's major field and may have been excluded from his/her previous sphere of intellectual curiosity.

**Senior Honors Project:** Every honors student is expected to complete a Senior Honors Thesis or an original or creative work which reflects his/her area of interests in the major field. This senior project may well become the basis for the future Master's thesis in graduate school. In the accomplishment of this requirement, study abroad or field experience may be recognized as part of the project.

**Recognition of Honors Students:** The citation "University Scholar" will appear on the diplomas and the transcripts of all students completing the University Honors Program. At Commencement exercises, they will be properly recognized as University Scholars.

**University Honors Council:** Seven (7) faculty members representing the degree-granting colleges and two (2) honors students serve on the University Honors Council which regularly reviews existing policies and introduces such additional and/or innovative options as may be desirable in response to manifest needs.

**Advanced Degrees:** Satisfactory completion of an accredited University Honors Program significantly enhances the student's candidacy for admission to a representative graduate school. Participation in all requirements of the University Honors Program guarantees an excellent preparation for graduate level work which will lead to advanced degrees.

# Interdisciplinary and Certificate Programs of Study

(Non-Degree)

In order to add to the dimensions of the traditional disciplines, the University has established nine interdisciplinary and interdepartmental programs of study. In addition to his major the student may elect to pursue one of these programs which will add a dimension of depth through concentrated work focusing on Afro-American Studies, Cartographic Specialization, Environmental Studies, Peace Studies, Planning, Latin American Studies, Soviet Area Studies, Computer Science or Real Estate.

Although these programs do not lead to the award of a degree, successful completion is recognized by awarding a certificate at graduation and/or the inclusion of a statement of completion on the student's Academic Record.

Further information may be obtained from the following:

Dr. Lascelles F. Anderson, Director of Afro-American Studies.

Dr. William Beyer, Head, Department of Mathematics and Statistics (regarding Computer Science)

Dr. James Jackson, Assistant Professor of Geology, Director of Environmental Studies.

Dr. Warren Kuehl, Director of the Center for Peace Studies.

Dr. Theodore Mackiw, Program Coordinator of Soviet Area Studies.

Dr. Donald Metzger, Program Coordinator of Latin American Studies.

Mr. James Nolte, Coordinator of Real Estate Program.

Dr. Allen Noble, Head of the Department of Geography (regarding both Cartographic Specialization and Planning Programs).

## CERTIFICATE PROGRAM IN AFRO-AMERICAN STUDIES

### CERTIFICATE REQUIREMENTS

To satisfy the requirements for the Certificate in Afro-American Studies a regularly enrolled student at The University of Akron must complete at least 11 semester credits and at least four courses successfully (2.0 grade point average or better) from the list of courses published as acceptable and from other courses identified by the Director of Afro-American Studies as appropriate to the subject, among which four courses must be 3400:220 *History of the Black People of the United States* and 1810:401 *General Seminar in Afro-Ameri-*

*can Studies* in which a research paper in Afro-American Studies will be written. The Certificate in Afro-American Studies will be awarded at the time a student earns a baccalaureate degree.

### RESEARCH PAPER

The research paper will be written under the direction of a faculty member most suitable to the area of concern of the student's research interest, and shall be one semester in duration, and shall be approved by that faculty member. The Director of Afro-American Studies in consultation with the faculty member will approve the topic for the research paper.

### CONSULTATION WITH THE DIRECTOR

Students undertaking the Afro-American Studies Certificate Program must have prior consultation with the Director of Afro-American Studies.

### ACCEPTABLE COURSES

The following is a list of courses acceptable for the Certificate in Afro-American Studies:

	Credits
1100:335 Eastern Civilizations—Africa	2
2020:254 The Black American	2
3250:486 Ghetto Economic Development	3
3300:350 History of Black American Literature	3
3350:363 Africa South of the Sahara	3
3400:220 Black People of the United States	3
3400:413 History of Black Social & Intellectual Thought	3
3700:327 African Politics	3
3850:421/521 Racial and Cultural Intergroup Relations	3
7750:270 Poverty in the Inner City	3
7750:276 Introduction to Social Welfare	4
1810:401 General Seminar in Afro-American Studies	3

### STUDENT'S MAJOR

The student will major in one of the traditional disciplines, but the area concentration is meant to add a further dimension of depth through concentrated work focusing on the Afro-American experience.

### CERTIFICATE PROGRAM IN CARTOGRAPHIC SPECIALIZATION

This specialized program of professional and scientific education is intended to enhance cartographic training in data handling, analysis, and graphic communication of simple and complex geographic data and information. The program is not limited to geography majors, and is designed to introduce automated and tradi-

tional cartographic skills to students in a wide spectrum of disciplines.

The University of Akron through its Laboratory for Cartographic and Spatial Analysis housed in the Department of Geography offers training opportunities for specialized study in the rapidly changing and significant area of cartography as a method of graphic communication. The program is designed to include flexibility to meet the varied backgrounds and interests of the individual student.

In addition to cartographic courses in the Department of Geography many courses useful to such a specialized program are found in other departments. The curriculum leading to a certificate in Cartographic Specialization is designed to permit the student to combine interesting and useful elements of art, science and technology. Cartography has a very long and rich history and while it is eminently practical, it has a strong component of theory. For this reason a student may elect to take cartographic courses simply because they are focused on an interesting and exciting liberal arts subject. Other students choose cartography courses with the thought of increasing their potential of finding a position subsequent to their graduation. There is a well documented need for persons trained in cartographic awareness and skills in business, industry and government, as well as the academic community.

#### PROGRAM REQUIREMENTS:

Requirements for candidacy and course requirements in the certificate program are proposed by the faculty of the Department of Geography in accordance with the educational policies of The University of Akron. The requirements are:

- I. Completion of *Core Courses*.
- II. Completion of *Elective Courses*.
- III. *Internship* in an agency, firm or office engaged in related graphic and cartographic work; or an Internship in the University's Laboratory for Cartographic and Spatial Analysis.
- IV. Successful completion of an *Oral Defense* of Student's Cartographic Work—judged by Department Committee.

#### CORE COURSE REQUIREMENTS FOR THE CERTIFICATE

All participants are required to complete successfully at least five of the following basic courses:

	Credits
3350:240 Maps & Map Reading	3
3350:340 Cartography	3
3350:444 Map Compilation & Rep	3
3350:447 Intro: Remote Sensing	3
3350:449 Adv. Remote Sensing	3
3350:442 Thematic Cartography	3
3350:448 Aut. Computer Mapping	3

#### ELECTIVE COURSES

In addition to the five core courses, each student's program, with regards to the student's background and career interests and subject to the approval of the Program's Director, is to include at least 7 credit hours taken from the following professional, technical and research offerings. In consultation with the Program's Director, elective courses will be selected from the current University offerings from the list below. Similar courses completed at other universities, up to five years prior to admission to candidacy, may be approved by the Director.

The intent of the elective requirements is to facilitate the development of a diverse cartographic skill and prospective which is significant and useful for a person who will be or is already engaged in work with duties such as data systems management, urban planning and environmental impact studies. To be truly effective and comprehensive in his or her chosen career, the program candidate must have academic acquaintance with a variety of professional and technical approaches which can be used for graphic communication in order to cope with social, economic, political, geographical, physical design, and governmental problems. Selection of courses which duplicate or continue topical interests already well established in a particular student's background will be discouraged.

	Credits
<i>Civil Engineering</i>	
4300:230 Surveying	4
<i>Mechanical Engineering</i>	
4600:125 Engineering Graphics	2
<i>Art</i>	
7100:131 Drawing I	3
7100:191 Design	2
7100:284 Introl. Graphic Design	4
<i>Computer Science</i>	
4450:206 Fortran (Sci/Eng)	2
<i>Education</i>	
5100:410 Audio-Visual Education	2
<i>Business Administration</i>	
6200:355 Elec. Data Processing	3

<b>Commercial Art (C &amp; T)</b>	<b>Credits</b>
7100:131 Drawing I	3
2240:140 Typography & Lettering	3
2240:222 Adver. Photography	2
<b>Data Processing (C &amp; T)</b>	
2240:120 Intro to Info. Proc.	2
2440:290 Spec. Topics in Data Processing	1-3
<b>Mechanical Technology (C &amp; T)</b>	
2920:121 Tech. Drawing I	3
<b>Surveying &amp; Construction Technology (C &amp; T)</b>	
2980:224 Land Surveying	3
<b>Geology</b>	
3370:395 Field Methods in Geology	2

**FINAL EXAMINATION AND DEFENSE OF CARTOGRAPHIC WORKS**

After the completion of all course work associated with the program, each student will arrange a time for an oral defense of samples of his/her cartography. The examination would be conducted by two members of the Department and one from the elective area. The student will be asked questions on his/her specific projects and any topics covered in the course work completed specifically for the program. One week before the scheduled examination, the student will submit samples of what he/she considers to be his/her best cartographic work. The works must be judged acceptable by the examination committee and reduced photographic copies will be kept for permanent record in the Laboratory's file. After passing the oral examination and the acceptance of the samples of cartography, the student is considered to have completed the program.

**QUALITY OF STUDENT WORK**

A minimum grade of "C" is required in all elective courses taken as part of the certificate program. In the five core courses and average grade of "B" is required.

**CERTIFICATE AWARDS**

The certificate will be awarded by The University of Akron upon successful completion of the program's requirements and a baccalaureate degree.

**COMPUTER SCIENCE CERTIFICATE PROGRAM**

**I. Entrance Requirements**

To qualify for the computer science certificate program, a student must be in good academic standing in

his/her major department, must have completed three credits of mathematics in the Department of Mathematics and Statistics, and must submit to the Director of the Computer Science Certificate Program a written request for admission to the program. The request will outline the student's reasons and goals for enrolling in the program. Students undertaking the program must have prior consultation with the Director. The student will major in one of the traditional academic disciplines, but the area of concentration is meant to add a further dimension of depth in both mathematics and computer science. Although this program does not lead to the award of a degree, successful completion is recognized by awarding a certificate at graduation and the inclusion of a statement of completion on the student's Academic Record.

**II. Curriculum Requirements**

The undergraduate student will have the opportunity to enroll in the science-oriented program or the information systems-oriented program. The student will take the mathematics and computer science core courses, as indicated below, with a selection of certain courses being permitted in order to attain his/her individual goals and objectives. The student's plan of study for the certificate will be developed in consultation with his/her Computer Science Adviser and will be approved by the Director.

An interdisciplinary computer science practicum is required of all students in the program.

<b>Science Oriented</b>	<b>Credits</b>
Option	
Mathematics	27
Computer Science	22
	<hr/>
	49

<b>Information Systems</b>	
Option	
Mathematics	21
Computer Science	26
	<hr/>
	47

**III. Mathematics and Statistics Requirement**

**A. Science Oriented Option**

3450:221-222-223 Analytic Geometry	12
Calculus I, II, III	
3450:235 Differential Equation	3
3450:312 Linear Algebra	3

	Credits		Credits
3470:450		Probability	
OR			
3470:451	3	Theoretical Statistics	
3450:427	3	Numerical Analysis I	
3450:489	3	Topics in Mathematics— Discrete Structures	
	<u>27</u>		
<b>B. Information Systems Option</b>			
3450:110-149	10	Modern University Mathematics	
3450:111		Algebra	
3450:112		Algebraic Functions and Graphing	
3450:117		Introduction to Trigonometry	
3450:118		Trigonometric Functions & Graphing	
3450:121		Analytic Geometry	
3450:122		Differential Calculus	
			<u>21</u>

IV. Computer Science Requirements:	Science Oriented Option	Information Systems Option
Introduction to Computing	3	3
Programming Language	4	6
4450:306 Introduction to Assembly Language Programming	3	3
OR		
4450:497 Seminar in Computer Science - Mini Computer Programming and Applications		
Electives to be selected from the following:	6	8
4450:407 Systems Programming	3	
4450:432 Systems Simulation	3	
4450:497 Seminar in Computer Science- Discrete Systems & Simulation	1-2	
4450:497 Seminar in Computer Science- Computer Architecture	1-2	
4450:497 Seminar in Computer Science Switching Theory-Logic Design	1-2	
3450:489 Topics in Mathematics-Data Structures	3	3
Computer Science Practicum		
3450:497 Independent Reading		
OR		
4450:497 Seminar in Computer Science	3	3
OR		
Seminar Course in Business Admin.		
OR		
Other 400-level courses approved by Director		
Total	<u>22</u>	<u>26</u>

**CERTIFICATE PROGRAM IN ENVIRONMENTAL STUDIES**

**ENTRANCE REQUIREMENTS**

To qualify for the Certificate Program, a student must be in good academic standing with his major department and submit to the director a written request for admission to the program. The request will outline the student's reasons and goals for enrolling in the program.

**COURSE REQUIREMENTS**

The undergraduate student will take a minimum of six courses from a list approved by the Committee on Environmental Studies. Two of these courses will be 1030:201 and 1030:401.

The student will be required to select courses from areas other than his/her major since the purpose of the program is to broaden his/her background. It is ex-

pected that he/she will select courses from at least two disciplines.

The student's plan of study for this certificate will be developed in consultation with his/her Environmental Studies Adviser and if the adviser is other than the Environmental Studies Director, will be approved by the Director.

An interdisciplinary research paper or project is required of all students in the program. The paper or project will be undertaken in conjunction with the Environmental Seminar.

Course for the Environmental  
Studies Certificate

	Credits
3100:105 Ecology and Biological Resources	2
3100:217 General Ecology	3
3100:422/522 Conservation of Biological Resources	3
3100:424/524 Limnology	3
3100:426/526 Applied Aquatic Ecology	3
3250:385 Economics: Natural Resources and Environment	3
3350:314 Climatology	3
3350:335 Recreational Resource Planning	3
3350:436/536 Urban Land Use Analysis	3
3350:447/547 Intro: Remote Sensing	3
3350:495/595 Soil and Water Field Studies	3
3370:200 Environmental Geology	3
3370:474/574 Ground Water Hydrology	3
3370:678 Urban Geology	3
3850:321 Population	3
4100:201 Energy and Environment	2
4100:202 Atmosphere Pollution	2
4200:463/563 Pollution Control	3
4300:421 Environmental Engineering	3
4300:425 Environmental Engineering Lab	2
5800:491/591 Workshop: Arith. and Physical Science	13
1030:201 Man and the Environment	3
1030:401 Seminar in Environmental Studies	3

### LATIN AMERICAN STUDIES PROGRAM

Students in the Latin American Studies Program will major in their respective disciplines (economics, geography, history, political science, sociology and Spanish).

In addition to the requirements of their major, they will take 12 credits in three separate disciplines with a concentration in the area of Latin American Studies.

### POLITICAL SCIENCE

	Credits
3700:425 Latin American Politics	3

### HISTORY

3400:415/515 Latin America: National Origins	3
3400:416/516 Latin America: 20th Century	3

	Credits
3400:417/517 U.S., Latin America & Imper.	3
3400:418/518 Mexico	3

### GEOGRAPHY

3350:353 Latin America	3
------------------------	---

### SOCIOLOGY (Anthropology)

3870:256 New World Prehistory	3
3870:257 Indians of South America	3

### ECONOMICS

3250:460 Economic Development and Planning for Underdeveloped Countries	3
---	---

They will also study three years of Spanish or the equivalent.

At the completion of the program there will be recorded on the student's permanent record a statement that he has a concentration in the area of Latin American Studies.

The Certificate in Latin American Studies will be awarded at the time the student earns a baccalaureate degree.

## CERTIFICATE PROGRAM IN PEACE STUDIES UNIVERSITY OF AKRON

### CERTIFICATE REQUIREMENTS

To satisfy the requirements for a Certificate in Peace Studies, a regularly enrolled undergraduate student at The University of Akron must complete at least 15 credits from the list of courses approved as acceptable. These must be distributed so that work will be included from three separate departments. The courses 3400:340 *Peace, War and Mankind* and 1060:301 *Value Concepts on Peace and War* are required for everyone in the program. Where specialized training is relevant to a particular student's interest, alternatives to those on the list of acceptable courses may be approved by the Director.

### RESEARCH PAPER OR PROJECT

A paper or project is to be completed. This will be done in conjunction with one of the 300 or 400 level courses chosen and in consultation with the instructor involved.

### CONSULTATION WITH THE DIRECTOR

Students undertaking the Peace Studies Certificate Program must have prior consultation with the Director of the Center for Peace Studies.

## ACCEPTABLE COURSES

The following courses are acceptable for the certificate in Peace Studies:

	<i>Credits</i>
3250:450 Comparative Economic Systems.	3
3250:460 Economic Development and Planning for Underdeveloped Countries	3
3250:461 Principles of International Economics.	3
3300:489 Seminar in Twentieth Century Literature and History.	3
3350:100 Introduction to Geography	3
3400:340 Peace, War and Mankind	3
3400:407 Diplomatic History of the United States, 1776-1919.	3
3400:408 Diplomatic History of the United States, 1914-present.	3
3400:417 U. S. Latin American Relations.	3
3700:220 American Foreign Policy: Process and Problems.	3
3700:310 International Politics and Institutions.	4
3700:415 Comparative Foreign Policy	3
3870:150 Cultural Anthropology.	4
6600:330 International Marketing.	3
1060:301 Value Concepts on Peace and War.	3
1060:350 Independent Study in Peace Studies.	1-3

## STUDENT'S MAJOR

The student will major in one of the traditional disciplines, but the area concentration is meant to add a further dimension of depth through concentrated work focusing on Peace Studies.

## CERTIFICATE PROGRAM IN PLANNING WITH AN EMPHASIS ON CITY OR REGIONAL RESOURCE STUDIES

This specialized program of professional education is intended to enhance understanding of the planning function and to increase the research and analytical abilities of persons who are preparing for work in, or who are currently engaged in, city, urban, regional, environmental, and resource planning. The program is open to undergraduates, as well as persons with baccalaureate degrees, employed in local agencies doing related work, e.g. Model Cities, Urban Renewal, community redevelopment, community action environmental protection, and private industry. Persons with degrees could enroll as post-baccalaureate or special students in order to participate in the program. The certificate program consists of five core courses, a number of elective courses covering aspects of planning technology, theory, conceptualization, and practice, and the required planning seminar.

## ADMISSION PROCEDURES

The requirements are:

1. Employment or internship in a planning agency or in an office engaged in related work; or a sincere intention to pursue a professional career in some aspect of government work or planning after graduation.
2. A statement by the applicant giving his or her reason for wishing to participate in the planning certificate program.

## CORE COURSE REQUIREMENTS FOR THE CERTIFICATE

Five of the following courses listed below are required:

	<i>Credits</i>
3250:244 Intro. to Economic Analysis	3
3350:220 Economic Geography	3
3350:433 Urban, Regional & Resource Planning	3
3350:438 World Metropolitan Areas	3
3400:436 The American City	3
3700:380 Metropolitan Politics	4
3850:425 Sociology of Urbanization	3
4300:450 Urban Planning (Civil Engineering)	2

## ELECTIVE COURSES

In addition to the five core courses, each student's program, subject to the Program Director's approval, is to include six elective courses distributed between professional, technical, and research offerings. (Three courses will be from the professional listing and three from the technical-research listing.) In consultation with the Program's Director, elective courses will be selected from The University of Akron offerings either in the city planning or regional resource planning emphasis areas. Similar courses completed at other universities, up to five years prior to admission to candidacy, may be approved by the Director.

The intent of the elective requirements is to facilitate the development of a diverse prospective which is significant for a person who will be or is already engaged in planning for present and changing future urban, regional, environmental, resource, energy, and societal needs. The truly comprehensive planner must have academic acquaintance with a variety of professional and technical approaches in order to cope with social, geographical, physical design, economical, and governmental problems. Selection of courses which duplicate or continue interests already well established in a student's background will be discouraged.

### SEMINAR IN PLANNING

Upon completion of the core and elective course requirements the student will take 3350:385 *Planning Seminar* (1 credit). In this seminar the student will produce a final paper covering a city or regional resource planning topic chosen by the student and approved by the Director of the Program. Each project will be presented to the seminar class and critically analyzed.

### TIME LIMIT

Participants who wish to apply for candidacy after completion of one or more core courses must apply within two years of completing the first course in order for that course to be applicable toward the certificate.

### QUALITY OF STUDENT WORK

A grade of "C" or better is required in all courses undertaken as part of the certificate program. In the five core courses an average grade of "B" is required.

### CERTIFICATE AWARDS

The certificate will be awarded by the University of Akron upon successful completion of the program's requirements and a baccalaureate degree. The certificate will indicate the area of specialization — City Planning or Regional Resource Planning.

### CERTIFICATE PROGRAM IN REAL ESTATE

The Certificate Program in Real Estate augments the Business Management Technology (Real Estate) associate degree program. It is a professional education program designed to enhance the student's understanding of real estate as a product, a process, and a profession. The Certificate Program is open to persons actively engaged in the real estate profession as well as to graduates and undergraduates at the University of Akron or other accredited institutions.

### PROGRAM REQUIREMENTS

To satisfy the requirements for a Certificate in Real Estate, a regularly enrolled student at The University of Akron must complete the following requirements:

	Credits
2420:105 Real Estate Principles	2
2420:185 Real Estate Law	2
2420:245 Real Estate Finance	2
2420:255 Valuation of Residential Property	2
2420:265 Real Estate Brokerage	2
2520:212 Principles of Salesmanship	4

### Elective Course Requirement

(At least 4 of the following courses must be completed)

	Credits
2420:115 Housing Design and Construction	2
2420:125 Land and Real Estate Development	2
2420:205 Introduction to Real Estate Management	3
2420:215 Real Estate Economics	2
2520:225 Industrial Real Estate	2
2420:235 Commercial Real Estate	2
2420:285 Applied Real Estate Mathematics	2
2420:299 Special Topics in Real Estate	2
(May be repeated for a total of 4 credits)	

Upon completion of the Core and Elective Course requirements, the student will take 2420:275, *Special Project in Real Estate*, 2 credits.

### QUALITY OF STUDENT WORK

A grade of "C" or better is required in all courses undertaken as part of the Certificate Program.

### AWARD OF CERTIFICATE

The Certificate will be awarded by The University of Akron upon successful completion of the program's requirements.

### SOVIET AREA STUDIES PROGRAM

Students in the Soviet Area Studies Program will major in their respective disciplines (economics, geography, history, philosophy, political science and Russian).

In addition to the requirements of their major, they will take 12 credits in three or more separate disciplines with a concentration in the area of Soviet Studies.

### ECONOMICS

	Credits
3250:450 Comparative Economic Systems	3

### GEOGRAPHY

3350:358 USSR.	3
----------------	---

### HISTORY

3400:458/558 Russian to 1801	3
3400:459/559 Russia since 1801	3

### POLITICAL SCIENCE

3700:200 Comparative Politics	4
3700:322 Soviet and East European Politics	3

They will also study 3 years of Russian or the equivalent.

At the completion of the program there will be recorded on the student's permanent record a statement that he/she has a concentration in the area of Soviet Studies.

The Certificate in Soviet Area Studies will be awarded at the time a student earns a baccalaureate degree.

## **The Evening College**

Caesar A. Carrino, Ph.D., *Dean*  
 Assistants to the Dean: Richard K. Bonnell, Gordon A. Hagerman

The University of Akron has a rich and historic tradition of service to those students who attend classes after 5 p.m. Evening class offerings run the full range from Community and Technical College through the Ph.D. level. Through Evening and Saturday credit courses, the Evening College and the Weekend College keep their doors open throughout the year.

The Evening College is a continuation of daytime college campus life. Credit courses taken in the evening have the same high academic value and most full-time faculty members teach and are available to students in the evening. Additional part-time faculty are engaged to augment the full-time faculty; these part-time teachers represent a complete array of academic backgrounds and practical experiences to enrich the quality of their course work.

One significant factor that may determine the success or failure of an evening academic program is the attitude of the

President and his top level administrators and collegiate deans. The University of Akron administration is vitally concerned and supportive of our effort to serve the needs of the evening students, some 7,500 strong.

Evening Student Council coordinates the extracurricular activities of the Evening College, which are similar to those of the day college and sometimes are part of the daytime activities. Organizations established for Evening College students include Alpha Sigma Lambda, Scholastic Honorary; Gamma Beta, Evening College Social Sorority; Chi Sigma Nu, Evening College Social Fraternity; Alpha Epsilon, a service honorary dedicated to giving recognition to evening students who have made significant contributions to campus and community; A.W.A.R.E. (Association of Women for Awareness, Recognition, and Enterprise); and *Nite Life*, the official monthly publication of the Evening Student Council.

## **The Summer Sessions**

Caesar A. Carrino, Ph.D., *Dean*  
 Assistants to the Dean: Richard K. Bonnell, Gordon A. Hagerman

The Summer Sessions reemphasizes the urban nature and mission of The University of Akron and the total involvement with our community. Curricular patterns reflect the vibrant interaction between "Town and Gown."

Summer study satisfies a myriad of student appetites and needs: recent high school graduates, transfer students from other institutions of higher learning, older persons with life-long learning interests,

part-time students and, equally important, those who rejuvenate their intellectual energies in summer study only.

Summer Sessions serve over 14,000 students, young and old, local and commuting, at all stages from non-credit avocational courses to the professional and Ph.D. levels. Faculty, students, administration and the community each contribute talents and resources to further the dynamics of the academic and cultural process.

## **Department Of Developmental Programs**

Caesar A. Carrino, Ph.D., *Dean*  
 Martin M. McKoski, Ph.D., *Director*

The Department of Developmental Programs provides academic support for all University students, especially those who wish to strengthen their educational preparation in specific areas or who have been out of school for a number of years and feel

the need for remediation. Through developmental courses, individual tutoring, and work in the Writing and Reading Laboratories, such students can develop the skills necessary for acceptable performance at the college level.



## ***Advanced Study***

### **THE GRADUATE SCHOOL AND THE SCHOOL OF LAW**

Qualified students who have completed their baccalaureate programs with sufficiently high standings may continue their studies through the University's Graduate School in programs leading to the Master's degree as well as to the Doctor's degree. Undergraduate students who qualify may enroll in certain graduate level classes and apply the credits earned to the total required for the baccalaureate degree. To receive Graduate credit for the courses, however, students must be admitted to the Graduate School.



# The Graduate School

Joseph M. Walton, Ph.D.,  
Associate Dean of Graduate Studies and Research  
Robert G. Corbett, Ph.D.  
Coordinator of Research

## OBJECTIVES

The purpose of the Graduate School 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 Graduate Faculty recommends students who have been nominated by the student's college faculty for the appropriate master's or doctor's degree.

## HISTORY OF THE GRADUATE SCHOOL

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 1882. The College of Education awarded its first Master's Degree in 1924, and the Colleges of Engineering and Business Administration in 1959. The first earned Doctor's Degrees were also conferred in 1959. Professor Charles Bulger was appointed first Dean of Graduate Work in 1933, and he continued in that capacity until 1950. Professor Ernest H. Cherrington, Jr., served as Director of Graduate Studies from 1955 to 1960 and as Dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Brintnall was appointed Dean of Graduate Studies and Research in 1967, being succeeded in 1968 by Dr. Edwin L. Lively. Dr. Claibourne E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977. Currently, Dr. Joseph M. Walton serves as Associate Dean of Graduate Studies and Research.

The Graduate School offers programs of advanced study leading to the degree of Doctor of Philosophy in Chemistry, History, Polymer Science, Psychology, Sociology, Education (Elementary, Secondary, and Guidance and Counseling), and Engineering. The Doctor of Education degree is offered in Educational Administration. The Doctor of Philosophy program in Sociology is a joint program with Kent State University.

The Graduate School also offers programs of study leading to the Master's Degree with majors in the following areas: Accounting, Biology, Business Administration (Accounting, Finance, International Business, Management, and Marketing), Chemical Engineering, Chemistry, Civil Engineering, Earth Science, Economics, Education (Elementary, Secondary, Elementary or Secondary School Principal, School Supervisor, Local Superintendent, Counseling, Special Education, Visiting Teacher, Reading Specialist, School Psychology, and Teaching the Culturally Disadvantaged), Electrical Engineering, Engineering, English, French, Geography, History, Home Economics and Family Ecology, Management, Mass Media-Communication, Mathematics, Mechanical Engineering, Music, Nursing, Philosophy, Physics, Political Science, Polymer Science, Psychology, Sociology, Spanish, Speech, Speech Pathology and Audiology, Statistics, Technical Education, Theatre Arts, and Urban Studies. In addition, the College of Education provides a sixth year program offering a year of study beyond the Master's degree in the area of School Superintendent.

Several other departments offer a limited amount of work which may be taken 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 administrative functions of the Graduate School include establishment of suitable entrance requirements, admission of qualified students, maintenance of high-quality instruction, and provision of minimum requirements for advanced degrees.

## GRADUATE FACULTY

The Graduate Faculty is comprised of those members of the faculty who hold full-time appointments at the rank of assistant professor or above and teach graduate courses, supervise theses and dissertations, and are generally responsible for the graduate program in the University. They are appointed by the Dean of Graduate Studies and Research after recommendation by the Department, College Dean, and Graduate Council. Guidelines for recommendation and appointment include:

- a. Quality and experience in upper-level and graduate-level teaching.
- b. Possession of terminal degree in field.
- c. Scholarly publication record.
- d. Activity in research.
- e. Activity in profession or discipline.

The purpose of the Graduate Faculty is to encourage and contribute to the advancement of knowledge through instruction and research of highest quality, and to foster a spirit of inquiry and a high value on the scholarship throughout the University.

## THE GRADUATE COUNCIL

Academic programs and policies of the University's Graduate School are recommended by the Graduate Council which is elected by the Graduate Faculty. Membership in the Council presently includes two members from the College of Engineering, two members from the College of Business Administration, two members from the College of Education, four members from the Buchtel College of Arts and Sciences, and two members from the College of Fine and Applied Arts. Members serve three-year terms and may not succeed themselves. The Dean of Graduate Studies and Research serves as Chairman of both the Graduate Faculty and the Graduate Council.

The functions of the Council include examination of proposed graduate programs and course offerings, recommendation of policy for all phases of graduate education, recommendation of persons for membership in the Graduate Faculty and advising and counseling the Dean in administrative matters.

## THE NATURE OF GRADUATE EDUCATION

The Graduate School provides 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 developed by graduate departments.

Graduate education involves the extension of knowledge. However, it is by no means a mere continuation of undergraduate study. At its best, graduate education is characterized by able and enthusiastic advanced students who join faculty leaders to form a community of scholars dedicated to the common pursuit of truth. Critical analysis, independence of thought, originality of method, intensity of purpose, freedom from bias, thoroughness of inquiry, keenness of perception, and vital creativity combine to produce in the successful student both the professional competence and the breadth of understanding essential to leadership in many areas of human endeavor.

## GRADUATE SCHOOL REGULATIONS

A student assumes full responsibility for knowing the regulations and pertinent procedures of the Graduate School as set forth in this *Bulletin*. Normally, the degree requirements in effect at the time a student is admitted to a program will apply through graduation. However, if existing programs are revised, the student has the option of pursuing the revised program as long as all requirements in the revised program are met. Additional information pertaining to programs can be obtained from the appropriate department head.

## ADMISSION

Applications for Admission to the Graduate School should be filed in the office of the Dean at least six weeks before registration. Each application must be accompanied by an application fee of \$20.00 (unless previously paid). This fee is not refundable under any circumstances. Payment should be made by check or money order payable to The University of Akron.

An official transcript from each college or university attended must also be received by the Graduate School before the application will be processed. This applies to the complete academic record, both undergraduate and graduate. Transcripts should be sent from the institutions attended directly to the Graduate School. The applicant is responsible for seeing that the above conditions are met by the deadlines for filing of application. No follow-up procedures are undertaken by the Graduate School.

All records, including academic records from other institutions, become part of the official file and cannot be returned for any purpose. A student should obtain an additional copy of his official credentials to

keep for advisory purposes and other personal requirements.

An offer of admission will normally be made to an applicant who meets all admission requirements. However, it must be recognized that staff, facilities, and other resources are limited so the number of students accepted will vary among departments and from term to term. Accepted applicants may begin graduate work in the fall, spring, or summer semester. The offer of admission is void, however, if the applicant does not register for courses within two years from the time of admission. An individual whose offer of admission has lapsed must submit a new application and transcript(s) to be reconsidered for admission.

Students are admitted only for the purpose or objective stated on the application for admission. A new request for admission must be filed when the original objective has been attained or when the student wishes to change objectives. The admitted status terminates when the time limits have been exceeded or other conditions for continued admitted status have not been met.

Every person who desires to enroll in or audit any graduate course or receive graduate credit must be admitted or approved by the Graduate School. The graduate status of the student is continued at the discretion of the major professor, the department or program director, and the Graduate School. No student will be admitted without approval and acceptance into a department within the University. Admission to a department does not necessarily imply admission to or candidacy for any graduate degree program in that department. Admission for graduate study in any program can only be granted by the Dean of Graduate Studies and Research and his staff.

#### CLASSIFICATION

Students are identified by the Graduate School as being in one of the following categories. Any change must be arranged through the Graduate School.

*Full Admission* may be given to any applicant who desires to pursue a graduate degree and has a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or better or 3.0 for the last two years (64 semester credits or equivalent) or; holds an advanced degree from an accredited college or university in or appropriate to the intended field, or; holds a baccalaureate or master's degree from a foreign college or

university with First Class standing or its equivalent, plus satisfactory evidence of competence in English, or; has Special Admission and has completed at least 12 semester credits at The University of Akron at the graduate level with a grade-point average of 3.00 or better in the intended major field, or; has been Deferred and has completed a specified program in the intended major at the post-baccalaureate level with a 3.00 or better grade-point average.

*Special Admission* may be given to persons who do not qualify for full admission under the criteria above but for whom there is reason to believe they can successfully complete a graduate program. Department Heads may recommend persons for special admission by attaching a statement to their recommendation elaborating their reasons. Persons admitted as Special Students must reapply for change in status and must be judged in accordance with the requirements for a new status.

*Special Non-Degree Admission* may be given to persons seeking to take particular courses but not working toward a degree. Each request for this category shall be judged on an individual basis. If a person accumulates 10 semester credits while in this category, his/her record must be re-evaluated and recommendation provided by the admitting department for each additional course or program. Persons admitted as Special Non-degree Students must reapply for any other status and be judged in accordance with the requirements for that status.

*Special Workshop* status is for persons permitted to take workshops for graduate credit *without being admitted to Graduate School*. Such permission is granted by the Workshop Director upon receipt of a signed statement of possession of a baccalaureate degree by the applicant, and terminates upon completion of this workshop. Students admitted to Special Workshop status must apply through regular channels for any other category. A limited number of workshop credits may be applied to degree work at a later date if the applicant is given full admission to the Graduate School.

*Transient Status* may be given to persons who are regularly enrolled graduate students in good standing in a degree program at another accredited university and have written permission to enroll at The University of Akron. Such permission is valid only for the courses and quarter specified, with a maximum of 10 semester credits allowable, and is subject to the ap-

approval of the Instructor, Department Head, and Graduate School. Transient students are subject to the same rules and regulations as regularly enrolled students of The University of Akron.

**Undergraduate.** This status is for an undergraduate student at The University of Akron who may be granted permission to take one or more graduate level courses if all the following conditions are met:

1. Senior standing.
2. Overall grade-point average of 2.75 or better through preceding quarter. (If a student does not have a 3.0 or better in his major field, special justification will be required).

3. Written approval is given by the instructor of the course and the student's adviser.

These courses may later be applied to a degree program if not used to satisfy baccalaureate degree requirements.

**Post-Doctoral.** This status is divided into three categories:

1. Fellows are those persons holding an earned doctorate who are engaged in advanced research. They shall be considered guests of the University and provided space and use of facilities within limits of practical need of the undergraduates and graduate programs. Tuition and fees shall be collected if allowed under sponsoring contract for any courses the Fellow may choose to take.

2. Specials are those persons holding an earned Doctor's Degree who desire an additional graduate degree. They may be admitted to any program upon submission of matriculation and application forms, application fee (if new student) and an official transcript from the institution awarding their doctorate. This student will be treated as a regular student subject to registration, fees, and degree requirements for his/her program.

3. Guests are those persons holding an earned doctorate who desire to attend courses and seminars relevant to their work or interests without registering or receiving grades. A written application should be submitted to the Dean of Graduate Studies and Research for each course taken, and approval of the instructor, Department Head and College Dean shall be obtained. Guests are welcome to any course or seminar provided space is available. Normally space and facilities for research cannot be provided for Post-Doctoral Guests but special requests will be considered. Requests should be submitted, in writing to the Dean of Graduate Studies and Research who will

review such requests with the appropriate College Dean and Department Head.

## STANDARDS INTERNATIONAL STUDENTS

**Entrance:** International students are normally admitted only in the fall and all credentials must be received by the Graduate School by June 1. Inasmuch as The University of Akron, as a State institution, has an obligation to the residents of Ohio, only the best qualified International applicants can be admitted. International students seeking admission should not plan to leave their country until they have received notice of admission from the Graduate School.

**English Proficiency:** Entering graduate students from countries other than the United States and those in which English is the major language in daily life are required to demonstrate high-level competence in the use of the English language, including reading, writing, speaking, and listening. This competence can best be established by achieving a score of at least 550 on the TOEFL (The Test of English as a Foreign Language) and submitting it by June 1 for September admission. Because the TOEFL is given only four times a year in various parts of the world, applicants should make arrangements to take the test as soon as they contemplate study at The University of Akron. (TOEFL is administered by Educational Testing Service, Box 899, Princeton, New Jersey 08540, U.S.A.). If the TOEFL is not available, the applicant should contact the International Student Adviser, The University of Akron, for other arrangements. Personal letters certifying English competence are not acceptable as substitutes for test scores.

International students coming to The University of Akron in good standing from an accredited American College or university may have this requirement waived upon written request.

## NON-ACCREDITED AMERICAN SCHOOL GRADUATES

Students holding a baccalaureate degree from a non-accredited American college or university, if otherwise qualified, are normally required to complete at least 10 semester credits of post-baccalaureate work at a 3.0 level before they can be admitted to the Graduate School. The accreditation status of the school at the time of the student's graduation shall apply. Students should consult with the Department Head in their major field to develop a post-baccalaureate program.

## GRADES

A student admitted to graduate study under any status at The University of Akron is expected to maintain a minimum of a 3.0 average (4.0—A) at all times. A grade-point average of 3.0 or better is required for graduation. Any student whose average falls below 3.0 is no longer in good standing in the Graduate School and considered on probation. In computing cumulative averages, "D" grades are treated as "F" grades. The Dean of Graduate Studies and Research, with the approval of the Department Head, may dismiss any student who fails to make satisfactory progress toward his/her declared goals or who accumulates 6 semester hours of "C" or below. The accumulation of 4 semester hours of "F" will result in mandatory dismissal. Students dismissed from the Graduate School for academic reasons may not be readmitted for one calendar year, and then only if evidence to support reasons for expecting improved performance is submitted and found acceptable.

The grade of I (Incomplete) may be given when work required in a course cannot be completed within the semester and there is a good reason for such failure. An Incomplete must be completed during the next semester a student is enrolled or it is converted to an F grade.

The grade of IP (In Progress) normally given in research and thesis courses where the work is of a satisfactory level and is on a continuing basis. At the time work is completed, a single grade is given for all courses taken as IP.

## TRANSFER STUDENTS

A graduate student matriculated in the Graduate School of another college or university who wishes to transfer to The University of Akron to continue his graduate education must be in good standing at the other school.

## COURSE LOAD

A full load of course work at the graduate level is normally 9-15 semester credits including Audit. Students who are employed in addition to their graduate courses work should reduce their academic load in proportion to the extent and obligations of such employment.

## REGISTRATION

The responsibility for being properly registered lies with the student. For each registration, the student should consult with

the assigned adviser in preparing a program of courses and/or research. A schedule of courses, hours, class location, and registration procedures is obtainable from the Registrar.

## ENTRANCE QUALIFYING EXAMINATIONS

The use of examinations to determine admissibility to enter a graduate program or eligibility to continue in one is the prerogative of the departments offering graduate programs. The department has the right to select the examination and minimum acceptable performance. Information and procedure may be obtained from the head of the appropriate department.

## GRADUATE FEES

(All fees are subject to change without notice.)

Application Fee	
This fee is not refundable under any circumstances	
	\$20.00
Tuition Fees	
Resident student per credit	38.00
Non-resident student per credit	53.00
(Auditors pay same fees)	
Other Fees	
General Service	
9 or more credits per quarter	24.00
8½ or fewer credits per quarter	10.00
Late Registration Fee	20.00
Parking Permit Fee	
9 or more credits per semester	\$30.00
8½ or fewer credits per semester	15.00
One Summer Session	10.00
Workshop participants	up to 8.00
Graduation Fees	
Each Degree	12.00
In Absentia (additional)	2.00
Late Application Charge	5.00
Thesis and Binding	
(Payable at time of application for Degree.)	
Binding per volume	7.00
Microfilming (Ph.D. only)	
(Payable at time of application for Degree.)	
	31.00
Change of Schedule Fee	4.00
Transcripts	2.00

## REFUNDS

Regulations regarding refunds are the same as for undergraduate students.

## COMMENCEMENT

Students earning graduate degrees are expected to participate in the Commence-

ment exercises. Degree candidates who have legitimate reasons for graduating "In Absentia" should make a written request to the Registrar within the established dates and pay the designated fee.

#### FINANCIAL ASSISTANCE

The University annually awards a number of Graduate Assistantships to qualified students. These assistantships provide a stipend of \$2,750 to \$4,000, plus remission of tuition and fees, and are available in all departments with graduate degree programs. Graduate Assistants render service to the University through teaching, research, and other duties and are expected to carry a reduced academic load. For information and/or applications, contact the head of the department.

A number of Fellowships sponsored by industry and government agencies are available in some departments. Stipends range up to \$4,500. For information, contact the head of the department.

Information about Student Loans can be obtained from the Student Financial Aids Office.

### Master's Degree Requirements

The following Master's degrees are conferred by The University of Akron: Master of Arts, Master of Science, Master of Science in Chemical Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Mechanical Engineering, Master of Arts in Education, Master of Science in Education, Master of Science in Nursing, Master of Science in Technical Education, Master of Business Administration, Master of Science in Accounting, Master of Science in Management, and Master of Music.

#### ADMISSION

A student may meet the degree requirements of the Graduate School and the department through either full or part-time study. After a student is admitted to graduate study, he/she should confer with the head of his/her major department concerning the appointment of an adviser. A student who is academically qualified in general but deficient in course preparation may be required to make up the deficiencies at the post-baccalaureate level. This may be recommended prior to beginning graduate work, or in some cases, can be done simultaneously.

#### GRADE-POINT AVERAGE

A minimum grade-point average of 3.00 is required for graduation of all Master's degree candidates. (See Section on Standards.)

#### RESIDENCE REQUIREMENTS

There are no formal residence requirements for the master's degree.

#### TIME LIMIT

All requirements must be completed within six years after beginning graduate level course work at The University of Akron or elsewhere. Extension up to one year may be granted in unusual circumstances by the Dean of Graduate Studies and Research upon written request by the student and recommendation by the adviser and Department Head.

#### CREDITS

A minimum of 30 semester credits of graduate work is required in all master's degree programs. This includes thesis credit. Some departments require more (See Section on Department Requirements). A minimum of  $66\frac{2}{3}$  percent of the total graduate credits required in any master's program must be completed at The University of Akron.

It should be noted that the requirements listed by department elsewhere in this section refer to the minimum necessary for a degree. It is entirely within the prerogatives of the department to assign additional credits of coursework or other requirements in the interest of graduating fully qualified students.

No graduate credit may be received for courses taken by examination or for 500-numbered courses previously taken as an undergraduate. No graduate credit may be received for courses taken in extension unless approved in advance by the Department Head and Dean of Graduate Studies and Research.

#### TRANSFER

Up to  $33\frac{1}{3}$  percent of the total graduate credits required may be transferred from an accredited college or university. All transfer credit must be at the "A" or "B" level in graduate courses. They must be relevant to the student's program and fall within the six-year time limit. Students already admitted to The University of Akron must receive prior approval to take courses elsewhere for transfer into their program.

Students seeking to transfer credits must have full admission and be in good standing at The University of Akron and the school in which the credits were achieved. Transfer credit shall not be recorded until a student has completed 12 semester credits at The University of Akron with a grade-point average of 3.0 or better.

#### OPTIONAL DEPARTMENT REQUIREMENTS

Each department may determine its requirements with regard to Entrance Examinations, Qualifying Examinations, Foreign Language, Required Courses, and Thesis. Details are available from the head of the major department.

#### ADVANCEMENT TO CANDIDACY

A student should apply for Advancement to Candidacy after he/she has completed one-half of the credits required for the degree in his/her program but no later than January 15 for the June Commencement. Advancement to Candidacy forms are available in the Graduate School Office or from the department head. Advancement to Candidacy will not be granted to a student who is not in good standing.

#### GRADUATION

To be cleared for graduation, a candidate must have completed course work with a minimum average of 3.0; have been Advanced to Candidacy; filed an Application for Graduation with the Registrar; paid all applicable fees; and met any other department and university requirements applicable.

If a thesis is required, two copies, properly prepared, are due in the Graduate School Office two weeks prior to commencement. These copies are final and must be signed by the adviser, faculty reader, department head, and college dean. Mimeographed information is contained in "Guidelines For Writing a Master's Thesis" available in the Graduate School Office.

### Doctoral Degree Requirements

The following doctoral degrees are conferred by The University of Akron: Doctor of Philosophy in Chemistry, History, Polymer Science, Psychology, Sociology, Elementary Education, Secondary Education, Guidance and Counseling, Engineering, and Doctor of Education in School Administration.

A master's degree is not a prerequisite for the doctorate, however, the first year of study after the baccalaureate will be substantially the same for both the master's and doctoral student. No specific number or sequence of courses completed constitutes a doctoral program or assures attainment of the degree. Formal degree programs consist of a combination of courses, seminars, and individual study and research that meet the minimum requirements of the Graduate School and those of the committee for each individual student.

\*The doctoral program in Engineering is an interdisciplinary program offered on a collegiate basis. In the descriptions of University doctoral degree requirements on the following pages, citations of department or departmental faculty should be interpreted as citations of college or collegiate faculty with specific reference to the doctoral program in Engineering.

#### ADMISSION

A doctoral student may meet the degree requirements of the Graduate School and his/her department by full-time study or a combination of full-and part-time study.

Normally a student is not officially considered as a doctoral student until (a) he/she has completed a master's program or its equivalent, and (b) has been approved for further graduate study. Departments offering doctor's degree programs review each candidate intensively before recommending admission.

#### GRADE-POINT AVERAGE

A minimum grade-point average of 3.0 is required for graduation of candidates for all doctoral degrees.

#### RESIDENCE REQUIREMENTS

The minimum residence requirement for doctoral candidates in all programs is at least two consecutive semesters of full-time study and involvement in departmental activities. Full-time study is defined as 9-15 semester credits, except for graduate teaching and research assistants for whom full-time study is specified by the assistantship agreements. No student holding a full-time job is considered as fulfilling the residence requirement. The summer sessions may count as one semester, provided that the candidate is enrolled for a minimum of *ten consecutive weeks* of full-time study and for a minimum of six semester credits per five week session. Programs vary in their requirements beyond the minimum, e.g., credits or courses to be completed, proper time to fulfill the residence requirement, and acceptability of part-time employment.

Before a doctoral student begins residency, the student's advisor and the student shall prepare a statement indicating the manner in which the University residence requirement will be met. Any special conditions must be described in detail and will require the approval of the student's committee, the departmental faculty members approved to direct doctoral dissertations, the collegiate dean and the Dean of Graduate Studies and Research.

#### TIME LIMIT

All doctoral requirements must be completed within ten years of starting course work at The University of Akron or elsewhere. This refers to graduate work after receipt of a master's degree or the completion of 30 semester credits. Extensions of up to one year may be granted by the Dean of Graduate Studies and Research under unusual circumstances.

#### CREDITS

A doctorate is conferred in recognition of high attainment and productive scholarship in some special field of learning as evidenced by (1) the satisfactory completion of a prescribed period of study and research, (2) the preparation of a dissertation based on independent research, and (3) the successful passing of examinations covering the special field of study and the general field of which this subject is a part. Consequently, the emphasis is on mastery of the subject rather than a set number of credits. Doctoral programs generally encompass the equivalent of at least three years of full-time study at the graduate level. A minimum of 50 percent of the total credits above the baccalaureate required in each student's doctoral program must be completed at The University of Akron.

Graduate credit may not be received for courses taken by examination or for 500-numbered courses previously taken as an undergraduate. Graduate credit may not be received for courses taken in extension unless approved in advance by the Department Head and the Dean of Graduate Studies and Research.

#### TRANSFER

Up to 50 percent of the total graduate credits above the baccalaureate required in a doctoral program may be transferred from an accredited college or university. All transfer credit must be at the A or B level in graduate courses. The course must be relevant to the student's program and fall within the ten-year limit if beyond the master's level. Students already admitted

to The University of Akron must receive prior approval to take courses elsewhere for transfer into their programs.

Students admitted with a master's degree or equivalent will have their work evaluated in relation to their programs to determine transfer credit. Credits transferable for master's degree holders may be up to 30 semester credits.

Students seeking to transfer credits must have full admission and be in good standing at The University of Akron and the school in which the credits were achieved. Transfer credit shall not be recorded until a student has completed 12 semester credits at The University of Akron with a grade point average of 3.0 or better.

#### LANGUAGE REQUIREMENTS

The Foreign Language Requirement in all Ph.D. programs may be fulfilled by either of the following:

Plan A. Reading knowledge, with aid of a dictionary, of two approved foreign languages. At the discretion of the major department (1) an average of "B" in the second year of a college level course in a language will be accepted as evidence of proficiency in reading knowledge for that language; (2) English may be considered as one of the approved foreign languages for students, whose first language is not English; and (3) demonstrated competence in a research technique (e.g., statistics and/or computers) may be substituted for one of the two foreign languages. Under option (3), each department should define competence and publicize.

Plan B: Comprehensive knowledge of one approved foreign language, including reading without the aid of a dictionary and such additional requirements as the department may impose.

In certain doctoral programs (Counseling and Guidance, Elementary Education, Engineering, Psychology, Secondary Education) the demonstration of competence in appropriate research skills may serve as a substitute for the Foreign Language Requirements.

#### OPTIONAL DEPARTMENT REQUIREMENTS

Each department may determine requirements for doctoral students with regard to Entrance Examinations, Qualifying Examinations, Preliminary or Comprehensive Examinations, and Course Sequences.

### ADVANCEMENT TO CANDIDACY

A student must apply for Advancement to Candidacy by January 15 for the June Commencement. Applications for Advancement to Candidacy will not be accepted by the Dean of Graduate Studies and Research until a substantial portion of the degree requirements have been completed. A student must be in good standing to be advanced to candidacy.

### DISSERTATION AND ORAL DEFENSE

The ability to do independent research and demonstrate competence in scholarly exposition must be demonstrated by the preparation of a dissertation on some topic related to major subject. It should represent a significant contribution to knowledge, be presented in a scholarly manner, reveal candidate's ability to do independent research, and indicate experience in research techniques.

A doctoral dissertation committee supervises and approves the dissertation

and administers an oral examination upon the dissertation and related areas of study. The final examination is open to the Graduate Faculty. The dissertation and oral examination must be approved by the committee before the student is recommended to the Graduate School by presenting two copies of the dissertation to the Dean of Graduate Studies and Research. These copies must conform to "Guidelines For Writing a Doctoral Dissertation" and be signed by director, reader, department head and college dean.

### GRADUATION

To be cleared for graduation, a candidate must have completed his/her academic program with a grade-point average of at least 3.0; have been advanced to Candidacy; submitted an approved dissertation and passed an oral examination; filed an Application for Graduation with the Registrar; paid all applicable fees; and met any other department and University requirements applicable.

# Buchtel College of Arts and Sciences

## THE DOCTOR OF PHILOSOPHY DEGREE

The following programs leading to the Doctor of Philosophy Degrees are offered in the Buchtel College of Arts and Sciences: The Doctor of Philosophy Degree in Chemistry, the Doctor of Philosophy Degree in History, the Doctor of Philosophy Degree in Psychology, and Doctor of Philosophy Degree in Polymer Science. The Doctor of Philosophy Degree in Sociology is offered jointly with Kent State University.

### DOCTOR OF PHILOSOPHY IN CHEMISTRY

In addition to satisfying the general requirements of the Graduate School, students working toward the Doctor of Philosophy Degree in Chemistry must meet the following requirements:

1. Must take proficiency exams in Organic, Inorganic, Physical and Analytical Chemistry. Results of these exams will be used by the department for diagnostic purposes.

2. Satisfactory completion of a course of study designed and accepted by the student's advisory committee. This course of study shall consist of a program deemed suitable to prepare the student in his/her designated area of chemistry, and shall consist of a minimum of 24 credits in graduate courses. Eight credits a quarter shall be considered a normal load. At least 12 credits of graduate work, and all dissertation credits, must be completed at The University of Akron.

3. Earn credit for a dissertation, to be established by enrollment in 3150:899, such that course credits plus dissertation credits total at least 84 credits (exclusive of M.S. dissertation credit).

4. Pass cumulative examinations given approximately monthly. The candidate is urged to begin to take these examinations early in his/her graduate program, and must pass seven cumulative exams, six written and one oral, for the degree requirement.

5. Pass an oral examination upon completion of the research dissertation.

6. Pass the general requirements for the Doctor of Philosophy degree.

### DOCTOR OF PHILOSOPHY IN HISTORY

The Doctor of Philosophy degree in History is granted primarily for high scholarly achievement in four fields of study selected by the student and for demonstrated ability to pursue independent research. Each student must

1. Fulfill the admission requirements of the Graduate School.

Admission will not usually be considered unless the applicant has a Master's degree, or the equivalent, with a grade point average of B from an accredited institution. Those holding Master's degrees from The University of Akron or other accredited institutions should not assume automatic permission to pursue doctoral studies. Prior to admission to the doctoral program, the applicant must present evidence of the likelihood of success in advanced study. A personal letter from the applicant and three letters of recommendation from former professors are required to support an application for admission to the doctoral program. Special admissions examinations may also be required.

Also prior to admission to doctoral study, applicants must present evidence of a reading knowledge of one relevant foreign language, or knowledge of another research skill such as statistics or computer techniques. Those whose native tongue is not English must demonstrate proficiency in the English language.

After advancement to qualified status, the student, in consultation with the Director of Doctoral Studies in History, will reach a final decision upon the fields he/she wishes to offer for the comprehensive examinations and any additional research skills which may be needed. At this point he/she will be assigned a major professor who shall direct his/her dissertation. His/her doctoral committee, to be chaired by the major professor, will also be appointed.

2. Satisfactorily complete a course of study selected by the student in consultation with an advisory committee. This will include (a) completion of 60 credits beyond M.A. degree requirements, including dissertation credit; (b) demonstration of competency in four fields of study selected from the following areas: Ancient, Medieval, Modern Europe to 1815, Modern Europe Since 1789, England and the Empire, U.S. to 1865, U.S. Since 1865, Latin

America, Far East, (one of the four fields may be in a cognate area outside of History); (c) satisfactory performance in written and oral comprehensive examinations; (d) defense of the dissertation in an oral examination.

3. A reading knowledge of two languages will be required, normally French and German. At the discretion of the student's doctoral committee, he/she may substitute for French or German either another language or computer techniques and statistics as outlined in the Graduate School requirements. An instructor may require specific language proficiencies before permitting a graduate student to enroll in any course for which credit is to be granted. An instructor may require additional languages before permitting a candidate to write a dissertation under his/her supervision.

4. Complete all general requirements for the Doctor of Philosophy degree.

### DOCTOR OF PHILOSOPHY IN POLYMER SCIENCE

An Interdisciplinary Program leading to the Doctor of Philosophy in Polymer Science is administered by the Department in Polymer Science. Graduates from the three main disciplines (Chemistry, Physics and Engineering) are guided into the appropriate courses of study and research under the supervision of a departmental staff member in their own field. Research facilities of the Institute of Polymer Science are available for thesis research.

In addition to satisfying the general requirements of the graduate School, students working toward the Doctor of Philosophy Degree in Polymer Science must meet the following requirements:

1. Satisfactory completion of a course of study prescribed by the student's advisory committee, based on their judgment of his/her background, and on the result of any special examinations that they might impose. This course of study will consist of a minimum of, but usually more than, 36 credits in graduate courses, as outlined below, or their equivalent. At least 12 credits of graduate course work, and all dissertation credits must be completed at The University of Akron.

2. Credit for a dissertation, to be established by enrollment in 3940:891, such that course credits plus dissertation credits total 84 credits (exclusive of M.S. thesis credit).

3. Pass eight cumulative examinations which are given at intervals during the aca-

demical year. The candidate is urged to begin these examinations early in his graduate program.

4. The passing of an oral examination upon completion of the research dissertation.

5. Pass the general requirements for the Doctor of Philosophy degree.

### DOCTOR OF PHILOSOPHY IN PSYCHOLOGY

The Department of Psychology offers a Ph.D. degree in Psychology with specialization in Industrial/Organizational Psychology or Experimental/Developmental Psychology.

Degrees will be awarded to students who, besides fulfilling the general requirements, have met the following specific requirements:

#### 1. ENTRANCE REQUIREMENTS

1. Fulfill admission requirements of the Graduate School and Psychology Department requirements.

a. Completion of Master's Degree including 30 graduate credits.

b. Completion of Master's core courses or equivalent.

c. 3.25 Graduate GPA.

d. GRE Exam. Verbal, Quantitative and Advanced Psychology Test.

e. Miller Analogies Test (MAT).

f. Three letters of recommendation.

g. Successful performance on Psychology Department Ph.D. Qualifying Examination.

#### II. Ph.D. COURSE REQUIREMENTS

1. 90 minimum total graduate credits including 30 credit master's program. A student may be required to complete additional credits beyond the 90 minimum credit requirement.

2. Completion of Ph.D. core courses in either Industrial/Organizational Psychology or Ph.D. core courses in Experimental/Developmental Psychology. Core courses are specified in the Psychology Department Graduate Student Manual. Students are required to maintain at least a 3.00 GPA average in core courses.

3. Completion of additional required and elective courses to be planned in conjunction with the student's faculty advisor and subject to approval by the Department

Industrial/Organizational Ph.D. Committee or the Experimental/Developmental Ph.D. Committee.

### III. WRITTEN COMPREHENSIVE EXAMINATIONS

1. Satisfactory performance on Ph.D. written and oral comprehensive examinations in the major area of either Industrial/Organizational Psychology or Experimental/Developmental Psychology. (Refer to Psychology Department Graduate Student Manual).

### IV. DISSERTATION RESEARCH

1. Satisfactory completion of 3750:899 Dissertation Research.

2. Satisfactory performance on final oral examination and defense of dissertation research.

### V. OTHER REQUIREMENTS.

1. Refer to the Department of Psychology Graduate Student Manual for other requirements or guidelines.

2. Complete and fulfill general Doctoral degree requirements of Graduate School.

Doctoral language requirements or appropriate alternative research skills and techniques may be prescribed by the student's Advisory Committee, depending upon the career plans of the student and upon the academic and/or scientific requirements of his/her dissertation.

## DOCTOR OF PHILOSOPHY IN SOCIOLOGY AKRON-KENT JOINT PH.D. PROGRAM IN SOCIOLOGY

The University of Akron and Kent State University Departments of Sociology offer at joint program leading to the Ph.D. degree. Faculty and students engaged in the joint Ph.D. program are for all intents and purposes regarded as one single graduate department. Course work is offered at both campuses and faculty and students interchange freely.

The general objective of the Akron-Kent Ph.D. program is to train Sociologists whose specialty includes a strong emphasis on urban processes.

Admission to the program:

1. Applying with a completed Master's degree or equivalent, or

2. Applying to the Ph.D. program after at least one year of full-time course work or equivalent (18 hours) in the Sociology M.A. program at Akron. The course work must include the M.A. core sequence. This type of admission is limited to students

whose records clearly indicate both scholarly and research potential to do doctoral level work.

### *Degree requirements for students admitted with the Master's degree or equivalent*

In addition to meeting the general requirements of the Graduate School, students working toward the Doctor of Philosophy degree in Sociology must meet the following requirements:

1. The Seminar in Urban Sociology (3850:647) 3 credits

2. Two doctoral level courses in Theory. These courses are to be selected from the predetermined group of courses (see Department of Sociology Graduate Student Handbook)

3. Two doctoral level courses in Methods/Statistics. These courses are to be selected from the predetermined group of courses (see Department of Sociology Graduate Student Handbook)

4. Complete a substantive specialty of at least 15 credits

5. Complete a minimum total of 30 credits (semester) in course work.

6. Pass the doctoral comprehensive examination. This examination is given in the specialty area and will include an evaluation of methodology, theory and urban process relevant of the specialty area.

7. Fulfill residency requirement of the Graduate School.

8. Complete foreign language requirement by one of four sequences as detailed in the Department of Sociology Graduate Student Handbook:

Foreign language  
Computer science  
Statistics  
Philosophy

9. Register for a minimum of 30 hours of dissertation credit, complete a dissertation and successfully defend it in an oral examination.

### *Degree requirements for students admitted without the Master's degree*

In addition to meeting the requirements for students *admitted with the Master's degree*, he/she must:

1. Satisfactory completion of the M.A. core course work.

2. Satisfactory completion of a research practicum (3 credits). This may be waived for students who already have sufficient research experience.

3. Complete a minimum total of 60 credits of graduate level (600 or higher) course work beyond the Bachelor's degree.

## THE MASTER'S DEGREE

Programs of advanced study leading to the Master's degree are offered by the Departments of Biology, Chemistry, Economics, English, Geography, Geology (Earth Science), History, Mathematics and Statistics, Modern Languages (French and Spanish), Philosophy, Physics, Political Science, Polymer Science, Psychology, Sociology, and Urban Studies. Before undertaking such a program the student must show that he/she has:

1. Met the general requirements for admission to the Graduate School.
2. Met the standard requirements for an undergraduate major in the area of the proposed graduate specialty or that he/she has performed work which the department approves as equivalent to an undergraduate major.

### BIOLOGY

*Requirements for the Master of Science degree:*

Two options are available:

1. Research option: This program is designed primarily for students who will pursue a research career, including those who intend to enter a doctoral program in the biological sciences. Research and thesis, nine credits. A minimum of 24 credits total course work approved by the student's advisory committee is required. A minor may be taken in approved graduate courses including education. Participation in seminars and demonstration, prior to last quarter of enrollment, of reading proficiency in a foreign language appropriate to the field of study are required. Summer study at a biological station is recommended.

2. Non-thesis option: The curriculum is oriented to the needs of students for whom the M.S. degree will probably be terminal scientific degree and who do not need extensive research experience.

The requirements are the same as option 1, except that no thesis and research is undertaken, but a total of 36 credits of approved course work is required.

For additional details concerning selection of options, refer to Department of Biology, Graduate Student Guidelines.

### CHEMISTRY

*Requirements for the Master of Science degree:*

Research and Thesis, six credits. A minimum of 24 credits of course work as approved by the student's advisory commit-

tee is required. With permission of the student's advisory committee a maximum of 12 credits may be taken in mathematics or physics. Attendance and participation in seminar-type discussions scheduled by the department are required. Demonstration, prior to the last quarter of enrollment of reading proficiency in a foreign language appropriate to the field of study is required.

### ECONOMICS

*Requirements for the Master of Arts Degree:*

Option I: A minimum of 30 credits of course work including a thesis equivalent to 6 credits of the 30 credits.

Option II: A minimum of 30 credits of course work with no thesis required.

At least 21 of the 30 credits under each option must be at the 600-level in economics. The following courses are required: 3250:520-526-602-611, plus a specialization, a list of which is available from the department. 3250:520-526 may be waived for students who can demonstrate in a qualifying exam that they have adequate preparation in mathematics and statistics. Exceptional departures from these requirements may be approved with the permission of the graduate faculty and department head. A comprehensive examination is intended to test the candidate's knowledge of economic theory and his/her field of specialization.

### ENGLISH

*Requirements for the Master of Arts Degree:*

Thirty credits of course work are required, with at least 16 on the 600 level. The program will include the following courses, unless previously taken:

3300:506 (Chaucer)

3300:570 (History of the English Language)

or

3300:670 (Modern Linguistics)

3300:615 (Shakespeare Drama)

3300:691 (Bibliography and Literary Research)

A thesis (330:699) or two thesis essays are required. Before enrolling in the final semester, a student must demonstrate reading proficiency in a foreign language appropriate to English studies. However, the completion of one junior- or senior-level course in a foreign language will exempt the student from examination, provided that course was taken no more than

five years before the student began graduate work.

## FRENCH

*Requirements for the Master of Arts Degree:*

### I. CORE REQUIREMENTS

32 semester credits of graduate work, which may include a thesis amounting to 4 credits:

- 16 credits in literature
- 8 credits in culture
- 8 credits in linguistics

### II. ADDITIONAL REQUIREMENTS

A. *Admission Requirement:* Proficiency level of listening comprehension, speaking, reading and writing French.

B. *Second Language Requirement:* 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/her adviser.

C. *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/her program.

## GEOGRAPHY

*Requirements for the Master of Arts Degree:*

1. Completion of a minimum of 30 credits of which at least 24 must be course work and of which 16 credits (exclusive of research), must be in Geography courses and must include: 3350:581, 583, and 687. A minimum of 12 credit hours at the 600 level will be required, exclusive of thesis. Courses taken outside the department of Geography must be approved by the department prior to enrollment.

2. A thesis, carrying 4 to 6 credits, must be approved by a committee of the department.

3. Successful completion of a comprehensive examination administered by the departmental committee.

Students who have undergraduate deficiencies in cartography, geographic research techniques and spatial analysis will be expected to remedy these by taking appropriate courses with the advice of the head of the department.

*Requirements for the Master of Science Degree:*

1. Completion of a minimum of 30 credits of course work of, which at least 16 (exclusive of research) must be in Geography courses and must include: 3350:581, 583, and 687. A minimum of 12 credit hours at the 600 level will be required, exclusive of thesis.

2. Courses taken outside the department must be approved by the department.

3. Completion of 8 credits of graduate level statistics courses approved by the department.

4. Successful completion of a comprehensive examination administered by the departmental committee.

Students who have undergraduate deficiencies in cartography, geographic research techniques and spatial analysis will be expected to remedy these by taking appropriate courses with the advice of the head of the department.

## GEOLOGY: EARTH SCIENCE

*Requirements for a Master of Science degree:*

1. The student must take a proficiency examination at the beginning of the program. The examination will test competencies in the following areas: a. The Solid Earth, b. Earth History, c. The Atmosphere and Hydrosphere, and d. Earth-Space Relationships. The student who demonstrates a lack of basic knowledge in one or more of these areas will be required to successfully complete appropriate undergraduate courses. The student's program, including all elective course work, must be approved by an adviser appointed by the department head at the beginning of the program.

2. The program of the student must include thesis (3370:699), geology field camp (3370:496/596), seminar (3370:680), and a minimum of one graduate course in each of the four areas listed under Item 1 above. At least one-third of the minimum degree credits shall be at the 600 level.

Courses that are appropriate to the four areas include:

a. The Solid Earth—3350:595; 3370:510, 532, 533, 535, 537, 550, 623, 631, 632, 634, 675, 678.

b. Earth History—3370:511, 525, 563, 660.

c. The Atmosphere and Hydrosphere—3100:524, 526; 3350:595; 3370:570, 574.

d. Earth-Space Relationships—3350:544; 3370:504, 541, 546.

3. The student must successfully pass a written comprehensive examination after the completion of 18 graduate credits. The

written comprehensive examination may be attempted two times only.

4. The student must complete, present, and orally defend a thesis (3370:699) of 6 credits. The thesis will be supervised by a minimum three-member committee appointed by the department head as recommended by the student and adviser.

5. Normally, a student will have completed one year each of Chemistry, Physics, and Biology and at least one course in Calculus at the undergraduate level. For the areas of specialization within the degree and cited under Number 6 which follows, specialization in Engineering Geology or Geophysics does not require the year sequence in Biology, specialization in Environmental Geology or Earth Science requires the completion of a minimum of one of the course sequences. Deficiencies in undergraduate preparation can be satisfied by appropriate courses taken concurrently with graduate studies.

#### 6. Areas of Specialization:

##### a. Geology—specific requirements are:

- 1) Completion of a minimum of 6 credits from each of the following groups of courses:
  - a) Solid Earth Group
    - 3370:510 Regional Geomorphology
    - 3370:537 Economic Geology
    - 3370:550 Advanced Structural Geology
    - 3370:570 Geochemistry
    - 3370:634 Clay Mineralogy
  - b) Earth History Group
    - 3370:525 Stratigraphy
    - 3370:563 Micropaleontology
    - 3370:623 Sedimentary Petrology
    - 3370:660 Evolution and The Fossil Record

b. Engineering Geology—for the graduate Engineer and Geologist who wish to broaden their expertise in the other's field. Entering students may have some deficiencies in either Engineering or Geology and must therefore satisfy several undergraduate "ramp" courses while proceeding with graduate studies. Specific requirements are:

- 1) Completion of required "ramp" courses:
  - 3370:101 Introductory Physical Geology
  - 3370:210 Geomorphology
  - 3370:350 Structural Geology
  - 3450:221-23 Analytical Geometry-Calculus I, II, III
  - 4300:201 Statics
  - 4300:202 Introduction to Mechanics of Solids
  - 4300:311 Geotechnical Engineering
  - 4600:310 Fluid Mechanics
- 2) Completion of required graduate courses:
  - 3370:631 Rocks and Minerals
  - 4300:611 Fundamentals of Soil Behavior

4300:614-15 Foundation Engineering I, II

##### c. Environmental Geology—specific requirements are:

- 1) Completion of the following courses:
  - 3370:574 Ground Water Hydrology
  - 3370:541 Fundamentals of Geophysics
  - 3370:570 Geochemistry
  - 3370:631 Rocks and Minerals
  - 3370:678 Urban Geology
- 2) From 6 to 8 credits or courses may be selected from Biology, Geography, and/or Engineering with the approval of an adviser.

##### d. Geophysics—specific requirements are:

- 1) Completion of the following courses:
  - 3650:531 Mechanics
  - 3650:536 Electricity and Magnetism
- 2) Completion of a minimum of 6 credits from the following courses:
  - 3360:541 Fundamentals of Geophysics
  - 3370:546 Exploration Geophysics
  - 4300:518 Soil and Rock Exploration

##### e. Earth Science—specific requirements are:

- 1) Attainment of a balanced knowledge of all four basic areas as determined by the adviser and demonstrated by the student's comprehensive examination.
- 2) The program of the student who will become a teacher of earth science must also include a minimum of three credits in Seminar in Secondary Education: Earth Science (5300:780).

## HISTORY

### Requirements for the Master of Arts degree in History:

#### I. Entrance Requirements:

Must have had at least 15 semester or 22 quarter credits in undergraduate history courses. Persons who have not taken Historical Methods or its equivalent must complete this course in addition to the 30 credit hour degree requirements.

#### II. Foreign Language Requirement:

Students who plan to do Ph.D. work must demonstrate a reading knowledge of one foreign language within the first year of residency or on completion of 18 hours. The thesis advisor, or the Director of Master's Studies, or both, may require a student to have a reading knowledge of a specific language or mastery of a particular research skill if pertinent to the student's field of study. In other cases, a reading knowledge of one foreign language is desirable but not mandatory.

#### III. Programs:

Option A. A minimum of 30 credits which must include a research seminar, a

satisfactory thesis, and field examinations. A board of at least three faculty members will conduct a final oral examination which will include a defense of the thesis and the relationship of the thesis to the major field.

Option B. A minimum of 30 credits which must include a research seminar, at least two pro seminars, and field examinations. The seminar paper must be read, approved, and awarded no less than a grade of B by the seminar advisor and at least one other faculty member to be designated by the Director of Master's Studies.

#### IV. Fields of Study:

In consultation with the advisor, students select three fields of study from the following: Ancient; Medieval; Europe, Renaissance to 1815; Europe 1815 to present; England and the Empire; United States to 1865; United States since 1865; Latin America; Far East and History of Science. A third field may be selected from a cognate discipline such as Political Science or Economics. If all three fields are taken in History, one of the fields must be unrelated to the first two. Credit hours will be distributed among the three fields according to each person's needs. At least 11 of the minimum 30 hours must be at the 600 level, excluding individual reading.

#### V. Examinations:

Comprehensive written examinations, appropriate to the level of scholarship expected in major and minor fields are required. If the student does not pass these examinations unconditionally, the examining faculty may reexamine the student orally or require him/her to retake a written examination or examinations after a lapse of three months.

#### VI. Other Requirements:

If the candidate has not had a course in Historiography it must be included in his/her minimum program of 30 credits.

### MATHEMATICS AND STATISTICS

#### Requirements for the Master of Science Degree: In Mathematics

Option I: 30 credits of graduate work, no thesis required.

Option II: 30 credits of graduate work, including a thesis equivalent to 4 credits of the 30 required.

##### 1. Core Requirements

The following courses are required:

3450:611 Algebraic Theories I  
 3450:612 Algebraic Theories II  
 3450:621 Functions of a Real Var. I  
 3450:622 Functions of a Real Var. II  
 3450:698 Mathematics and Statistics Seminar

Plus 6 graduate credits of additional courses in a single approved area of concentration in mathematics or statistics.

##### 2. Electives

Option I: 10 additional credits in 500-level or 600-level Mathematics and Statistics courses.

Option II: 8 additional credits in 500-level or 600-level Mathematics or Statistics courses, and 2 credits in 3450:699.

With the consent of the Department of Mathematics and Statistics, up to 6 credits of approved graduate level electives outside the department may be submitted in Option I or Option II.

##### 3. Additional Requirements

A comprehensive exam, taking the form suggested by the department, will be required.

#### Requirements for the Master of Science degree: in Statistics

Option I: 30 credits of graduate work, no thesis required.

Option II: 30 credits of graduate work, including a thesis equivalent to 4 credits of the 30 credits required.

##### 1. Core Requirements

The following courses are required:

3450:610 Matrix Algebra  
 3450:698 Mathematics and Statistics Seminar

3470:564 Experimental Design II  
 3470:650 Advanced Probability  
 3470:651 Mathematical Statistics I  
 3470:652 Mathematical Statistics II  
 3470:665 Regression & Correlation  
 3470:655 Linear Models

##### 2. Electives

Option I: 8 additional credits in 500-level or 600-level Mathematics or Statistics courses

Option II: 6 additional credits in 500-level or 600-level Mathematics or Statistics courses, and 2 credits in 3450:699.

With the consent of the Department of Mathematics and Statistics up to 6 credits of approved graduate level electives outside the department may be substituted in Option I or Option II.

##### 3. Additional Requirements

A comprehensive exam, taking the form suggested by the department, will be required.

**Requirements for a Master of Science Degree: In Mathematics with an option in Applied Mathematics:**

Option I: 30 credits of graduate work, no thesis required.

Option II: 30 credits of graduate work, including a thesis equivalent to 4 credits of the 30 credits required.

3450:610 Matrix Algebra

3450:621 Functions of a Real Var. I

3450:625 Anal. Function Theory

3450:627 Adv. Numerical Analysis I

Either:

3450:633 Continuous Systems I

3450:634 Continuous Systems II

Or:

3450:635 Discrete Systems I

3450:636 Discrete Systems II

3450:696 Mathematics & Statistics Seminar

3470:552\* Theoretical Statistics II

\*Or equivalent statistics courses as determined by the Department of Mathematics and Statistics.

**Electives:**

Option I: 7 additional credits in 500-level or 600-level Mathematics or Statistics Courses.

Option II: 5 additional credits in 500-level or 600; level Mathematics or Statistics Courses and 2 credits in 3450:699.

With the consent of the Department of Mathematics and Statistics, 6 credits of approved graduate level electives in single area of concentration outside the department may be substituted in Option I or Option II.

**Additional Requirements:**

A comprehensive exam taking the form suggested by the department will be required.

## PHILOSOPHY

**Requirements for the Master of Arts Degree:**

**General Requirements:**

1. Baccalaureate Degree
2. Minimum 2.75 average in college work (based on C 2)
3. Minimum 2.75 average in the major area
4. GRE, or MAT, and three letters of recommendation

**Department requirements:**

1. At least 4 quarter courses or 4 semester courses in undergraduate philosophy or a major in some related area. (Students with inadequate background in philosophy will be expected to make up the deficiency.)

2. Complete at least 30 semester hours with a B average.

3. Complete at least 3 seminars in 3600-:615 (Seminar in the History of Philosophy) or equivalents, one course in Value Theory and one in Logic, on the graduate level.

Pass a comprehensive examination in the History of Philosophy and two others from the following fields:

1. Logic, Philosophy of Science, and Methodology.

2. Value Theory, including Ethics, Aesthetics, and Social and Political Philosophy.

3. Epistemology and Metaphysics.

In addition to English, demonstrate mastery of another language by written translation.

Complete a thesis under departmental supervision after passing the comprehensive examination.

## PHYSICS

**Requirements for the Master of Science Degree:**

The following courses should normally be included in the graduate program: 3650:601-602 and 651-652, and 681.

A comprehensive examination, taking the form suggested by the department, must be passed; the fields covered will include classical mechanics, quantum mechanics, electricity and magnetism, atomic and nuclear physics, thermodynamics, and optics.

Graduate research participation is strongly encouraged. Up to five credits may be earned in 3650:697 upon the satisfactory completion of a graduate research project. One additional credit may, upon approval by the department, be permitted in 3650:699 for the completion of a master's thesis based on such research. A successful thesis may thus account for up to six of the total of 30 graduate credits required.

## POLITICAL SCIENCE

**Requirements for the Master of Arts Degree:**

Option I: 30 credits of Graduate Work, at least 18 credits of which (including Thesis) must be at the 600-level in Political Science. Six credits for thesis. Thesis topic and completed thesis must be approved by student's thesis committee.

Option II: 30 credits of Graduate Work, at least 18 credits of which must be at the 600-level in Political Science. Each student must submit two high-quality seminar papers for approval by a Departmental

Committee of three persons chosen by the Department Head.

**Additional requirements:**

A. Each candidate must pass a comprehensive examination covering two fields to be determined in conjunction with a departmental adviser.

B. Each student will be required to take 3700:640 and at least one graduate seminar in each of the following areas:

(1) American Government and Politics (one of the following courses)

3700:630 Seminar in National Politics

3700:641 Seminar in Intergovernmental Relations

3700:660 Seminar in Civil Liberties and the Judicial Process

3700:680 Seminar in Urban and Regional Politics

3700:670 Seminar in the Administrative Process

(2) Comparative Politics (one of the following courses)

3700:620 Seminar in Comparative Politics

3700:626 Seminar in the Politics of Developing Nations

(3) International Politics

3700:610 Seminar in International Politics

(4) Political Theory

3700:600 Seminar in Political Theory

In exceptional cases, with the approval of the Graduate Advisor and the Head of the Department, the student may be permitted to omit a graduate seminar in one of these areas and to substitute another graduate level course in its place.

C. In certain cases, at the discretion of the Department Head candidates may be asked to take undergraduate courses to overcome serious deficiencies.

## POLYMER SCIENCE

**Requirements for the Master of Science degree:**

A minimum of 24 credits in appropriate courses in Biology, Chemistry, Mathematics, Physics, Polymer Science, and Engineering as prescribed by the student's advisory committee. The research project (enrollment in 3940:699) and resulting thesis provide the 6 additional credits required for the degree. Attendance at and participation in seminar-type discussions scheduled by the Department are required.

## PSYCHOLOGY

**Requirements for the Master of Arts degree:**

Option I: Completion of a minimum of 30 credits of graduate work. Thesis required.

Option II: Completion of a minimum of

30 credits of graduate work with no thesis required. Completion of course work, practicum and examinations in either Personnel Psychology, Clinical-Counseling Psychology, or Developmental Psychology.

### I. Entrance Requirements:

1. Fulfill admission requirements of the Graduate School and the following departmental requirements:

a. Equivalent of psychology undergraduate major including a General or Introductory course. Statistics course and Experimental psychology course.

b. 3.00 GPA in psychology courses.

c. Graduate Record Examination (GRE) Verbal, Quantitative Advanced Psychology Test.

d. Miller Analogies Test (MAT).

e. Two letters of recommendation.

### II. Course Requirements:

1. Completion of a minimum of 30 credits graduate psychology courses including M.A. core courses or equivalents, M.A. required courses and electives as specified in Psychology Department Graduate Student Manual.

2. Students are required to maintain at least a 3.00 GPA in M.A. core courses, as well as a 3.00 GPA overall.

### III. M.A. Examination:

Option I: Qualifying Examination covering core course subject areas.

Option II: Written and oral Comprehensive Examinations in the specialty area.

### VI. Other Requirements:

1. Refer to Psychology Department Graduate Student Manual for additional guidelines and details.

2. Complete and fulfill general master's degree requirements of Graduate School.

## SOCIOLOGY

**Requirements for the Master of Arts Degree:**

Option I: This degree option is intended for students who either plan on eventually pursuing a Ph.D. degree, or whose work will require the ability to conduct research.

Satisfactory completion of 32 semester credits of which at least 21 must be at the 600 level in Sociology or Anthropology (excluding Thesis, 3850:699; and Readings, 3850:697). In meeting these requirements, the student must:

1. Complete three required core courses with at least a 3.0 average:

3850:603 Sociological Research Methods. 3 credits.

3850:604 Social Research Design. 3 credits.

3850:617 Sociological Theory. 3 credits.

2. Complete at least 6 hours of *Thesis* work (3850:699) (no more than 6 credits will count toward the degree)

3. Completion of Master's thesis and successful oral defense of thesis.

Option II: This degree option is intended for students who want intensive and substantive training in a specialized area.

Satisfactory completion of 32 credits (semester) of graduate level work. No more than 6 credits can be taken at the 500 level. In meeting these requirements, the student must:

1. Complete three required core courses with at least a 3.0 average:

3850:603 *Sociological Research Methods*. 3 credits.

3850:604 *Social Research Design*. 3 credits.

3850:617 *Sociological Theory*. 3 credits.

2. Satisfactorily complete at least 15 credits (semester) in a contracted specialty area. This specialty area must be defined in consultation with the student's advisor and approved by the Graduate Studies Committee. Courses from other departments may be taken to meet the specialty requirement.

3. Pass a two-hour oral examination on the specialty area.

## SPANISH

*Requirements for the Master of Arts degree:*

### I. Core Requirements

32 semester credits of graduate work, which may include a thesis amounting to 4 credits:

16 credits in literature

8 credits in culture

8 credits in linguistics

### II. Additional Requirements

A. *Admission Requirement*: Proficiency level in listening comprehension, speaking, reading and writing Spanish.

B. *Second Language Requirement*: The candidate will be required to demonstrate a reading knowledge of a modern foreign language other than Spanish. Choice of the second language will be left to the student in consultation with his/her adviser.

C. *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/her program.

## URBAN STUDIES

*Requirements for the Master of Arts Degree:*

Completion of 34 credits, which must include the following:

1. Urban Studies Core 18 credits: 3980:600, 601, 602, and 690 required. Credits taken in an academic department other than Urban Studies may, if approved by the Department of Urban Studies, be used in meeting the core requirement.

2. Urban Related Courses (16 credits): This requirement may be fulfilled by taking urban related courses in a specific department, several academic departments, or by taking additional urban studies core courses.

Courses taken outside the Department of Urban Studies for the purpose of fulfilling either the core or Urban Related requirements must be approved by the Department prior to registration.

Urban Studies —  
Public Administration:

1. 40 credit hours of course work plus internship where applicable.

2. Complete all requirements for the M.A. in Urban Studies.

3. A minimum of 27 credits in Core Curriculum with the balance of course work to be taken from Recommended Courses.

4. 1 to 3 credits of Internship for students without professional public employment experience.

A required study program will be planned by the student and his/her advisor upon admission to the program.

Urban Studies — Urban Planning

1. 48 credit hours of course work plus internship where applicable.

2. Complete all requirements for the M.A. in Urban Studies.

3. A minimum of 29 credits in Core Curriculum with the balance of course work to be taken from Recommended Courses.

4. 1 to 3 credits of Internship for all students without professional planning experience.

A required study design that will be developed by the student and his/her advisor upon admission to the program.

# The College of Engineering

In addition to the general requirements for admission to the Graduate School, an applicant for graduate study in Engineering must either (1) hold a bachelor's degree in a curriculum accredited by the Engineers' Council for Professional Development at the time of his graduation, or (2) provide evidence of an equivalent academic background\* to the satisfaction of the Dean of the College of Engineering and the Department Head. An applicant must have completed the equivalent of Differential Equations, Elementary Classical Physics, Principles of Chemistry, and demonstrate proficiency at the undergraduate levels in courses related to the area of intended study.

## THE DOCTOR OF PHILOSOPHY IN ENGINEERING

Interdisciplinary programs in environmental engineering, materials science, mechanics, systems engineering, and transport processes are offered through the College of Engineering. In addition to the general requirements of the Graduate School, a student must:

1. Successfully complete a qualifying examination before completing either 10 credits of course work after admission in the program or within two quarters after admission into the program. The examination shall cover graduate courses that the student has completed and basic undergraduate topics.

2. Complete courses in the plan of study developed on the basis of the qualifying examination by the student advisory committee. A minimum of 90 credits of graduate work, generally 60 for course work and 30 for dissertation, must be earned.

3. Pass a candidacy examination which may be taken after ninety percent of the course work specified in the plan of study has been completed.

4. Register for dissertation credits according to the schedule available from the Dean of Engineering.

5. Pass an oral examination in defense of the dissertation.

The student advisory committee shall specify the student's language requirements. The appropriate language is selected on the basis of the student's area of specialization and intended research. A foreign language is not required for all students.

A copy of the Ph.D., in Engineering Program Procedures is available from the Dean of Engineering.

\*Students without a B.S. in Engineering but with a baccalaureate degree in a related field may be accepted for graduate studies but the student will be required to make up the undergraduate deficiencies for which the student will not receive graduate credit.

## THE MASTER'S DEGREE

The degrees Master of Science in Chemical Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Mechanical Engineering and Master of Science in Engineering are offered.

Requirements:

### Chemical Engineering

The candidate for a Master of Science in Chemical Engineering degree must successfully complete the graduate course work and other criteria which is outlined below:

Thesis Option	Credits
4200:604 Transport Phenomena	3
4200:610 Classical Thermodynamics	3
4200:615 Chemical Reaction Engineering	3
Chemical Engineering Electives*	6
Approved Electives	6
Approved Mathematics	3
Thesis	6
	<hr/>
	30

The thesis must be satisfactorily defended in an oral examination. Students must pass a comprehensive examination. Students are expected to attend and participate in the Department of Chemical Engineering seminars.

### Non-Thesis Option

4200:604 Transport Phenomena	3
4200:610 Classical Thermodynamics	3
4200:615 Chemical Reaction Engineering	3
Chemical Engineering Electives*	6
Approved Electives	18
Approved Mathematics	3
	<hr/>
	36

Students must pass a comprehensive examination. Students are expected to attend and participate in the Department of Chemical Engineering seminars.

\*The elective Chemical Engineering courses may not include more than three credits of 500-level courses.

### Civil Engineering

Thesis Option	Credits
Civil Engineering course work	15
Approved Mathematics or Science	3
Approved Electives	6
Thesis	6
	<hr/>
	30

The thesis must be satisfactorily defended in an oral examination.

### Non-Thesis Option

Civil Engineering course work	15
Approved Mathematics or Science	3
Approved Electives	12
Special Problem	2
	<hr/>
	32

## MASTER OF SCIENCE IN ELECTRICAL ENGINEERING

At the beginning of their program, students are required to take a comprehensive proficiency examination on six undergraduate topics covering circuit theory, circuit applications, electronics, electromagnetic fields, machines and power, and controls. Students who demonstrate a lack of knowledge in one or more of these areas will be required to successfully complete appropriate undergraduate courses. Topic outlines are available from the department office.

<i>Thesis Option</i>	<i>Credits</i>
3650:581, 582 Methods of Mathematical Physics I, II	6
4400:641 Random Signal Analysis	3
4400:651 Electromagnetic Fields	3
Electrical Engineering Electives*	8
Approved Engineering, Mathematics or Science	4-8
Thesis	<u>4-6</u>
	30

The thesis must be satisfactorily defended in an oral examination.

<i>Non-Thesis Option</i>	
3650:581, 582 Methods of Mathematical Physics I, II	6
4400:641 Random Signal Analysis	3
4400:651 Electromagnetic Fields	3
Electrical Engineering Electives*	8
Approved Engineering, Mathematics or Science	<u>10</u>
	30

Students must pass a graduate level oral comprehensive examination which may be taken after 24 credits have been completed.

\*The elective Electrical Engineering courses may not include more than three credits of 500-level courses.

## MASTER OF SCIENCE IN MECHANICAL ENGINEERING

<i>Thesis Option</i>	<i>Credits</i>
Mechanical Engineering course work*	15
Approved Mathematics	3
Approved Electives*	6
Thesis	<u>6</u>
	30

The thesis must be satisfactorily defended in an oral examination.

<i>Non-Thesis Option</i>	
Mechanical Engineering course work*	15
Approved Mathematics	3
Approved Electives*	12
Special Problem	<u>2</u>
	32

\*The program is limited to not more than three 500-level courses in Engineering. Not more than two of the 500-level courses can be applied to the fifteen hours of Mechanical Engineering course work. For students specializing in systems and controls, and electing the thesis option, six hours of non-Mechanical Engineering courses in the area of systems and controls may be substituted for six of the required fifteen hours of Mechanical Engineering courses. Prior written approval from the student's advisor must be obtained. The limitations on 500-level courses still apply in each category for students in systems and controls.

## MASTER OF SCIENCE IN ENGINEERING

### *Purpose*

This program is intended for those students whose educational objectives can not be met by one of the four departmental programs.

### *Degree Requirements*

<i>Thesis Option</i>	<i>Credits</i>
Engineering Coursework	12
Approved Mathematics or Science	3
Approved Electives	9
Thesis	<u>6</u>
	30

Successful oral defense of the thesis.

### *Nonthesis Option*

Engineering Coursework	18
Approved Mathematics or Science	3
Approved Electives	9
Special Problems	<u>2</u>
	32

### *Administration*

The overall program will be administered by the Dean of the College of Engineering. Students should declare their intention to study toward the M.S.E. degree before the completion of 10 graduate hours; this intention must be indicated in writing to the Dean of the College of Engineering. Later admission to the program may be granted upon petition to the Dean of the College of Engineering. Upon admission, the Dean will appoint an Advisory Committee, consisting of at least two faculty members selected from the faculties of the interdisciplinary divisions of the College. The committee members will be from at least two departments. The Special Problem selection and final report must receive the approval of the Advisory Committee.

# The College of Education

The Miller Analogies Test is required of all students seeking admission to graduate programs in the Department of Secondary Education, Physical Education, Elementary Education, and Counseling and Special Education. Students seeking admission to the graduate program in Educational Administration must take the Bernreuter Scale, Watson Glaser, and Guilford-Zimmerman examinations. (Students seeking admission to Elementary and Secondary School Principal programs must take the Millers Analogies.) It is the applicant's responsibility to make arrangements with the Testing and Counseling Bureau to take the appropriate examination or examinations.

## THE DOCTOR OF PHILOSOPHY DEGREE

Programs leading to the Doctor of Philosophy Degree in Elementary Education, Secondary Education, and Guidance and Counseling are offered through the College of Education. The degree will be awarded to students who, besides filling the general requirements of the Graduate School, have met the following specific requirements:

1. A minimum of 90 graduate credits (including a 30-credit Master's program where applicable), including the doctoral dissertation. Students considered deficient in any area may be required to take additional courses.

2. The completion of a foundation studies program designed to prepare the student generally before he/she begins to specialize.

3. The completion of preliminary examinations on the foundation studies areas and the major field of concentration.

4. Successful completion of an examination in a language judged not to be the student's native tongue.

a. Students in the Department of Counseling and Special Education may elect to develop appropriate research skills prescribed by their advisor in lieu of the foreign language requirements.

b. Students in the Department of Elementary Education may elect to develop appropriate alternative research skills prescribed by their advisor, subject to review by the department head, depending upon the career goal of the student, and upon the academic and/or scientific requirement of

his/her dissertation in lieu of the foreign language requirement.

c. Students in the Department of Secondary Education may elect to develop appropriate research skills prescribed by their advisor, subject to review by the department head in lieu of the foreign language requirement.

5. The completion of at least 12 credits beyond the Master's degree level in a cognate area.

6. The completion of final written and oral examinations in the student's major field of concentration.

7. The completion of a dissertation comprising not more than 20 credits. The oral examining committee must be constituted of at least five full-time staff members, one of whom must be from outside the College of Education.

8. Pass the general requirements for the Doctor of Philosophy degree.

The Ph.D. program in counseling has been approved by the Ohio State Board of Psychology "as being a doctoral program equivalent to one in Psychology." Candidates completing the program, as approved by the Board of Psychology, may after an appropriate period of supervised experience qualify to take the psychologist license examination.

## THE DOCTOR OF EDUCATION DEGREE

A program leading to the Doctor of Education degree in School Administration is also available.

The admission procedures and requirements for this degree are the same as outlined above in the Doctor of Philosophy degree program, except the language requirement is waived.

### Foundation Studies in Education (Graduate)

<i>Behavioral Studies</i>		<i>Credits</i>
5100:620	*Behavioral Bases of Education	3
	OR	
5100:624	Seminar: Educational Psychology	3
5100:721	Learning Processes	3
	OR	
5100:725	Teaching Behavior and Instruction	3
<i>Humanistic Studies:</i>		
<i>Historical</i>		
5100:701	History of Education in American Society	3
	OR	
5100:703	Seminar: History and Philosophy of Higher Education	3

	Credits
<i>Social and Philosophical</i>	
5100:600 *Philosophies of Education	3
OR	
5100:604 Seminar: Cultural Foundations of Education	3
OR	
5100:602 Comp. and International Education	3
5100:705 Seminar: Social-Philosophical Foundations	3
<i>Research</i>	
5100:640 *Techniques of Research	3
5100:741 Statistics in Education	3
5 :899 **Dissertation	10-20

Information regarding specific course requirements in each of the major areas of concentration may be obtained in the office of the College of Education.

\*Required in most Master's Degree programs.

\*\*Required in Doctoral Degree programs.

## THE MASTER'S DEGREE

Programs of advanced study leading to the degree of Master of Arts in Education, Master of Science in Education, and Master of Science in Technical 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 School 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 guidance and administration also should have had successful teaching experience. 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 it before recommendation for an advanced degree.

## ELEMENTARY EDUCATION

Objectives:

### A. Knowledge

1. The nature of the elementary school
2. The organization of the elementary school and its curriculum
3. The application of theory

### B. Skills

1. Ability to assess curricular needs

2. Ability to select appropriate materials

3. Ability to develop appropriate learning activities

### C. Attitudes and Values

1. Belief in the humanistic approach to education

2. Awareness and concern for the welfare of one another

3. Ability to accept those that are different

<i>Required:</i>	<i>Credits</i>
Foundation Studies Courses	9
5200:630 Elementary School Curriculum and Instruction	2
*5200:780 Seminar: Elementary Education	4-8
5200:699 Research in Education	2
	17-21
<i>Electives:</i>	<u>9-13</u>
Total Credits for Degree	30

\*Two seminars are required

Electives may be any combination of courses to meet the minimum of 30 credits which may include up to 12 credits in pertinent 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.

## SECONDARY EDUCATION

I. *Educational Foundations:* Select a minimum of one in the Humanistic Studies and one in the Behavioral Studies and one in the Research and Evaluation area. All course selection must be approved by the advisor.

### A. Humanistic Studies (suggested courses):

	<i>Credits</i>
5100:600 Philosophy of Education	3
5100:602 Comp. & Internat. Education	3
5100:604 Topical Seminar in the Cultural Foundations of Education	3

### B. Behavioral Studies (suggested courses):

5100:620 Behavioral Bases of Education	3
5100:624 Seminar: Educational Psychology	3

### C. Research and Evaluation:

5100:640 Techniques of Research	3
5600:645 Group Testing in Counseling	3
5100:741 Statistics in Education	3
3400:689 Historiography	3

## II. Secondary Education:

### A. Required:

	Credits
5300:780 Seminar in Secondary Education: Improvement of Instruction in the area of Concentration	2

B. Select 10 semester hrs. for the following graduate courses:

5300:619 Secondary Curriculum & Instruction	2
5300:721 Supervision of Instruction	2
5300:525 Reading Programs in Secondary Education	2
*5300:780 Seminar: Secondary Education Topics: Senior High Junior High Computer Assisted Instruction Individualized Instruction	2
5300:695 Field Experience	1-6
5400:505 Vocational Education for Youth and Adults	2
5300:699 Masters Problem or Thesis	1-4

\* Only two seminars for this option may be counted towards the degree.

III. Area of Concentration(s):

A. Select 10 semester hours of courses of 500 level or above.

IV. Electives:

A. Select one elective graduate course. 2

This program is intended to prepare the teacher of grades seven through twelve for the following areas: master teacher, department head, supervisor, and resource teacher. (Students planning to major in physical education should consult their advisors for alternate course requirements.) This program may also serve as preliminary preparation for those who wish to apply for the Doctor of Philosophy Degree in Secondary Education.

ELEMENTARY SCHOOL PRINCIPAL

Objectives

The Master's Program in Elementary Administration seeks to:

1. Provide students with an understanding of the elementary school and its history, its present purpose and its future potential.
2. Assist prospective administrators in perceiving the role of the elementary principal and determining whether it appeals to them as a career choice.
3. Provide students with the opportunity to experiment with alternate leadership styles in order to determine how they might best lead.
4. Coordinate classroom activities with field experiences in order to exercise student's administrative skills and test their ability to relate their understandings to performance.

Required:		Credits
Foundation Studies Courses		9
5200:630 Elementary School Curriculum and Instruction		2
5700:631 Elementary School Administration		2
5200:732 Supervision of Instruction in the Elementary School		2
5600:631 Elementary School Guidance		3
5700:601 Principles of Educational Administration		3
5700:610 Principles of Educational Supervision		3
5700:697 Field Experience for the Elementary Administrator		2
5700:699 Master's Problem or Thesis OR		2
5700:797 Field Experience for the Elementary Administrator		2
Electives:		3
Total Credits for Degree		31

Elective courses should be planned with the graduate advisor. This program is intended primarily for the student who expects to progress as a principal or administrator in the elementary schools.

SECONDARY SCHOOL PRINCIPAL

Objectives:

Included in the objectives of the Master's Degree Program in Secondary School Administration are the following:

1. To enable the student to gain a knowledge of the overall curriculum of the secondary school.
2. To provide the student with an understanding of successful methods of improving instruction in the secondary school.
3. To provide the student with practice in implementing a program to improve instruction in the secondary school.
4. To develop within the individual student the ability to:
  - (a) communicate successfully with individuals and groups
  - (b) work with individuals and groups successfully to improve the educational program
  - (c) implement the technical aspects of secondary education such as:
    - (1) student and teacher scheduling
    - (2) financial and student accounting
    - (3) budget control
    - (4) state reporting

Required:		Credits
Foundation Studies Courses		9
5700:696 Field Experience for the Secondary School Administrator		2
5600:633 Secondary School Guidance		3
5300:619 Secondary School Curriculum and Instruction		2
5700:620 Secondary School Administration		2
5700:610 Principles of Educational Supervision		3
5700:601 Principles of Educational Administration		3
5700:607 Legal Basis of Education		2

	Credits
5300:721 Supervision of Instruction in the Secondary School	2
5300:780 Seminar: Secondary Education: The Junior High School	2
5300:780 Seminar: Secondary Education: Evaluating the Secondary School	2
5400:505 Vocational Education for Youth and Adults	2
OR	
5700:710 Principles of Curriculum Development	3
Total Credits for Degree	34 or 35

### SUPERVISOR

Required:	Credits
Foundation Studies Courses	9
5700:710 Principles of Curriculum Development	3
5200:630* Elementary School Curriculum and Instruction	2
5300:619** Secondary School Curriculum and Instruction	2
5610:601*** Seminar: Special Education Curriculum planning	3
5700:610 Principles of Educational Supervision	3
5200:732* Supervision of Instruction Elementary School	2
5300:721** Supervision of Instruction Secondary School	2
5610:602*** Supervision of Instruction Special Education	3
5700:695 Field Experience for Supervisors	2

#### Electives:

With the approval of the advisor, the student will select at least one of the following courses and other electives which may include up to six pertinent electives from course offerings outside the College of Education:

5100:701 History of Education in American Society	3
5100:741 Statistics in Education	3
5700:740 Theories of Supervision	3
5700:699 Master's Problem or Thesis	2
Total Credits for Degree	30

\*Required only of Elementary Students

\*\*Required only of Secondary Students

\*\*\*Required only of Special Education Students

### LOCAL SCHOOL SUPERINTENDENT

#### Objectives:

The elements of the Local Superintendent program will enable the student to:

1. Communicate effectively
2. Organize and operate a curricular program
3. Supervise and evaluate a teaching and support staff
4. Prepare, coordinate, and carry out a budget and appropriation plan
5. Analyze, evaluate and articulate the legal aspects of education
6. Design, systemize, and coordinate a school facilities plan.

Required:	Credits
Foundation Studies Courses	9
5700:601 Principles of Educational Administration	3
5700:605 Decision-Making Theory and Practice in Educational Administration	3
5700:606 Evaluation of Educational Institutions	3
5700:607 Legal Basis of Education	2
5700:608 Principles of School Finance	2
5700:610 Principles of Educational Supervision	3
5700:710 Principles of Curriculum Development	3
5700:604 School and Community Relations	2
5700:895 Field Experience for the Superintendent	2
5700:699 Master's Problem or Thesis	2
Total Credits for Degree	34

### COUNSELING AND SPECIAL EDUCATION

Selected program offerings in the Department of Counseling and Special Education are available to persons with or without a teaching certificate. Interdisciplinary programs offered lead to certification by the Ohio State Department of Education and/or a Master's Degree. Program areas include Counseling, School Psychology, Special Education and Visiting Teacher. Persons who meet program prerequisites and who have earned a Master's Degree may matriculate as non-degree graduate students and pursue programs that lead, in selected areas, to certification.

### ELEMENTARY SCHOOL COUNSELING CERTIFICATION PROGRAM

Required Courses:	Credits
Foundations Studies Courses	9
5600:600 Seminar in Counseling	1
5600:631 Elementary School Guidance	3
5600:643 Counseling: Theory & Philosophy	3
5600:645 Group Testing in Counseling	3
5600:647 Career Counseling: Theory & Practice	3
5600:651 Techniques of Counseling	3
5600:653 Group Counseling	3
5600:657 Consultant: Counseling	3
5600:659 Organization and Administration of Guidance Services	3
5600:661 Seminar in Elementary School Counseling	2
5600:675 Practicum in Counseling	4
5610:540 Developmental Characteristics of Exceptional Individuals	3
Total	43

### SECONDARY SCHOOL COUNSELING CERTIFICATION PROGRAM

Required Courses	Credits
Foundations Studies Courses	9
5600:600 Seminar in Counseling	1
5600:633 Secondary School Guidance	3

	Credits
5600:643 Counseling: Theory and Philosophy	3
5600:645 Group Testing in Counseling	3
5600:647 Career Counseling: Theory & Practice	3
5600:651 Techniques of Counseling	3
5600:653 Group Counseling	3
5600:659 Organization and Administration of Guidance Services	3
5600:663 Seminar in Secondary School Counseling	2
5600:675 Practicum in Counseling	4
5610:540 Developmental Characteristics of Exceptional Individuals	3
Electives	<u>2</u>
Total	42

### COMMUNITY AND COLLEGE COUNSELING

**Foundations Courses:**

A minimum of one course must be elected from each of the following foundation areas: (A) Behavioral Studies; (B) Humanistic Foundations; and (C) Research. Availability of electives in foundation studies is dependent upon the student having completed course prerequisites.

**A. Behavioral Studies (Minimum of one course) Credits**

3100:528 Biology of Behavior	2
3750:500 Personality	3
3750:520 Abnormal Psychology	3
3750:550 Learning and Cognition	4
3750:620 Methods and Theories: Human Development	4
3750:704 Theories of Personality	3
3750:727 Psychology: Adulthood & Aging	4
5100:620 Behavioral Bases of Education	3
5100:624 Seminar: Educational Psychology	3

**B. Humanistic Foundations (Minimum of one course)**

3600:524 Existentialism	3
3600:564 Philosophy of Science	3
3850:504 Contemporary Sociological Theory	3
3850:510 Social Structures and Personality	3
3850:542 Sociology of Education	3
5100:600 Philosophy of Education	3
5100:604 Topical Seminary in Cultural Foundations of Education	3
5100:703 Seminar: History and Philosophy of Higher Education	3

**C. Research (Minimum of one course)**

3400:505 Historical Methods	2
3470:661 Advanced Behavioral Statistics I	3
3470:662 Advanced Behavioral Statistics II	3
5100:640 Techniques of Research	3
5100:741 Statistics in Education	<u>3</u>

The minimum number of hours to be elected in foundation studies is:

**Required Counseling Courses:**

5600:600 Seminar in Counseling	1
5600:635 Community and College Counseling	3
5600:643 Counseling: Theory and Philosophy	3
5600:645 Group Testing in Counseling	3
5600:647 Career Counseling: Theory and Practice	3
5600:651 Techniques of Counseling	3

	Credits
5600:653 Group Counseling	3
5600:665 Seminar in Community and College Counseling	3
5600:675 Practicum in Counseling	4
Electives	<u>6</u>
Total	40

### SPECIAL EDUCATION GRADUATE PROGRAM

A program of studies for the candidate seeking graduate degree status in Special Education will be selected from the following course listings. Students in special education who hold certification prior to enrollment in Graduate School must choose a program focus emphasizing one of the following areas: supervision, clinical practice, early childhood, developmental disabilities, school educational consultant or other focus identified to meet an individual's educational need. Elective options within the graduate program may be utilized to meet state certification requirements for teaching the mentally retarded child, the learning and/or behavioral disordered child or the orthopedically handicapped child. Certification as a Special Education Supervisor may also be pursued in combination with other departments.

#### MINIMUM PROGRAM: 35 hours

At least one-half of the Master's Degree program must be 600 level courses and at least 20 hours must be within Special Education.

The Master's Degree can be completed with or without meeting requirements for Special Education certification depending on program selection.

A certification program as a part of the Master's Degree may require an extended program.

*Foundation Courses: Required of all candidates*

*5100:600 Philosophies of Education	3
OR	
5100:604 Topical Seminar in the Cultural Foundations of Education	3
*5100:620 Behavioral Bases of Education	3
OR	
5100:624 Seminar: Educational Psychology	3
*5100:640 Techniques of Research	<u>3</u>
*Required for supervision certificate	9

*Departmental Core — Required of all candidates*

	Credits
5600:651 Techniques of Counseling	3
5610:540 Developmental Characteristics of Exceptional Individuals	3
OR	
5610:543 Developmental Characteristics of Learning Disabled Individuals	3

	Credits
5610:556 Classroom Behavior Management Exceptional Individuals	2
5610:603 Assessment and Educational Programs Special Education	3
5610:604 Educational and Management Strategies for Parents of Exceptional Individuals	3
	14

Departmental Option — Master's Paper  
(candidate required to choose one)

5610:600 Seminar in Special Education	3
5610:699 Special Education — Thesis or Problem	3
	3

Students must elect a program direction from one of the following:

- \*Supervisor — Special Education
- \*Clinical Practice — Special Education  
Special Education — Early Childhood  
Developmental Disabilities
- \*School Educational Consultant
- Other Foci

\*Requires prior or concurrent special education certification.

Supervision — Certification program (certification requires completion of the following courses, 27 months of classroom teaching with the identified handicapped and a Master's degree.)

**5100:600 Philosophies of Education	3
**5100:620 Behavioral Bases of Education	3
**5100:640 Techniques of Research	3
5700:610 Principles of Educational Supervision	3
5700:710 Curriculum Development	3
5610:601 Seminar: Special Education Curriculum Planning	3
5610:602 Supervision of Instruction Special Education	3
5700:695 Field Experience — Supervisors	2
	23

\*\*A part of Foundation Core courses

Clinical Practice — Special Education

5610:557 Clinical Teaching Practicum: Children with Learning Problems	3
5610:695 Field Experience — Masters	3

Electives to complete program.

Early Childhood — Special Education

5610:450 Educational Adjustment: Preschool and Primary Level Exceptional Children	3
5610:695 Field Experience — Masters	3

Electives to complete program.

Developmental Disabilities

5610:554 Educational Adjustment: Moderately-Severely and Profoundly Retarded	3
5610:695 Field Experience — Masters	3

Electives to complete program.

School Educational Consultant — Special Education

5610:605 Program Development and Service Delivery Systems — Special Education	3
---	---

	Credits
5610:695 Field Experience — Masters	3
Electives to complete program.	
Other Foci	
Programs developed to meet individual needs.	
Electives	

Select credits from the following areas in consultation with an advisor:

Psychology	Sociology
Educational Foundations	Elementary Education
Secondary Education	Physical Education
Counseling	Special Education
Inner-City Education	Educational Administration
Family Ecology	Speech Pathology and Audiology

### VISITING TEACHER OR SCHOOL SOCIAL WORKER CERTIFICATION PROGRAM

An interdisciplinary program leading to a Master's Degree and certification as a Visiting Teacher is available in the Department of Counseling and Special Education. Inquiry related to program requirements and admission standards should be addressed to the Department of Counseling and Special Education.

### MULTICULTURAL EDUCATION

The purpose of the program is to provide educators with the knowledge, skills and attitudes which will enable them to design and implement programs that promote the concept of cultural pluralism. Special attention is given to educational programming for culturally different learners.

Objectives:

1. to acquire/extend knowledge of

. . . early, recent and current literature and research on multicultural education and culturally different learners.

. . . majority and subculture value systems, family life styles, child rearing practices and language patterns as they relate to educational programming.

2. to strengthen/develop skills that demonstrate ability to

. . . determine appropriate motivational, instructional and management techniques for multicultural populations.

. . . construct and adapt materials appropriate to education that is multicultural.

3. to express/demonstrate attitudes that

. . . promote the concepts of cultural pluralism and equality of educational results.

Required Courses:	Credits
5630:581 Multicultural Education in the United States	3
5630:582 Characteristics of Culturally Different Youth	3
5630:686 Seminar: Education of the Culturally Different	2
5300:780 Seminar in Secondary Education	2
5300:780 Seminar in Secondary Education	2
5600:645 Group Testing in Counseling	3
5100:640 Techniques of Research	3
Electives in related special fields in education	<u>17</u>
Total Credits for Degree	35

**PHYSICAL EDUCATION**

Required:	Credits
Foundation Studies Courses	9
5550:699 Research in Education	2
OR	
5550:695 Field Experience Master's	2
5550:536 Adapted Physical Education for the Learning Disabled Child	2
5550:601 Administration of Health, Physical Education, Recreation and Athletics	3
5550:603 Curriculum Planning in Health and Physical Education	2
5550:605 Physiology of Muscular Activity and Exercise	2
5550:606 Measurement and Evaluation in Physical Education	3
5550:608 Supervision of Physical Education	<u>2</u>
	25
Electives: Agreed on by the advisor to meet Special Student Needs	<u>9</u>
Total Credits for Degree	31

**OUTDOOR EDUCATION**

Elementary Education Option:*	
5560:450/550 Application of Outdoor Education to the School Curriculum	4
5560:452/552 Methods, Materials, and Resources for Teaching Outdoor Education	3
5560:695 Practicum in Outdoor Education	<u>3</u>
Total	10
Secondary Education Option:*	
5560:450/550 Application of Outdoor Education to the School Curriculum	4
5560:452/552 Methods, Materials, and Resources for Teaching Outdoor Education	3
5560:695 Practicum in Outdoor Education	<u>3</u>
Total	10

\*In addition to other requirements peculiar to Elementary and Secondary Programs.

**TECHNICAL EDUCATION**

The major objective of the program in Technical Education is to prepare instructors and other educational personnel for post-secondary educational institutions, industry, and public and private agencies engaged in the education and training of technicians and middle-level workers.

**A. Foundation Studies Courses: (9 Credits)**

	Credits
5100:600 Philosophies of Education	3
5100:620 Behavioral Bases of Education	3
5100:640 Techniques of Research	3
<b>B. Professional Technical Education: (9 Credits)</b>	
5400:510 The Two-Year College	3
5400:521 Instructional Techniques in Technical Education	4
5400:530 Course Construction in Technical Education	2

For students selecting the Vocational Home Economics Option 5400:511, Vocational Home Economics, 2 credits, may be taken in place of 5400:530. Students selecting this option must also take an additional 2 credits in a course emphasizing the adult in Vocational Education.

**C. Field of Specialization: (One option is selected for a total of 8-13 credits)**

1. **Teaching Option:** An approved schedule of technical courses selected from the offerings of The Graduate School. Course selections will be determined on the basis of the student's academic and professional background.

2. **Guidance Option A:** (Must be followed in sequence)

	Credits
5600:643 Counseling: Theory & Philosophy	3
5600:651 Techniques of Counseling	3
5600:653 Group Counseling	3
5600:675 Practicum in Counseling	4

**3. Guidance Option B**

5600:635 Community & College Counseling	3
5600:647 Career Counseling: Theory & Practice	3
5600:645 Group Testing in Counseling	3

Select one of the following:

5600:649 Counseling & Personnel Services in Higher Education	2
5600:665 Seminar: Community & College Counseling	3
5600:526 Career Education	2

**4. Curriculum and Supervision Option**

5700:610 Principles of Educational Supervision	3
5700:710 Principles of Curriculum Development	3
Elective in Curriculum or Supervision	2

**5. Vocational Home Economics Option**

**—Family Life**

Select 8-9 credits from the following courses:

7400:501 Family Life Patterns in the Economically Deprived Home	2
7400:601 Family in Transition	2
7400:602 Family: Lifespan	2
7400:603 Family: Middle and Later Years	2
7400:651 Family Law	2
7400:697 Individual Investigation in Family Life	1-4

**6. Vocational Home Economics Option — Child**

Credits

**Care and Development:** (job training specialization)

Select 8-9 credits from the following courses:

7400:501	Family Life Patterns in the Economically Deprived Home	2
7400:560	Organization and Supervision of Child Care Centers	3
7400:616	Infant and Child Nutrition	2
7400:660	Programming for Child Care Centers	2
7400:665	Development in Infancy	2
7400:698	Individual Investigation in Child Development	1-4

5610:543	Developmental Characteristics of Learning Disabled Individuals	3
	OR	
5610:556	Classroom Behavior Management for Exceptional Children	2
5600:643	Counseling: Theory and Philosophy	3
	OR	
3750:703	Theories of Psychotherapy	3
<b>Program Requirements:</b>		
5100:741	Statistics in Education	3
5600:645	Group Testing in Counseling	3
	OR	
3750:510	Psychological Tests and Measurements	4
3750:500	Personality	3
	OR	
3750:704	Theories of Personality	3
3750:620	Methods and Theories of Human Development	4
	OR	
5620:601	Cognitive Function Models: Principles Educational Planning	3
3750:702	Principles and Practices of Individual Intelligence Testing	4
3750:700	Survey of Projective Techniques	2
5620:600	Seminar: Role and Function of School Psychologist	3
5620:610	Educational Diagnosis for the School Psychologist	4
5620:611	Practicum in School Psychology	4
	8 hrs. required — registration for 2 semesters)	
Total Credits Required		45-49

**D. Teaching Internship:**

Students that enter the program without teaching experience are required to take a teaching internship at a cooperating two-year institution.

5400:690	Internship (Application required)	2
----------	-----------------------------------	---

Students in the Vocational Home Economics programs without teaching experience must take a teaching internship at a cooperating two-year institution under the Ohio Board of Regents. Students who already hold a four-year provisional certificate in Home Economics and who desire certification in Vocational High School Home Economics may select the internship experience in a Vocational High School Program.

**E. Electives:** 0-4

These hours may support the student's field of specialization, add to the student's general education, or be professional education courses.

**F. Total Credits Required:** 32

**G. Other Requirements:**

Work experience in a technical occupation is also required, the number of years being determined by the student's other qualifications.

The student completing the before-listed program of study, who holds a valid Ohio teaching certificate must additionally complete a full-time nine months internship in a school setting and concurrently complete the associated seminar experiences. The registration requirements for these experiences are as follows:

5620:630	Internship: School Psychology	3
5620:631	Internship: School Psychology	3
5620:640	Field Seminar I: Issues and Assessment	2
5620:641	Field Seminar II: Classroom Environment	2

The student completing the before-listed program including the internship experiences, who does not hold a valid Ohio teaching certificate, must additionally complete the following course pattern:

520:630	Elementary School Curriculum & Instruction	2
5700:631	Elementary School Administration	2
5225:681	Diagnosis of Reading Problems	5
5620:695	Field Experience: Master's	3
5620:696	Field Experience: Master's	3
*5100:600	Philosophies of Education	3

\*This course previously listed as a Master's Degree requirement.

**SCHOOL PSYCHOLOGIST**

<b>College Requirements:</b>		<b>Credits</b>
5100:721	Learning Processes	3
	OR	
3750:550	Learning and Cognition	4
5100:600	Philosophies of Education	3
5100:640	Techniques of Research	3
5620:699	School Psychology: Thesis or Problem	2
<b>Departmental Requirements:</b>		
5610:540	Developmental Characteristics of Exceptional Individuals	3

**CERTIFICATION AS A  
READING SUPERVISOR**

To qualify as a reading supervisor, the student must meet the following requirements:

1. Have a minimum of three years of successful teaching experience.
2. Earn a Master's Degree or its equivalent in credits, which includes the following program:

**Objectives:**

1. The student will develop an understanding of the reading process and its relationship to allied areas of study.
2. The student will evaluate the reading strengths and weaknesses of children by diagnosing and recommending procedures for remediation.
3. The student will write case studies of several different types of reading disabilities in a supervised setting.
4. The student will investigate the organization of remedial programs in the schools and in reading clinics.

**Required:**

	<i>Credits</i>
Foundation Studies Courses	9
Reading Instruction	19
5250:692 Adv. Study & Research in Reading Instruction	3
5250:693 Supv. & Curr. Dev. in Reading Instruction	2
*5250:681 Diag. of Reading Problems	5
5250:682 Clin. Pract. in Reading	5
5200:780 El. Ed. Sem: Chil. Lit-Rdg.	2
5200:699 Research in Education	2

**Electives:**

Minimum of 2 credit hours from the following courses:

5800:592 Workshop in Reading	2
5250:511 Mat. & Org. in Rdg. Instr.	3
5250:680 Trends in Rdg. Instr.	2
5200:780 El. Ed. Sem: Reading	2
<b>Total Credits for Degree</b>	<b>30</b>

Students in graduate programs with other areas of concentration may elect any specialized course in reading, provided they meet the prerequisites.

\*Students must complete at least one graduate level reading course prior to enrolling in 5250:681. Courses 681 and 682 must be taken in sequential order.

**CERTIFICATION AS  
ADMINISTRATIVE SPECIALIST:  
SCHOOL AND COMMUNITY RELATIONS**

Foundation Courses:	<i>Credits</i>
5100:620 Behavioral Bases of Education	3
OR	
5100:624 Sem: Educational Psychology	3
5100:600 Philosophies of Education	3
OR	

		<i>Credits</i>
5100:604	Topical Sem. in the Cultural Foundations of Education	3
OR		
5100:602	Comparative and International Education	
5100:640	Techniques of Research	3
5700:699	Research in Education (Master's Thesis Or Problem)	2
<b>Area Total</b>		<b>11</b>

**Required Courses**

5700:601	Principles of Education Administration	3
5700:604	School & Community Relations	2
5700:605	Decision-making Theory & Practice	3
5700:606	Evaluation of Educational Institutions	3
5700:607	Legal Basis of Education	2
5700:608	Principles of School Finance	2
5700:610	Principles of Educational Supervision	3
5700:710	Principles of Curriculum Development	3
5700:732	Organizational Communications and the School Administrator	3
7600:686	Studies in Communication Media	3
7600:687	Studies in Communication Media	3
7600:688	Studies in Communication Media	3
5700:895	Field Experience—Superintendent	2
<b>Area Total</b>		<b>35</b>
<b>Total</b>		<b>46</b>

**SIXTH YEAR PROGRAM**

In addition to the foregoing Graduate Programs which lead to the Master's Degree, the College of Education offers one year of study beyond the Master's Degree in the area of School Superintendent.

**CITY SCHOOL SUPERINTENDENT**

Required:	<i>Credits</i>	
5700:601	Principles of Education Administration (1)	3
5700:605	Decision-Making Theory & Practice in Educational Administration	3
5700:606	Evaluation of Educational Institutions (2)	3
5700:604	School and Community Relations	2
5700:607	Legal Basis of Education	2
5700:608	Principles of School Finance	2
5700:701	School Buildings and Construction	2
5700:703	Administration of Staff Personnel	2
5700:610	Principles of Educational Supervision	3
5700:710	Principles of Curriculum Development	3
5100:701	History of Education in American Society	3
OR		
5100:703	Seminar: History & Philosophy of Higher Education	3
5100:600	Philosophies of Education	3
OR		
5100:604	Topical Seminar in Cultural Foundations of Education	3
5100:620	Behavioral Bases in Education	3
OR		
5100:624	Seminar: Educational Psychology	3
5100:723	Teacher Behavior & Instruction	3
OR		
5100:721	Learning Processes	3
5100:640	Techniques of Research	3
5100:741	Statistics in Education	3

	Credits
5700:699* Master's Problem or Thesis	2
5700:895 Field Experience — Superintendent	2
Total	45-47

**Suggested Elective Courses:**

5700:702 School Business Administration	2
5700:704 Administrative Organizations in Education	2
5700:730 Seminar in School Administration	3
5700:731 Seminar: Problems of the School Administrator	2
5700:732 Organizational Communications & the School Administrator	3
5700:733 Educational Administrator & Planned Change	3

	Credits
7800:685 School Administrator Communication	
Design in the Mass Media	2
5700:795 Educational Administrative Internship	2-4
General Electives	5-7
Grand Total	60

**Other Requirements**

The candidate will engage in a period of full-time study for at least one quarter. This requirement may be fulfilled during one full summer session.

\*Required of those completing the Master's Degree.

# The College of Business Administration

## INTRODUCTION

The College of Business Administration (CBA) offers graduate programs which lead to the degrees of Master of Business Administration (MBA), Master of Science in Accounting (MS Accounting) and Master of Science in Management (MS Management). The University of Akron has offered programs of study in business since 1919, initially through the Department of Commerce and since 1953 through the College of Business Administration. In 1958, graduate studies in business were begun. Both the undergraduate and masters programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

During its long tradition, the College has sought to fulfill the educational and professional needs of its 450 graduate students, the community and regional business organizations. To meet its urban objectives, the CBA offers graduate courses only in the evening hours between 5:00 and 10:30 p.m. The master's programs are designed to service those who work full-time and wish to pursue a master's program on a part-time basis.

## REQUIREMENTS FOR ADMISSION CONSIDERATION

### Statement

To be **ELIGIBLE FOR GRADUATE ADMISSION CONSIDERATION** in the CBA, applicants must meet one of the following eligibility requirements which are the **MINIMUMS** that are in conformity with the Graduate School and the College's accrediting agency (AACSB):

1. hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,000 or more points based upon the overall undergraduate grade (A-4.0) point average (GPA) times 200 plus the Graduate Management Admissions Test (GMAT) score.

or

2. hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,050 or more points based on the junior-senior (i.e., last 64 semester of 96 quarter credits) GPA (A-4.0) times 200 plus the GMAT score.

or

3. hold a degree from outside the

United States and have an academic standing of first or high second class, satisfactory evidence of competence in English (i.e., TOEFL score of 550 or above) and a score of at least 450 on the GMAT.

### Comment

Applicants who have not taken the GMAT *will not* be considered for admission. Furthermore, **EVEN THOUGH AN APPLICANT IS ELIGIBLE FOR CONSIDERATION, AN OFFER OF ADMISSION IS NOT GUARANTEED.** It must be recognized that staff, facilities, and resources are limited which means that a determination must be made as to the number of applicants among those eligible who can be adequately serviced. As a result, **OFFERS OF ADMISSION MAY BE LIMITED TO ONLY THE MOST QUALIFIED OF THE ELIGIBLE APPLICANTS** as determined by the CBA Graduate Admissions Committee when considering multiple variables such as the following: the difficulty of the applicant's undergraduate program; the length of time and activities since graduation; and the percentile ranking on the GMAT (applicants are expected to score at least the 55th. percentile on the GMAT — approximately 480 — in order for an offer of admission to be extended).

Under the regulations of the Graduate School, eligible applicants who have been extended an offer of admission by the CBA Graduate Admissions Committee are recommended to the Dean of the Graduate School for either "Full" or "Special" graduate status. Those admitted with the classification "Special Graduate Status" who have not attained an overall 3.0 GPA upon the completion of 12 graduate credits will be dismissed from the program.

In *extremely rare* instances applicants who have taken the GMAT but do not meet requirements 1, 2, or 3 may be considered for admission. Also those who have previously been denied admission may, upon presentation of new information, be reconsidered. For consideration to be given, in either case, the applicant must petition, in writing, the CBA Graduate Admissions Committee giving forth those reasons relevant to his or her situation which demonstrate the likelihood of "HIGH PROMISE OF SUCCESS." In all instances the burden of proof is the applicant's and it must be substantial.

### ADMISSION PROCEDURE AND NOTIFICATION OF ADMISSION DECISION

In order for consideration to be given for graduate admission to the MBA, MS Accounting, or MS Management programs, the applicant must:

1. file a graduate application with the Dean of the Graduate School, The University of Akron, Akron, OH 44325 (international applicants must have official TOEFL score reports sent to the Graduate School);
2. have all colleges and universities previously attended forward official transcripts directly to the Dean of the Graduate School;
3. take the Graduate Management Admissions Test (GMAT) and have the results sent to the Director of Graduate Programs in Business, College of Business Administration, The University of Akron, Akron, OH 44325 (institution code 1829). Since the GMAT test is administered worldwide only four times per year, applicants should register for it sufficiently in advance to the filing of the graduate application so as to not unnecessarily delay their evaluation for admission. GMAT registration bulletins can be obtained from the Graduate Programs in Business Office or the Educational Testing Service, Box 966-R, Princeton, NJ 08540 (those who have taken the GMAT, formerly called the ATGSB, more than five years ago are required to retake it); and
4. after receipt of all necessary documents, all applications are held until the next quarterly meeting of the Graduate Admissions Committee (GAC) at which time all applicants are evaluated simultaneously. The GAC meets (approximately four weeks after each GMAT date) in mid-August, the first part of December, the first part of March and the first part of May each year. The applicant will be informed in writing of the Graduate Admission Committee's decision approximately one week after it meets.

### MBA PROGRAM OF STUDY AND COURSE REQUIREMENTS

The Master of Business Administration program is designed to give the student a general knowledge of the functional areas of business and permit the concentration of study in one of the five following areas: Accounting, Finance, Management, Marketing or International Business. There are three phases of coursework which are required. They are the MBA Phase (foundation

courses), MBA Phase II (core courses) and MBA Phase III (area of concentration courses). The program consists of 54 graduate semester credits. *Those individuals who have had coursework in their undergraduate program equivalent to the graduate courses in Phase I can be awarded advanced standing and have up to 18 Phase I graduate credits waived at the time of admission.* The time for completing the MBA degree is six years, and a grade point average of 3.0 or higher for all coursework taken must be attained. The three phases and course requirements are presented below. Course prerequisites are in parentheses. **NOTE: PHASE I, II, AND III COURSES CAN BE TAKEN CONCURRENTLY PROVIDED THAT PREREQUISITES HAVE BEEN MET.**

### MBA PHASE I: MBA FOUNDATION COURSES\*

All are required, with the exception that those students who have had equivalent coursework in their undergraduate program can be awarded advanced standing, in which case some or all of the Phase I course(s) can be waived at the time of admission.

		Credits
3250:600	Foundation of Economic Analysis	3
6200:601	Financial Accounting	3
6400:602	Managerial Finance (620:601 or equivalent)	3
6500:600	Management Concepts, Practices and Theory	3
6500:601	Quantitative Decision-Making	3
6600:600	Managerial Marketing	3
	MBA Phase I Total Credits	18

### MBA PHASE II: MBA CORE COURSES (ALL REQUIRED)

		Credits
6200:610	Accounting Management and Control (6200:601 or equivalent)	3
6400:650	Administering Costs and Prices (3250:600 or equivalent)	3
6400:655	Government and Business (3250:600 and 6500:600 or equivalents)	3
6400:674	Financial Management and Policy (6200:610)	3
6500:662	Quantitative Methods in Operations Management (6500:601 or equivalent)	3
6500:652	Organizational Behavior (6500:600 or equivalent)	3
6600:660	Marketing Management and Policy (6600:600 or equivalent)	3

\*Those seeking the MBA-Accounting Concentration degree must also have equivalent preparatory coursework in Intermediate and Cost Accounting.

	Credits
6500:655 Business Strategy and Policy (this course is restricted exclusively to those students who will complete their Masters program within two semesters)	13
Elective* Any graduate credits offered by the College of Business but not in the area of concentration chosen	3

MBA Phase II Total Credits 27

**MBA PHASE III:  
MBA AREA OF CONCENTRATION  
COURSES**

There are five areas of concentration in the MBA program from which the student must select one. Each concentration has a Non-Paper and Master's Report (Paper) Option. Those who elect the paper option are required to register for the seminar course (non-concurrently) twice. Prior to the selection of the Non-paper Option, the student is required to consult with the appropriate department chairman or his/her designate. Generally, those who have a previous Business Administration background will be requested to follow the Paper Option. The required courses and electives for each area of concentration and its Paper Option or Non-paper Option are presented below. Elective selection is at the discretion of the student within the specified restrictions, provided that the course prerequisites have been met.

Note: Phase I graduate credits and graduate workshop course credits cannot be used for Phase II, III electives. Also those students who have taken a 400 numbered course for undergraduate credit at The University of Akron (or an equivalent course elsewhere) are ineligible to register for and earn graduate credit for the corresponding 500 numbered graduate course. Examples are Tax I, Auditing, Marketing Research, etc.

1. MBA Accounting Concentration Elect Option A or B		
Paper Option (A)		Credits
6200:637 Advanced Accounting Theory (6200:318 or equiv. and 6200:610)		3
6200:699 Seminar in Accounting (3+3) (15 post MBA Phase I credits)		6
	Phase II and III Total Credits	<u>36</u>
 <i>Non-paper Option (B)</i>		
6200:637 Advanced Accounting Theory (6200:318 or Equiv. and 6200:610)		3
Electives Any 6 Graduate Credits of Accounting (Department 6200)		<u>6</u>
	Phase II and III Total Credits	<u>36</u>

2. MBA Finance Concentration Elect Option A or B		
Paper Option (A)		Credits
6400:699 Seminar in Finance (3+3) (15 post MBA Phase I credits)		6

\*Students may petition the Director, in writing, for permission to enroll in a course related to their field of study in another College of the University.

Electives Any 3 graduate credits of Finance (Department 6400)	3
Phase II and III Total Credits	<u>36</u>

<i>Non-paper Option (B)</i>		
Electives Any 9 graduate credits of Finance (Department 6400)	9	
Phase II and III Total Credits	<u>36</u>	

3. MBA Management Concentration—  
Elect Option A or B

<i>Paper Option (A)</i>		
6500:653 Organizational Theory & Policy Form (6500:652)		3
6500:699 Seminar in Management (3+3) (15 post MBA Phase I credits)		6
Phase II and III Total Credits	<u>36</u>	

6500:653 Organizational Theory & Policy Form. (6500:652)	3
Electives Any 6 graduate credits of Management (Department 6500)	<u>6</u>
Phase II and III Total Credits	<u>36</u>

4. MBA Marketing Concentration—Elect Option A or B

<i>Paper Option (A)</i>		
6600:699 Seminar in Marketing (3+3) (15 post Phase I credits)		6
Electives Any 3 graduate credits of Marketing (Department 6600)	<u>3</u>	
Phase II and III Total Credits	<u>36</u>	

<i>Non-paper Option (B)</i>		
Electives Any 9 graduate credits of Marketing (Department 6600)	<u>9</u>	
Phase II and III Total Credits	<u>36</u>	

5. MBA International Business Concentration—Elect Option A or B

<i>Paper Option (A)</i>		
Reading and conversational proficiency in one language other than English		
6600:690 Seminar in International Business (3+3)		6
Electives (Must be approved by the Director of Graduate Programs in Business)	<u>3</u>	
Phase II and III Total Credits	<u>36</u>	

<i>Non-paper Option (B)</i>		
Reading and conversational proficiency in one language other than English		
Electives (Must be approved by the Director of Graduate Programs in Business)	<u>9</u>	
Phase II and III Total Credits	<u>36</u>	

**MASTER OF SCIENCE IN ACCOUNTING  
PROGRAM OF STUDY AND  
COURSE REQUIREMENTS**

The Master of Science in Accounting Program is designed to give the student limited exposure to the functional areas of business and a detailed concentration in Accounting. There are three phases of coursework which are required. The MS Accounting Phase I consists of specialized graduate and post baccalaureate (PB) foundation courses. *Those who have had coursework in their undergraduate program equivalent to the courses in MS Accounting Phase I can be awarded advanced standing and some or all of the Phase I requirements can be waived at the time of admission.*

The MS Accounting Phase II consists of the Accounting Core Courses and are all required. The MS Accounting III consists of electives from which the student can elect the Paper Option or the Non-paper Option. Those desiring to earn the MS in Accounting degree must complete the program within a six-year period and attain a 3.00 grade point average for all coursework taken. The three phases and course requirements are presented below. Course prerequisites are in parentheses. **NOTE: PHASE I, II, AND III COURSES CAN BE TAKEN CONCURRENTLY PROVIDED PREREQUISITES HAVE BEEN MET.**

**MS ACCOUNTING PHASE I  
(FOUNDATION COURSES)**

All are required, with the exception that those students who have had equivalent coursework in their undergraduate program can be awarded advanced standing in which case some or all of the Phase I course(s) can be waived at the time of admission. Those having graduate status can take graduate and post baccalaureate courses concurrently.

Graduate Foundation Courses	Credits
3250:600 Foundation of Economic Analysis	3
6200:601 Financial Accounting	3
6400:602 Managerial Finance (6200:601 or equivalent)	3
6500:600 Management Concepts, Practices and Theory	3
6500:601 Quantitative Decision-Making	3
6600:600 Managerial Marketing	3
	18
 <b>Post Baccalaureate (PB) Foundation Courses</b>	
6200:301 Cost Accounting (3250:600 and 6200:601 or equivalents)	3

	Credits
6200:317 Intermediate Accounting I (6200:601 or equivalent)	4
6200:318 Intermediate Accounting II (6200:317)	4
6400:321 Business Law I	3
6400:322 Business Law II (6400:321)	3
6500:409 Business Policy	4
	21

**MS ACCOUNTING PHASE II  
(CORE COURSES)—ALL REQUIRED**

	Credits
6200:610 Accounting Management and Control (6200:601 or equivalent)	3
6200:637 Advanced Accounting Theory (6200:318 or equiv. and 6200:610)	3
6200:655 Information Systems (6200:610)	3
6400:650 Administering Costs and Prices (3250:600 or equivalent)	3
6400:674 Financial Management and Policy (6400:602 or equiv. and 6200:610)	3
	15
<b>MS Phase II Total Credits</b>	

**MS ACCOUNTING PHASE III  
(ELECTIVES)—SELECT OPTION A OR B**

*Option A or B is required. Before selecting Option B, the student is to consult with the Head of the Accounting Department. Those who elect the paper option are required to register for the seminar course (non-concurrently) twice. Phase I graduate credits and graduate workshop course credits cannot be used for Phase III electives. Also, those students who have taken a 400 numbered course for undergraduate credit at The University of Akron (or an equivalent course elsewhere) are ineligible to register for and earn graduate credit for the corresponding 500 numbered graduate course. Examples are Tax I, Tax II, Auditing, Advanced Accounting, etc.*

<b>Paper Option (A)</b>		Credits
6200:699 Seminar in Accounting (3+3) (15 post Phase I credits)		6
Electives Any 6 graduate credits of Accounting (Department 6200) and any 3 graduate credits offered by the College of Business (Departments 6200, 6400, 6500, or 6600)		9
	<b>Phase II and Phase III (Option A)</b>	
	<b>Total Credits Required</b>	30
<b>Non-paper Option (B)</b>		
Electives Any 12 graduate credits of Accounting (Department 6200) and any 3 graduate credits offered by the College of Business (Departments 620, 640, 650 or 660)		15
	<b>Phase II and Phase III (Option B)</b>	
	<b>Total Credits Required</b>	30

**MASTER OF SCIENCE IN MANAGEMENT  
PROGRAM OF STUDY AND  
COURSE REQUIREMENTS**

The Master of Science in Management program is designed to provide those students with strong quantitative backgrounds an opportunity to pursue advanced study utilizing their previously acquired knowledge; specifically, students with undergraduate training in engineering, mathematics and the physical sciences will have the opportunity to apply their skills to management problem solving and decision making along quantitative lines. There are three phases of coursework which are required. The MS Management Phase I consists of foundation courses. *Those who have had coursework in their undergraduate program equivalent to the courses in Phase I can be awarded advanced standing* and some or all of the Phase I requirements can be waived at the time of admission. Phase II consists of selected electives and Phase III is comprised of required courses. Those students desiring to earn the MS in Management degree must complete the program within a six-year period and a grade point average of 3.00 or higher for all coursework must be attained. The three phases and course requirements are presented below. Course prerequisites are in parentheses. **NOTE: PHASE I, II, AND III COURSES CAN BE TAKEN CONCURRENTLY PROVIDED PREREQUISITES HAVE BEEN MET.**

**MS MANAGEMENT PHASE I  
(PREPARATORY COURSES)**

*All are required, with the exception that those students who have had equivalent coursework in their undergraduate program can be awarded advanced standing in which case some or all of the Phase I course(s) can be waived.*

	Credits
3250:600 Foundation of Economic Analysis	3
6200:601 Financial Accounting	3
6400:602 Managerial Finance (6200:601 or equivalent)	3
6500:600 Management Concepts, Practice and Theory	3
6500:601 Quantitative Decision-Making	3
6600:600 Managerial Marketing	3
MS Phase I Total Credits	18

**MS MANAGEMENT PHASE II  
(SELECTED ELECTIVES)—2 OUT OF 3  
REQUIRED**

	Credits
6200:610 Accounting Management and Control (6200:601 or equivalent)	3

		Credits
6400:674	Financial Management and Policy (6200:610)	3
6600:660	Marketing Management and Policy (6600:600 or equivalent)	3
MS Phase II Total Credits		6

**MS MANAGEMENT PHASE III  
(REQUIRED COURSES)—ALL REQUIRED**

		Credits
6500:654	Industrial Relations (6500:600 and equivalent)	3
6500:671	Advanced Operations Research (6500:601)	3
6500:672	Manufacturing and Operation Analysis (6500:601)	3
6500:652	Organizational Behavior (6500:600 or equivalent)	3
6500:653	Organizational Theory and Policy Form. (6500:652)	3
6500:663	Applied Industrial Statistics I (6500:601)	3
6500:664	Applied Industrial Statistics II (6500:663)	3
6400:655	Government and Business (3250:600 and 6500:600 or equivalent)	3
6500:699	Seminar in Management (3+3) (15 post Phase I credits)	6
Phase II and III Total Credits		30

# The College of Fine and Applied Arts

## THE MASTER'S DEGREE

### HOME ECONOMICS AND FAMILY ECOLOGY

A program of study leading to the Master of Arts degree in Home Economics and Family Ecology with an emphasis in either Family Development or Child Development. Prior to acceptance in the program, the student must meet the following:

1. the general requirements for admission to the Graduate School.

2. the standard requirements for an undergraduate major in the proposed area of graduate study or preparation which has been accepted as equivalent by the department head and the department graduate faculty.

In addition to the above, the student will be expected to comply with the following requirements:

1. Complete course of study, as outlined below, with a minimum of 32 credit hours.

2. Complete a thesis or an internship. The thesis option involves the design and evaluation of original research in an appropriately related area commensurate with the student's background and area of pursuit. The research may involve a creative, historical or experimental design. The internship option involves the design, development, implementation and evaluation of original and creative programs and/or resource materials pertaining to family and/or child development. Part of the internship experience may take place in a community based agency which serves families and/or children.

3. Complete eight hours in a cognate field outside the major area. These courses, selected in consultation with the student's graduate faculty advisor, must represent a cohesive focus pertaining to the student's area of preparation and professional goals. Suggested cognate areas include counseling and guidance, gerontology, mass media, psychology, sociology and special education.

4. Submit a written proposal for either the thesis or internship option at the completion of approximately twenty hours of graduate study.

5. Pass a written comprehensive examination over both major and minor areas. The examination will be administered by the student's advisor and may be taken

after the completion of at least twenty hours of graduate credit.

6. Apply for Advancement to Candidacy upon successful completion of (a) twenty-five hours of graduate study, (b) the written comprehensive examination and (c) an approval prospectus for a thesis or internship.

7. Pass an oral examination covering the thesis or internship report. The examination will be administered by a committee of graduate faculty.

### Emphasis In Child Development

Core Program	Credits
7400:501 Family Patterns in Economically Deprived Home	2
7400:560 Org. and Supr. of Child Care Centers	2
7400:585 Seminar: Parent/Child Relations	2
7400:616 Infant and Child Nutrition	2
7400:660 Programming Child Development Centers	2
7400:665 Development in Infancy	2
7400:585 Seminar: Analysis and Interpretation of Family Literature	3
Thesis Option (Select either Thesis or Internship option)	
7400:699 Thesis (Student must have background in research design and statistical analysis appropriate to proposed research)	5
Internship Option	
7400:690 Internship (Student must have 7400:342 Community Involvement or equivalent).	5
Electives in a Field Outside of Home Economics and Family Ecology	
Free Electives	4
Minimum Total Hours of Credit Required for Degree	
	32

### Emphasis In Family Development

Core Program	Credits
7400:501 Family Patterns in Economically Deprived Home	2
7400:585 Seminar: Parent/Child Relations	2
7400:601 Family in Transition	2
7400:602 Family: Lifespan Perspective	2
7400:603 Family: Middle and Later Years	2
7400:651 Family Law	2
7400:585 Seminar: Analysis and Interpretation of Family Literature	3
Thesis Option (Select either Thesis or Internship option)	
7400:699 Thesis (Student must have background in	

	<i>Credits</i>
research design and statistical analysis appropriate to proposed research)	5
OR	
<b>Internship Option</b>	
7400:690 Internship (Student must have 7400:342 Community Involvement or equivalent)	5
<b>Electives in a Field Outside of</b>	
Home Economics and Family Ecology	8
Free Electives	4
Minimum Total Hours of Credit Required for Degree	32

**MUSIC**

The degree Master of Music is offered by the Department of Music with options for Music Education, Performance, Composition, and Music History and Literature. Entrance requirements for each program are:

1. The standard requirements for an undergraduate major in the area of proposed graduate specialty or that he/she has performed work with the department head approved as equivalent to an undergraduate major, and that he/she has maintained a 2.75 or better grade average or 3.0 for the last two years, and a 3.0 average or better in his/her major field.

2. The Graduate School's general requirements for admission.

3. Consultation with the Coordinator of Graduate Studies in Music for additional information regarding the individual nature of each option.

4. **PERFORMANCE OPTION:** Requires an audition on the student's major instrument. Please contact the Coordinator of Graduate Studies for an audition time.

5. For the Performance option in Voice, Italian and German are required. If the student has lack of background in any of these language requirements, auditing of undergraduate courses is required.

6. **COMPOSITION OPTION:** Compositions representing the applicant's composition techniques are required.

After completion of all course work, the student must pass an examination covering the materials of his/her graduate program. This examination is individualized for each candidate's unique program.

**Music Education Option**

	<i>Credits</i>
<b>A. Music Core Courses</b>	12
7500:555 Advanced Conducting	2

	<i>Credits</i>
7500:605 Seminar: Music in the Middle Ages and Renaissance	2
7500:606 Seminar: Music in the 17th and 18th Centuries	2
7500:607 Seminar: Music in the 19th and 20th Centuries	2
7510: Ensemble (2 semesters)	0
7520:5 Applied Music	4
<b>B. Major Required Courses</b>	13
7500:611 Foundations and Principles of Music Education	3
7500:612 Practices and Trends in Music Education	3
7500:614 Measurement and Evaluation in Music	2
7500:648 Masters Thesis (approved by committee)	2
5100:603 Techniques of Research	3
<b>C. Music Electives</b>	4*
7500:502 Workshop in Music	4
7500:551 Introduction to Musicology	2
7500:553 Bibliography and Research	2
7500:560/561/562/563/564 Repertoire and Pedagogy	3
7500:601 Choral Literature	2
7500:604 Development of Opera	2
7500:609 Techniques of 20th Century Composition	3
7500:640 Advanced Problems in Music	1-4
7520:642 Applied Composition	4
<b>D. Cognate Electives</b>	3*

Note: Cognate electives should be satisfied generally with courses selected outside the field of music and may be in Education, Theatre Arts & Dance, or other areas for which the student has adequate prerequisite training or interest.

**TOTAL 32**

\*Elective hours are determined by the student and his/her advisors.

**Composition Option**

	<i>Credits</i>
<b>A. Music Core Courses</b>	16
7500:555 Advanced Conducting	2
7500:605 Seminar in Music of Middle Ages and Renaissance	2
7500:606 Seminar in Music of 17th and 18th Centuries	2
7500:607 Seminar in Music of 19th and 20th Centuries	2
7510: Ensemble (2 semesters)	0
7520:642 Applied Composition	8
<b>B. Major Required Courses</b>	8
7500:601 Choral Literature	2
7500:609 Techniques of 20th Century Composition	3
7500:647 Masters Chamber Recital	1
7500:648 Masters Thesis (Composition approved by committee)	2
<b>C. Music Electives</b>	4*
7500:502 Workshop in Music	4
7500:551 Introduction to Musicology	2
7500:553 Bibliography and Research	2
7500:560/561/562/563/564 Repertoire and Pedagogy	3
7500:604 Development of Opera	2
7500:611 Foundation and Principles of Music Education	3
7500:612 Practices and Trends in Music Education	3

	Credits
7500:614 Measurement and Evaluation in Music	2
7500:640 Advanced Problems in Music	1-4
7520:5 Applied Music	1-4
5100:603 Techniques and Research	3
D. Cognate Electives	4*

Note: Cognate electives should be satisfied generally with courses selected outside the field of music and may be in Education, Theatre Arts & Dance, or other areas for which the student has adequate prerequisite training or interest. Up to four hours of Applied music study may be applied to the elective requirement.

TOTAL 32

\*Elective hours are determined by the student and his/her advisor.

### Performance Option

	Credits
A. Music Core Courses	16
7500:555 Advanced Conducting	2
7500:605 Seminar in the Music of the Middle Ages and Renaissance	2
7500:606 Seminar in the Music of the 17th and 18th Centuries	2
7500:607 Seminar in the Music of the 19th and 20th Centuries	2
7510: Ensemble (2 semesters)	0
7520:5 Applied Music	8
B. Major Required Courses	8
7500:560/561/562/563/564 Repertoire and Pedagogy	3
7500:609 Techniques of 20th Century Composition	3
7500:649 Masters Recital and document (approved by committee)	2
C. Music Electives	4*
7500:502 Workshop in Music	4
7500:551 Introduction to Musicology	2
7500:553 Bibliography and Research	2
7500:601 Choral Literature	2
7500:604 Development of Opera	2
7500:611 Foundations and Principles of Music Education	3
7500:612 Practices and Trends in Music Education	3
7500:614 Measurement and Evaluation in Music	2
7500:640 Advanced Problems in Music	1-4
7520:642 Applied Composition	1-4
5100:603 Techniques of Research	3
D. Cognate Electives	4*

Note: Cognate electives should be satisfied generally with courses selected outside the field of music and may be in Education, Theatre Arts & Dance, or other areas for which the student has adequate prerequisite training or interest. Up to four hours of Applied music study may be applied to the elective requirement.

TOTAL 32

\*Elective hours are determined by the student and his/her advisor.

### Music History and Literature Option

	Credits
A. Major Core Courses	16
7500:555 Advanced Conducting	2
7500:605 Seminar in Music of Middle Ages and Renaissance	2
7500:606 Seminar in Music of 17th and 18th Centuries	2
7500:607 Seminar in Music of 19th and 20th Centuries	2
7500:640 Advanced Problems in Music	8
7510: Ensemble (2 semesters)	0
B. Major Required Courses	9
7500:551 Introduction to Musicology	2
7500:553 Bibliography and Research	2
7500:609 Techniques of 20th Century Composition	3
7500:648 Masters Thesis (approved by committee)	2
C. Music Electives	4*
7500:502 Workshop in Music	4
7500:560/561/562/563/564 Repertoire and Pedagogy	3
7500:601 Choral Literature	2
7500:604 Development of Opera	2
7500:611 Foundations and Principles of Music Education	3
7500:612 Practices and Trends in Music Education	3
7500:614 Measurement and Evaluation in Music	2
7520:5 Applied Music	1-4
7520:642 Applied Composition	1-4
D. Cognate Electives	3*

Note: Cognate electives should be satisfied generally with courses selected outside the field of music and may be in Education, Theatre Arts & Dance, or other areas for which the student has adequate prerequisite training or interest. Up to four hours of Applied music study may be applied to the elective requirement.

TOTAL 32

\*Elective hours are determined by the student and his/her advisor.

### SPEECH PATHOLOGY AND AUDIOLOGY

A program of study leading to the Master of Arts degree in Speech Pathology and Audiology is offered by the Department. The program may lead to certification by the American Speech and Hearing Association in speech pathology and/or audiology.

Before admission to any of the programs within the department, the student must:

1. Meet the general requirements for admission to the Graduate School.
2. Meet the requirements for an undergraduate major in the area of proposed

graduate specialty or complete undergraduate work within a calendar year of application.

The student must complete a course of study with a minimum of 32 credits, including thesis — or a minimum of 30 credits plus the non-thesis option outlined below.

The student must prepare a written thesis approved by the candidate's committee or select a non-thesis option to consist of eight credits beyond the 30 previously indicated. It may be recommended that this option include up to 16 credits for those students anticipating dual ASHA certification; that is, clinical certification in both the areas of speech pathology and audiology.

Academic requirements within the department include: (1) All students are required to take 7700:611 and either 7700:612 or 7700:694; (2) All students must take four credits of 7700:656, one credit of 7700:650, and an additional two credits from among the following: 7700:651, 7700:652, 7700:653, 7700:654, or 7700:655; (3) Audiology majors must take four credits in speech pathology; and speech pathology majors must take four credits in audiology. It is recommended that speech pathology majors elect 7700:639 as the first of their audiology courses.

**LIMITATIONS:** (1) Students may apply no more than four hours credit of workshop course toward the completion of degree requirements unless they have the approval of at least two-thirds of the graduate faculty of the department to exceed this limitation; (2) Students may apply no more than six credits of directed study course work toward the completion of degree requirements unless they have the approval of at least two-thirds of the graduate faculty of the department to exceed this limitation. This limitation applies to direct study course work done under "Special Problems" or any other course title; (3) Students may apply no more than six credits of course work taken in disciplines other than speech pathology or audiology toward the completion of degree requirements unless they have the approval of at least two-thirds of the graduate faculty of the department to exceed this limitation.

### SPEECH, THEATRE ARTS AND MASS MEDIA/ COMMUNICATION

Programs of study leading to the Master of Arts Degree in the following fields are offered by the Department of Theatre Arts and Dance and by the Department of

Mass Media/Communication, respectively:

1. Theatre Arts
2. General Speech
3. Communication and Rhetoric
4. Mass Media

Before undertaking any of these programs, the student should consult with the appropriate department. The following are common requirements:

1. the general requirements for admission to the Graduate School;
2. the standard requirements for an undergraduate major in the area of proposed graduate work, or that he has performed work with which the department head approved as equivalent to an undergraduate major.

In addition to the general requirements for the degree listed in the preceding pages, a course of study of a minimum of 30 credits must be completed. Thesis credit, ranging from 2 to 6 credits, must be earned while preparing the Master's thesis. A written thesis (creative, historical, critical, or experimental) must be approved by the candidate's committee.

There is no *foreign language* required for these Master of Arts degrees. To fulfill the *residence requirement*, work must be completed within a five-year period from the date of undertaking initial course work. This period will include at least three consecutive quarters in residence.

The student, before he/she applies for *advancement to candidacy*, must complete a comprehensive written and oral examination on his course work. The student, upon completion of his Master's thesis, must satisfactorily pass an oral examination on that thesis to be administered by his/her graduate committee.

#### I. General Speech

##### A. Required Courses

	<i>Credits</i>
7800:600 Introduction to Graduate Studies	1
7600:699 Research and Thesis	1-6

(Typically, one may expect four quarter hours of credit to be earned in Research and Thesis.)

B. The Remaining courses shall be chosen from among the offerings in the areas of Communication and Rhetoric, Mass Media, and Theater Arts. The candidate and his adviser shall make the following options: (1) a minimum of 18 credit hours from each of the three areas of concentration; (2) more credit hours may be taken about the minimum from any one of the areas that best fits the interests and talents of the candidate; (3) selected cognate courses may be taken at the option of the candidate and his/her adviser.

C. It shall be understood by the prospective candidate in General Speech that 30 semester hours is the *minimum* that must be earned beyond the *required* courses cited above.

## II. Communication and Rhetoric

An emphasis in Communication and Rhetoric coupled with selected electives will allow the student significant depth and latitude toward vocational pursuit. Among those vocational endeavors may be listed teaching in the high school and university, public relations and advertising, communication consultant work, personnel management, and related business occupations.

Departmental required courses:

	Credits
7800:600 Introduction to Graduate Studies	1
7600:699 Research and Thesis	1-6

(Typically, one may expect four quarter hours to be earned in Research and Thesis.)

The following internal areas of emphasis may be selected by the student commensurate with vocational interest: Educational Theory; Communication Theory and Research Methods; or Criticism.

The student's program in Communication and Rhetoric will consist of courses in the area of emphasis, electives, and required Departmental courses. This combination should equal 35 credit hours.

## III. Mass Media

### A. Required Courses

	Credits
7800:600 Introduction to Graduate Studies	1
7600:699 Research and Thesis	1-6

(Typically, one may expect four quarter hours of credit to be earned in Research Thesis)

B. The remaining courses shall be chosen by the candidate under the direction of his/her adviser from (1) the Mass Media courses cited in the catalogue descriptions, (2) appropriate Communication and Rhetoric courses, or (3) appropriate Theatre Arts courses. A minimum of 30

credit hours must be earned beyond thesis credit.

C. Cognate field courses from outside the department may be chosen if they are appropriate to the special interest of the candidate and meet the approval of the candidate's adviser.

D. Thesis options (see the general description).

## IV. Theatre Arts

### A. Required Courses

		Credits
7800:600	Introduction to Graduate Studies	1
7800:699	Research and Thesis	1-6

(The Graduate Faculty will assign the actual number with approval of prospectus. Typically, four credits are earned for a thesis.)

B. A minimum of 26 additional credits shall be earned from the following courses or from approved courses in cognate fields:

7800:560	Dramatic Criticism	3
7800:566	Advanced Problems in Lighting	2
7800:567	Contemporary Theatre Styles	3
7800:568	Children's Theatre Workshop	3
7800:636	Special Problems in Oral Interpretation	2
7800:641	Problems in Directing	3
7800:642	Problems in Contemporary Acting	3
7800:660	Advanced Technical Theatre	2
7800:663	Seminar in American Theatre	2
7800:664	Seminar in <i>commedia dell'Arte</i>	2
7800:665	Seminar in Theatre Audience	2
7800:666	Intro to Arts Mgmt.	2
7800:667-69	Studies in Dramatic Practice (2 credits each)	6
7800:697*	Grad Rsch. in Theatre Arts	1-6

\*This course may be used, in addition to an approved individual research project, for a group study of a designated, specialized topic, such as a seminar on Brecht, the Irish Theatre, Black Theatre, et cetera.

C. There is no specific number of courses in cognate fields required. Students may elect related graduate courses in the department or in English, psychology, art, or music.

# College of Nursing

## THE MASTER OF SCIENCE IN NURSING DEGREE PROGRAM

### Objectives and Philosophies

The Master of Science in Nursing Degree Program is a joint venture between The University of Akron and Kent State University. The goal of the program is to prepare nurses in a clinical major, e.g., Nursing of the Adult, Psychiatric Mental Health Nursing, or Family Health Nursing. The graduate is prepared either for a teaching, administrative or advanced clinical specialist nursing position.

The focus of the program will be on the advancement of nursing theories by defining the parameters of nursing at the graduate level and by the generation application, and testing of knowledge to promote improved health care through the practices and research of faculty and students within the framework of current and emerging health care systems.

#### a. Objectives:

- 1) Expertise in a concentrated area of clinical nursing practice. Clinical majors will be available in: Nursing of the Adult, Psychiatric Mental Health Nursing, Family Health Nursing.
- 2) Competence in the practice of family and community health nursing within the context of a clinical major.
- 3) Competence in a functional area: teaching, administration, or advanced clinical specialization.
- 4) Competence in the use of scientific methods and/or scientific nursing theory to study problems relevant to nursing.
- 5) Ability to collaborate with consumers and health care providers in planning and implementing care.
- 6) Ability to be innovative, flexible and individualized in the pursuit of knowledge.
- 7) Ability to value social consciousness, inquisitiveness, diversity, and the examination of existing norms.

#### b. Philosophy

The faculty believe that graduate education is predicated on baccalaureate preparation in nursing. Although the primary emphasis of the program is to prepare a practitioner in nursing, it will also provide a basis for doctoral study for those who wish to pursue further graduate work.

The faculty also believe that advanced study in nursing should be designed to promote the capabilities of individuals, families, and populations and to encourage their knowledgeable participation in the management of their own health problems.

The perspective of health care settings is eclectic, pluralistic and complex, and acknowledge the individual, the family, and the community as the focus of care and study. They embrace the ecological approach toward achieving a high level of health for community members whereby each individual must be studied in terms of his/her total environment to assist him/her in sustaining that quality of life which enables him/her to survive and prevail.

The faculty believe that the highest quality of graduate nursing education is that which enables individuals, families, and communities to become self-sustaining through the development of human potential and human environmental resources. This requires that the unit and its individual members maintain a dynamic balance and purposeful direction within the environment wherein they function.

The core content of graduate education would then include theoretical and clinical constructs about man's physiological, psychological, cultural and social responses to life processes, life experiences, and aspirations toward optimal health. Graduate study in nursing would prepare a scholarly, specialized nurse capable of assessing and implementing leadership responsibilities in current and emerging health care systems.

#### Major Components of the Curriculum

The program is two academic years in length and provides instruction in five major areas: (1) clinical concentration in a speciality area, (2) research, (3) the functional areas of teaching, administration and advanced clinical specialization, (4) cognate courses, and (5) the theoretical basis for nursing practice.

##### 1. Clinical Concentrations

The program provides opportunities for students to develop competence in specialized areas of nursing practice. Students admitted will select their specialization within the framework of one of the following areas: Nursing of the Adult, Psychiatric Mental Health Nursing, or Family Health Nursing.

Each clinical major is implemented through four courses (12 credits) which span both years of the curriculum. Theoretical content and intensive related and supervised clinical experience is provided.

## 2. Research

The research component fosters inquiry directed toward the solution of clinical nursing problems. This component is comprised of two courses in Clinical Inquiry taught by the Nursing faculty and taken by all students regardless of clinical major and one statistics course (cognate) provided by other selected university departments. Additionally, each student elects a thesis or non-thesis option in the second year.

## 3. Functional Area

Options are provided for study in a functional area, either teaching, administration or advanced clinical specialization. There are seven credits allocated to the functional option which includes the equivalent of two courses and one practicum in the second year. The clinical specialist functional option includes clinical practice in each of these three courses. In addition, 5-6 credits in related cognates supports this area.

A student may choose to use the 6-7 credits (or more) allocation in the second year to pursue a special area of interest, for example, advanced study in a science related to nursing, further preparation in research or independent clinical study.

## 4. Cognates

Students select courses (16-18 credits) from natural, behavioral or medical science areas. One of these courses is Statistics, two courses are related to the clinical major, two related to the functional area, and one is an elective.

## 5. Theoretical Basis for Nursing Practice

Two courses (6 credits) are offered by the nursing faculty in the first year of the curriculum that are taken by all students regardless of clinical major. These courses reflect such widely applicable theoretical constructs as: appraisal of physical, emotional, social, and cultural needs; nursing diagnosis and the decision-making process; growth and development; man's adaptation to life crises and environmental forces; family and group dynamics, therapeutic communication; cultural needs; health care education through problem-solving for families and individuals to encourage self help; continuity and coordination of nursing care to clients and families; and application of research in clinical practice and use of epidemiologic methods in identifying re-

searchable problems having implications for nursing. These courses will provide the framework for the integration of physiological, psychological, economic, political and cultural theoretical concepts applicable to clinical practice.

A student is required to take the minimum credits in each major component area.

Additional electives in nursing will provide opportunities to individualize and strengthen the clinical nursing major.

## Admission Criteria

The following are admissions requirements for graduate program candidates:

1. Eligible for licensure by the State of Ohio Board of Nursing Education and Nurse Registration. (Licensure in the State of Ohio is required before a student begins the clinical practicum in the first semester.)

2. Baccalaureate degree in upper division nursing from an NLN accredited school of nursing.

3. A grade point average of 3.0 on a four point scale from the undergraduate program.

4. Satisfactory completion of an undergraduate statistics course and an elementary course in research methodology or equivalent.

5. Three letters of reference.

6. Three-hundred word essay describing your professional goals and reasons for seeking graduate education.

7. Millers Analogy Test results.

Individuals who do not meet the above criteria will be considered by an admissions committee, which may recommend evaluation by examination, further undergraduate study, or direct admission by waiver of criteria.

## Student Advisement

An advisor will assist students in selection of courses and evaluate undergraduate and/or transfer credits. A student will be assigned an advisor at the university to which he/she is admitted.

A student will be expected to select an advisor for the thesis or non-thesis option. Students who elect thesis are required to select a review committee. The thesis committee will be composed of three faculty, two (including the chairperson) from the university in which the student is enrolled and the third from the other university.

**Foundation Studies in Nursing**

	Credits
8200:600 Theoretical Basis For Nursing Practice I	4
8200:601 Theoretical Basis For Nursing Practice II	2
8200:610 Clinical Inquiry I	2
8200:611 Clinical Inquiry II	2
8200:698 Non-thesis Project Option or	3
8200:699 Thesis	3
Statistics	<u>3</u>
Total Foundations	18

Each student chooses a clinical major of ei-

ther Family Health Nursing, Psychiatric Mental Health Nursing or Adult Nursing for a total of 12-13 credits; Cognate electives in support of clinical specialty and functional area 11-13 credits; Nursing Electives, 4 credits; Students will also select a functional role of either Nursing Administration, Nursing Education or Clinical Specialist for a total of 7 credits.

Total Credits for Degree 52-56 credits

# The School of Law

Stanley A. Samad, J.S.D., Dean  
Albert S. Rakas, J.D., Associate Dean

## OBJECTIVES

The purpose of the School of Law is to further the objectives of The University of Akron by providing a quality program of university 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 School recommends each student for the Juris Doctor degree upon satisfactory completion of the requirements.

The School of Law was established on September 1, 1959 as the successor to the Akron Law School. Founded in 1921 as an independent evening law school, the Akron Law School produced two generations of successful members of the bench and bar, and leaders in industry and commerce. Recognizing that legal education is best conducted in university-centered programs, and mindful of the need for the continuation of a sound program of legal education in the most densely populated quadrant of the state, The University of Akron accepted an offer of merger, and formed the School of Law.

The School of Law offers a program for the full-time study of law with classes scheduled primarily during the hours of 9:00 a.m. and 4:00 p.m., and a plan of part-time study of law for the working student with classes scheduled during the evening hours, primarily between 6:30 p.m. and 9:30 p.m.

The schedule of courses for full-time students is designed so that the Juris Doctor degree may be earned in three academic years consisting of six semesters.

Attendance at the summer sessions is optional.

The schedule of courses for part-time evening students is designed so that the Juris Doctor Degree may be earned in four academic years consisting of eight semesters and three summer sessions. The normal academic load in the evening program is nine credits and the summer sessions are an integral part of the program.

The schedule of courses has been designed by the faculty to provide a logical progression of subject matter, as well as reasonable freedom in the selection of elective courses. Students are encouraged to observe this schedule in planning their programs so that they can continue their advantageous progression of subject matter.

The primary purpose of students enrolling in the School of Law is to accrue fundamental knowledge of law and the role of law in society, interlaced with a grasp of the public responsibilities of the lawyer, enabling them to become attorneys and counsellors at law and leaders in governmental affairs. The ultimate aim of the School is the development of graduates who will serve society not only through the representation of their individual, corporate, or governmental clients, but who will also serve as architects of the future of society.

Students are trained to develop their powers of legal analysis and synthesis, to develop the technical skills of legal advocacy and legal draftsmanship, and to learn practical skills of research and the management of litigation.

## PRE-LEGAL EDUCATION

A student expecting to enter the School of Law must hold a baccalaureate degree which has been granted by an accredited institution of higher learning. His/her under-graduate courses should have developed his/her ability in expression and comprehension of the English language, afforded him/her basic information about human institutions and cultivated his/her 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.

#### REQUIREMENTS FOR ADMISSION

An applicant for admission to the School of Law desiring to become a candidate for the degree of Juris Doctor must:

1. Be of good moral character.
2. Show evidence of the award of a baccalaureate degree from a regionally accredited college or university in a field of study deemed appropriate by the faculty of the School of Law, with an academic average substantially better than the minimum average required for such degree.
3. Have taken, prior to admission, the Law School Admission Test and earned a satisfactory score.
4. Register with the Law School Data Assembly Service (LSDAS).

#### ADMISSION PROCEDURES

The School of Law accepts beginning students only in the fall semester.

The procedures for securing admission are as follows:

1. Obtain an application form from the School of Law. It is recommended that both day and evening applicants apply and complete their applications (with LSAT and LSDAS) as soon as possible after October 1. Students will be admitted until the classes are filled. After that time, acceptable applicants will be placed on a waiting list. The School estimates that the day class will be filled by April 1; the evening class by June 1. Because the School considers each application soon after it is completed, there is no way of knowing whether classes will be closed before or after the above dates. The best policy is to complete one's application as early as possible.

Admission from the waiting list will begin in late July, should vacancies occur.

2. Submit to the School of Law, The University of Akron, an application fee of \$20 if never previously enrolled for credit courses at The University of Akron.
3. Arrange to take the Law School

Admission Test (LSAT), which is given at the University and elsewhere, by making application to the Law School Admission Test, Educational Testing Service, Box 944, Princeton, New Jersey 08540.

4. Register with the Law School Data Assembly Service (LSDAS) by making application to the Law School Data Assembly Service, Educational Testing Service, Box 944, Princeton, New Jersey 08540. (An LSDAS registration form is contained in the Educational Testing Service packet of materials on the Law School Admission Test.)

File with the Law School Data Assembly Service a copy of the transcript of record from each college or university attended. (The LSDAS provides the School of Law an analysis of transcripts and forwards to the School of Law such analysis, copies (unofficial) of transcripts and LSAT scores.)

5. A personal interview with the Associate Dean of the School of Law may be required as a condition of admission; otherwise, the personal interview is optional.

6. IF ACCEPTED FOR ADMISSION TO THE JURIS DOCTOR DEGREE PROGRAM, the student must file with the School of Law a *final, official* (bears the raised Seal of the institution and the signature of the Registrar) *transcript of record showing the award of the baccalaureate degree*, mailed from the institution awarding the baccalaureate degree.

A "Certificate of Completion of Degree Requirements" is filed by the student with the School of Law temporarily in lieu of an official transcript for those students satisfactorily completing baccalaureate degree requirements during summer sessions, but the formal award of the degree is conferred after the beginning of the fall term. Such "Certificate" must be executed by an authorized official (usually the Office of the Registrar) of the institution awarding the baccalaureate degree. An official transcript showing award of the baccalaureate degree must be filed by the student with the School of Law at the earliest time such transcript becomes available from the institution awarding the baccalaureate degree.

The official transcript, or, in cases where applicable, the "Certificate," should be received by the School of Law at least one week prior to the official registration period published in the University Calendar.

Students admitted to the Juris Doctor degree program are requested to file the official transcript *only after* receiving the

authorized, signed Admissions Advisement form indicating actual admission to Juris Doctor degree candidacy of the School of Law.

The unofficial copy of transcript forwarded to the School of Law by the LSDAS does NOT constitute filing of transcript with the School of Law.

7. The School of Law reserves the right to refuse registration if registration forms are not filed by the announced deadlines as established by the University. A late fee penalty is assessed if an exception is made and late registration permitted.

8. The University of Akron is a non-sectarian, state-supported University. Students qualified for the study of law are admitted without discrimination as to race, sex, religion or national origin.

All inquiries and correspondence pertaining to admission should be sent to:

Associate Dean  
School of Law  
The University of Akron  
Akron, Ohio 44325

#### ADMISSION TO ADVANCED STANDING

A law student who has completed part of the law course at a school on the approved list of the Section of Legal Education and Admissions to the Bar, American Bar Association, and who is eligible for readmission to the former law school, may be admitted to advanced standing. A student desiring admission to advanced standing shall: (1) obtain from the Dean of the former law school a letter setting forth the fact that the student is eligible for further instruction, and consent to the transfer; (2) submit evidence of meeting the admission requirements of The University of Akron School of Law; (3) present an official transcript of all work completed at the previous law school. Credit to be given for the prior law school work shall be that determined by the Dean of the School of Law.

#### AUDITORS

Members of the Bar and graduates of law schools who are not yet members of the Bar may, with the permission of the Dean of the School of Law, enroll 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.

#### STANDARDS OF ACADEMIC WORK

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

Grade	Quality Points Per Credit
A Excellent .....	4.0
A- .....	3.7
B+ .....	3.3
B Good .....	3.0
B- .....	2.7
C+ .....	2.3
C Satisfactory .....	2.0
C- .....	1.7
D+ .....	1.3
D Poor .....	1.0
D- .....	0.7
F Failed .....	0.0
I Incomplete .....	0.0
IP In Progress .....	0.0
PI Permanent Incomplete .....	0.0
AUD Audit .....	0.0
CR Credit .....	0.0*
NCR Non-Credit .....	0.0

\*Not calculated in cumulative average.

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 2.00 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 School at any time by the Dean. Reinstatement is determined by the Dean of the School of Law to whom a written petition for reinstatement should be addressed.

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

#### REQUIREMENTS FOR A DEGREE

The Juris Doctor degree is conferred upon students of good moral character who have been recommended by the Dean and faculty of the School of Law and who have:

1. Completed satisfactorily all required courses, seminars and electives to earn at least 84 credits, the writing requirement, and met residency requirements.

2. Attained at least a 2.00 average for all courses taken and at least a 2.00 average for the senior year.

3. Spent their last year at the University unless excused by the Dean.

### FEES AND EXPENSES

Fees are as Follows:

Application fee, nonrefundable;	\$20.00
Fees for residents of Ohio, per credit;	\$38.00
Fees for nonresidents of Ohio, per credit;	\$53.00

Students taking less than nine credits in any semester pay a General Fee of \$10.00 for that semester. Students taking nine or more credits pay \$24.00.

University Housing is not available for graduate or professional students. However, a meal ticket may be purchased each semester.

Books (new) will cost approximately \$200 per year for full-time students and about \$125 per year for part-time students.

### LOAN FUNDS

University loans by which tuition and maintenance fees may be paid over the semester in periodic installments may be requested through the Cashier's Office. Normally, these loans do not exceed one-half the fees due in a semester.

Law students may apply for the following loans: National Direct Student Loans, the Philip H. Schneider Scholarship Loan Fund, and the Ohio Higher Educational Assistance Commission Loans (available to full-time students who are residents of Ohio).

Application for loans should be obtained from the Student Financial Aids Office, The University of Akron, and completed by April 1.

Loans for emergency purposes will be considered during the academic year.

### LIBRARY

The law library is the laboratory of the School of Law and is most important in providing the law student with materials for research and study. The law library contains approximately 125,000 volumes. University libraries comprising more than 875,000 items are available to law students.

### ENROLLMENT IN OTHER SCHOOLS

A student who is enrolled in the program leading to the Juris Doctor degree may not take work in any other school, college or course of instruction, unless he/she first obtains the written consent of the Dean. No student may attend a course designed as a review for the bar examination

until he/she has completed all course requirements for the Juris Doctor Degree.

### BAR ADMISSION REQUIREMENTS

Each student entering the School of Law is encouraged to read Rule I of The Supreme Court Rules For The Government Of The Bar Of Ohio, Admission to the Practice of Law, or the comparable rule of court in the jurisdiction wherein he/she desires to take the bar examination and practice law.

The Supreme Court of Ohio requires that each student entering a law school and who intends to practice law in Ohio shall file within 120 days from the beginning day of the fall semester an application for registration as a law student, evidence of his/her meeting the pre-legal educational requirements established by the Rule, a legible set of fingerprints on a prescribed form and filing fee of \$30.00. 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 School of Law that the student has completed or will complete all courses required by the Rule and a filing fee of \$60.00. The Rule requires that a student be tested in the following courses: Business Associations (including Agency, Partnerships and Private Corporations), Commercial Transactions (Commercial Paper, Secured Transactions), Constitutional Law, Contracts (Equity), Criminal Law, Evidence, Federal Taxation, Pleading and Practice, Property (Real and Personal), Torts, Trusts and Wills. Further, the student must be certified as having had instruction in Legal Ethics.

The appropriate forms may be obtained from the School of Law on request. It is the responsibility of the student to initiate a request for, to execute properly, and to file timely, the requisite forms.

### THE HONOR SYSTEM

Consistent with the aim of training professionally responsible lawyers, and in recognition of the importance of honor and integrity of the individual lawyer, the faculty has placed the responsibility of honorable conduct on the individual student, and the administration of the honor system on a council of students composed of Student Bar Association officers and class representatives.

One noteworthy feature of the honor system is that each examination is unproctored. Entering students are urged to familiarize themselves with the Honor Code.

## PLACEMENT

The School of Law assists students and Alumni in obtaining legal and law-related positions subsequent to graduation and temporary positions as law clerks after completion of the first year of law school, and provides career counseling and the development of the tools necessary for the job search process.

Membership is maintained in the National Association for Law Placement.

## THE AKRON LAW REVIEW ASSOCIATION

A Board of Student Editors prepares and edits, with the advice of the Dean and the faculty, *The Akron Law Review*, a quarterly legal periodical devoted to legal research and commentary on the law. Membership on the Board is limited to those students of superior academic achievement or of demonstrated writing skill who desire to engage in legal research, analysis, writing, and editorship. Membership on the Board of Student Editors is indicative not only of scholarship, but of uniquely valuable training in skills important to the profession of law.

## LAW STUDENT ASSOCIATIONS

ARETE, a student-managed organization, publishes two student legal works. The oldest publication is a monthly news-journal which contains both newsworthy items of importance and professional and student opinion. The Fall, 1973, saw the dedication issue of the second ARETE publication, the ARETE JOURNAL. The JOURNAL is printed quarterly and is designed to be a legal periodical of views and opinion, dedicated to a special area of the law each edition. ARETE is distributed within the School of Law, throughout the Akron area professional community and to law libraries of every law school in the nation. As recipient of the award of "The Outstanding Law School News-Journal of the U.S. Sixth Circuit for 1973-74", ARETE stands as one of the finest law school publications in the nation. ARETE is open to all second and third year law students.

THE BLACK AMERICAN LAW STUDENT ASSOCIATION (BALSA), accredited as a law student organization in 1974, has as its primary objective increasing the enrollment and retention of minority law students. Akron BALSA, an affiliate of National BALSA, Inc., sponsors community seminars on the law and the legal rights of Black, poor and oppressed people.

BRACTON'S INN, a student-managed organization, conducts an appellate moot court program. BRACTON'S INN has as its purpose the development of skills in legal research, brief writing and oral advocacy before a moot appellate tribunal. Among the activities sponsored by BRACTON'S INN is the Client Counseling Competition which offers students experience of participation in regional and national competition with other law schools in simulated exercises of lawyer-client interviews and consultations. BRACTON'S INN also sponsors the Mock Trial program which gives students an opportunity to serve as counsel in an actual trial setting.

Charter member with 35 law schools, The University of Akron School of Law established in 1970 a national honor society entitled ORDER OF BARRISTERS whose aim is to promote recognition of appellate advocacy. Law students successfully completing the appellate advocacy program of BRACTON'S INN are eligible for consideration to membership in the student-managed ORDER OF BARRISTERS.

THE SEIBERLING SENATE, DELTA THETA PHI LAW FRATERNITY, was chartered in 1973, in honor of Congressman John F. Seiberling. The objective of DELTA THETA PHI is to bring together congenial men and women of good will and common purpose who regard the study and practice of law as activities worthy of the highest human endeavor. Law students in good standing are eligible for membership after their first semester.

THE INTERNATIONAL LAW SOCIETY, a Chapter founded in 1971 as an affiliate of the national Association of Student International Law Societies, is designed to stimulate interest and participation in the field of international law by providing opportunities for student exposure to world affairs through speakers, panels and competitive events, such as the annual Philip C. Jessup International Law Moot Court Competition, and to better prepare law students for related occupational positions subsequent to graduation.

THE LAW WIVES CLUB is primarily an informal, social organization for the wives of all law students. LAW WIVES supports activities which provide funds for student awards and donations toward improvements of the School of Law facilities for the benefit of all law students.

THE STUDENT CHAPTER, NATIONAL LAWYERS GUILD, founded in 1975, unites law students and honorary members in promoting group interaction and sensitivity to the ongoing societal evolution of the

primacy of human rights, liberties and equality of opportunity. To these ends law is viewed as an instrument for protection and not repression of such rights and opportunities, and the lawyer as a catalyst for societal changes and not merely a client-caretaker.

THE GRANT CHAPTER, PHI ALPHA DELTA LAW FRATERNITY, INTERNATIONAL, was established in 1962. Through service to the student, the School and the legal profession, PHI ALPHA DELTA strives to advance not only the attainment of a high standard of scholarship, but also the development of a spirit of good fellowship among its men and women members. Speakers, workshops, parties, luncheons and the annual used-book sale are among some of the activities sponsored by Grant Chapter. "PAD" welcomes all students in good standing after the first semester.

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.

#### SCHOLARSHIPS, HONORS, AND AWARDS

A limited amount of tuition-remission assistance is available to full-time (day) students from disadvantaged groups in need of assistance, and may be renewed in the case of continuing need, and good academic standing, in amounts up to \$1,000 per regular academic year (fall and spring semesters). Application for such assistance should be made prior to June 1, through the Office of the Associate Dean, School of Law.

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

Summit County, Ohio. A recipient may apply for an annual renewal of the scholarship.

The Akron National Bank and Trust Company provides an annual award of \$200 to the graduating senior who excels in the study of the law of trusts and estates, with the selection to be made by the Dean.

The Anderson Publishing Company awards to the highest ranking graduating student in Corporations each year a copy of *Anderson's Ohio Corporation Desk Book*, and to the highest ranking graduating student in Wills a copy of *Lynn Will Clauses*.

The Banks-Baldwin Law Publishing Company awards annually a two-volume work entitled *Jacoby's Ohio Civil Practice Under the Rules* to the graduating law student displaying scholarship in the study of Code Pleading, as determined by the Dean, School of Law.

The Bracton's Inn Award, established by the Law Wives Club of the School of Law, is presented annually in recognition of superior performance in the Law School's moot court program.

Attorney and Mrs. Evans B. Brewster established in 1964 an annual award in the sum of \$200 to assist two deserving law students who rank in the upper half of the class to obtain the use of assigned case and text books, as determined by the Dean, School of Law.

The Bureau of National Affairs, Inc. awards the year's complimentary subscription to THE UNITED STATES LAW WEEK to a graduating student who, in the judgment of the faculty, has made satisfactory progress during the senior year.

The Client Counseling Competition, sponsored by Bracton's Inn and the Phi Alpha Delta Law Fraternity, International, offers an annual prize of a \$25 U.S. Savings Bond and a Certificate to the winners of a simulated exercise in lawyer-client consultation and accompanying office memoranda, and an opportunity to compete in regional and national competition.

The Robert Crafts Memorial Scholarship is a fund established in 1969 by Mrs. Robert Crafts in memory of her husband, Robert Crafts, Esq., of which the income or principal or both will be used to assist worthy students in the School of Law who enter under the Council on Legal Education Opportunity program, and students similarly situated, on the recommendation of the Dean of the School of Law.

The Goodyear Tire & Rubber Company Fund is a fund established in 1969 by the Goodyear Tire & Rubber Company Fund, of

which the principal and income will be used for scholarships and emergency expenses of students admitted to the School of Law under the Legal Education Opportunity program, on the recommendation of the Dean of the School of Law. The fund is administered by The University of Akron Development Foundation.

The Howland Memorial Fund has provided two \$500 Frank C. Howland Scholarships to deserving law students of demonstrated scholastic attainment, as nominated by the Dean, School of Law.

The Law Wives Club Award of several cash awards is presented annually to law students, spouses of Club members, on the basis of scholarship and leadership in student affairs, as determined by the Dean of the School of Law.

The Lawyers Co-operative Publishing Company and Bancroft-Whitney Company, joint publishers of AMERICAN JURISPRUDENCE, award to top ranking students in about twenty-four courses a specially bound copy of the equivalent title from their multi-volume publication, as determined by the instructor(s) in charge.

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

The Judge and Mrs. W. E. Pardee Memorial Scholarship in an amount not to exceed \$500 is awarded annually to a deserving, full-time law student of demonstrated scholarship.

The Phi Alpha Delta Law Fraternity, International, Grant Chapter, awards annually the Judge Florence E. Allen Memorial Award of a \$50 U.S. Savings Bond to a graduating law student predicated upon meritorious achievements in scholastics, community service and P.A.D., as determined by a Committee chaired by the Dean, School of Law.

The Phi Alpha Delta Law Fraternity, International, awards annually seventeen \$500 awards, nationally, to seniors who are members of the fraternity. Application should be made through the Faculty Adviser of the Grant Chapter, School of Law. Phi Alpha Delta also awards, nationally, ten \$500 scholarships to entering minority students. Application should be made through the Office of the Associate Dean, School of Law.

Prentice-Hall, Inc. provides annually a complimentary subscription to its Federal

Tax Guide, Edition "A", to the graduating senior who has excelled in the study of taxation, as determined by the Dean of the School of Law.

The Judge and Mrs. Charles Sacks Scholarship is a fund established in 1969-70, the Centennial Year of the University, in honor of Judge and Mrs. Charles Sacks by their children, Robert and Naomi Christman, Sy and Laurel Fischer and Harvey and Shirley Friedman, of which the income will be used to provide scholarships to deserving students in the School of Law, on the recommendation of the Dean of the School of Law.

The Joseph Thomas Memorial Law Scholarship Fund is a fund established in 1976 by the Firestone Foundation in memory of Joseph Thomas, Esquire, the income from which is used to assist a financially deserving student or students of high academic potential and achievement residing in Summit County, on the recommendation of the Dean, School of Law. The award may be renewed.

The West Publishing Company annually awards four titles of *Corpus Juris Secundum* to students of all classes who have made the most significant contribution to overall legal scholarship, and, four titles from the *Hornbook Series* to students with the highest academic average in each of the classes, as determined by the Dean, School of Law.

Other scholarships and grants not specifically earmarked for law students but open to all University students are available. The student should consult the Financial Aids section of The University of Akron *General Bulletin*, and should apply seasonably through the University Financial Aids Office.

#### CLINICAL TRAINING AND PUBLIC SERVICE

The Legal Clinical Program emphasizes the day-to-day aspects of practicing law and operates to assist the student in developing skills associated with management of the affairs of a client, as well as developing a critical awareness of the lawyer's responsibility in improving the administration of civil and criminal justice.

An internal program within the School of Law provides opportunity to assist indigents in civil and criminal actions in a law office setting. Students also are detailed to work with community organizations such as the Legal Aid Society, the Public Defender's Office, the City and County Prosecutor's Office and other similar organ-

izations. Students may participate in these programs by enrolling in the Legal Aid courses upon completion of 28 semester credit hours and receiving permission of the Clinical Director.

Students who have completed at least 56 semester credit hours toward the degree of Juris Doctor, are in good academic standing, are enrolled as candidates for the Ohio bar examination and whose academic work is current, may be admitted to the Limited Practice of Law in Ohio as Legal Interns on obtaining approval from the Dean of the School of Law and the Supreme Court of Ohio. As a Legal Intern, the student may serve as counsel in civil cases and criminal misdemeanor cases under the Law School Clinical Program.

The applicable Supreme Court Rule (II) provides:

"The certificate may be revoked prior to its expiration upon revocation of the approval of the Dean or by the Court, *sua sponte*, either of which may be without notice, hearing or other statement of cause."

#### THE B. F. GOODRICH COMPANY CHAIR OF LAW

The B. F. Goodrich Company in 1975 endowed a Professorial Chair of Law in International Transactions and Relations. Professor Hamilton DeSaussure was appointed as Holder of the Goodrich Chair.

Its aim is to assist in the training of law students as counselors in business, government and private practice in international business transactions, and their education in a global awareness of the economic and political problems of other nations, as reflected in their legal systems. With the cooperation of other academic units of the University, a unique opportunity is provided for an interdisciplinary study of subject matter areas such as in business, economics and government vital to counseling in international transactions and relations.

#### CURRICULUM FULL-TIME PROGRAM

(These courses are offered during the day)  
First Year, Required

First Semester	Credits
9200:611 Legal Process	3
9200:605 Contracts I	3
9200:614 Property I	3
9200:601 Civil Procedure I	3
9200:616 Torts I	3
9200:613 Legal Research and Advocacy	1

Second Semester	Credits
9200:606 Contracts II	2
9200:615 Property II	3
9200:602 Civil Procedure II	3
9200:617 Torts II	3
9200:607 Criminal Law	3

#### Second and Third Year, Required

First Semester	Credits
9200:612 Legal Profession	1
9200:608 Evidence I	2
9200:603 Constitutional Law I	2

Second Semester	Credits
9200:609 Evidence II	2
9200:604 Constitutional II	2

#### PART-TIME PROGRAM

(These courses are offered during the evening.)

#### First Year, Required

First Semester	Credits
9200:611 Legal Process	3
9200:605 Contracts I	3
9200:613 Legal Research and Advocacy	1
9200:616 Torts I	3

Second Semester	Credits
9200:606 Contracts II	2
9200:617 Torts II	3
9200:612 Legal Profession	1
9200:607 Criminal Law	3

#### Second Year, Required

First Semester	Credits
9200:614 Property I	3
9200:601 Civil Procedure I	3

Second Semester	Credits
9200:615 Property II	3
9200:602 Civil Procedure II	3

#### Third and Fourth Year, Required

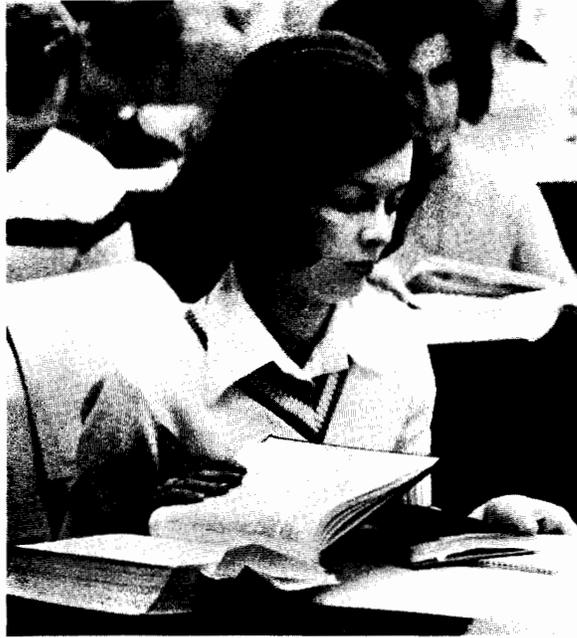
First Semester	Credits
9200:608 Evidence I	2
9200:603 Constitutional Law I	2

Second Semester	Credits
200:609 Evidence II	2
9200:604 Constitutional Law II	2

#### Electives

9200:621 Accounting For Lawyers	2
9200:622 Administration of Criminal Justice	3
9200:623 Administrative Process	3
9200:624 Air Law	3
9200:625 Antitrust Law	2
9200:626 Basic Business Associations	3
9200:627 Commercial Transactions: Negotiable Instruments	3
9200:628 Commercial Transactions: Sales	2
9200:629 Commercial Transactions: Secured Transactions	3
9200:631 Conflict of Laws I	2
9200:632 Conflict of Laws II	2
9200:633 Corporations I	2

	Credits		Credits
9200:634	2	9200:665	3
9200:635	2	9200:666	1
9200:636	2	9200:667	2
		9200:668	2
9200:637	2	9200:669	2
9200:638	3	9200:671	2
9200:639	2	9200:672	3
9200:641	3	9200:673	2
9200:642	3	9200:674	2
9200:643	3		
9200:644	2	9200:675	3
9200:645	3	9200:676	3
9200:646	2		
9200:647	2	9200:677	2
9200:648	2	9200:678	3
9200:649	3	9200:679	2
9200:650	3	9200:680	2
9200:651	2	9200:681	2
9200:652	2	9200:682	2
9200:653	2		
9200:654	2	9200:683	2
9200:655	1	9200:684	1-3
9200:656	1		
9200:657	1	9200:685	3
9200:658	1	9200:686	3
9200:659	2	9200:691	2
9200:661	3		
9200:662	2	9200:692	2
9200:663	2	9200:696	2
9200:664	2	9200:698	1-3



## ***Research Centers and Institutes***

In the past, colleges and universities have been thought of as ivy-covered storehouses of knowledge where neatly packed information was dispensed to eager students. But this has never been true, for it is here that much of the new knowledge developed. And with the accelerating tempo of our times, there is an increased call for the universities to provide more new knowledge to enable society to cope.

The University of Akron is alive to this challenge and has sought to develop its research program with an eye to the needs of the society it serves. Here the emphasis is on the work that is relevant, not on mere knowledge for knowledge's sake.



## Research

Joseph M. Walton, Ph.D., *Associate dean of Graduate Studies and Research*  
Robert G. Corbett, Ph.D., *Coordinator of Research*

One consequence of the University's concern with relevant research has been the number of inter-disciplinary teams that have been put together to tackle specific problems. Thus problems in connection with water pollution have used the services of chemists, biologists, chemical, mechanical and civil engineers.

All of this benefits the student. While the planning and organization of a research project is usually carried out by or with the assistance of a faculty member, both graduate and undergraduate students have the opportunity to participate, depending on the nature of the project and the skills and knowledge required.

Additionally the student is assured of a skilled, knowledgeable faculty, not cloistered in an ivory tower, but alert to the latest developments in the various disciplines. 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. All of the research activities on campus are coordinated by the University Research Council which also serves as the policy making body for research. The Council consists of the Coordinator of Research and the Directors of the four Research Institutes, the Institute of Polymer Science, the Institute of Business and Economic Research and the Institute of Science and Engineering Research.

**INSTITUTE OF POLYMER SCIENCE** — The oldest of the research institutes, this was originally known as the Institute of Rubber Research. This institute has a staff of seventeen faculty members who direct the work of its pre-doctoral and post-doctoral students in a wide range of studies in

the chemistry, physics and engineering aspects of polymers. The Institute is equipped with an extensive array of instrumentation and specialized research equipment appropriate to its activities.

**INSTITUTE OF CIVIC AND EDUCATIONAL RESEARCH** — Concerned with the increasingly complex human problems facing our society today, this Institute is carrying out a number of studies designed to assist government and industry meet the challenges of the times. In addition to studies whose concern is with how to improve the educational process, there are a number of programs which aim to improve governmental service, both by devising new solutions to problems and by bringing together experts in various fields to share their expertise with others.

**INSTITUTE OF BUSINESS AND ECONOMIC RESEARCH** — The work of this institute is carried out principally by members of the department of Economics and the College of Business Administration. Most of the work in this Institute is not of a project nature but rather is the nature of a consultation. The specific problem of a specific client is handled rather than large-scale, long-range theoretical studies.

**INSTITUTE OF SCIENCE ENGINEERING RESEARCH** — The studies conducted in this Institute are what most people think of when the word research is used, for it is this Institute that deals with the natural sciences. Here are the chemists and physicists and engineers, with the test tubes, spectrophotometers, nuclear reactors and all of the varied paraphernalia of modern science. As a result, this Institute possesses a large number of specialized laboratories and many unusual pieces of equipment.

### *Institute of Polymer Science*

Maurice Morton, Ph.D., *Director*

The **INSTITUTE OF POLYMER SCIENCE** was originally established as the Institute of Rubber Research in 1956, in order to prosecute its main functions: basic and applied research in polymer science and the graduate training of polymer scientists and engineers.

Because of its location in the heart of the world's largest concentration of rubber industries, The University of Akron has always maintained a special interest in the science of rubber, dating back to the establishment in 1908 of the world's first course in rubber chemistry by the late Dr. C. M.

Knight. During World War II, the research activities were expanded under the impetus of the U.S. Government Synthetic Rubber Program.

After the war, it soon became apparent that the phenomenal rise of the giant synthetic rubber industry had brought the whole science and technology of rubber into the broader field of polymer science, and the need for polymer scientists was fast outstripping the meager supply. Hence the establishment of the Institute of Rubber Research was accompanied by the inauguration, in 1956, of the University's Ph.D. program in polymer chemistry, the first of its doctoral programs.

Because polymer science and technology seeks ultimately to relate the molecular structure of macromolecules to their physical behavior, it requires the combined efforts of chemists, physicists and engineers. Hence the best trained polymer scientist or engineer is one who has a broad understanding of this material science, including areas outside his own specialty. To fill this need, The University of Akron, in 1964, broadened its original polymer chemistry program into an interdisciplinary program in polymer science, available to chemists, physicists and engineers, and leading to *M.S. and Ph.D. degrees in Polymer Science*. This program is administered by the Department of Polymer Science, the academic arm of the Institute. Its faculty also hold appointments in other science and engineering departments. This enables the graduate student, while pursuing his individual field of science or engineering, to

obtain both a broad and a specialized training in polymer science.

The Institute occupies the North Tower of the Auburn Science and Engineering Center and the adjacent Whitby Hall. It includes both chemical and physical laboratories, the latter devoted to physical measurements on polymers and elastomers. These facilities enable a wide scope of research to be carried out, including organic reactions, polymerization studies, characterization of macromolecules, and physical behavior and testing of polymers and elastomers. The well-equipped laboratories, together with the large interdisciplinary group of faculty, staff and graduate students, make the Institute a unique facility in this field. It is now comprised of thirteen full-time faculty members, holding ranks ranging from Professor to Asst. Professor in various disciplines, a combined technical and non-technical staff of 10, and 65 full-time graduate students, mainly pursuing doctoral degrees. Thus the Institute is now undoubtedly the largest academic facility of its kind in the United States.

The basic research work at the Institute is performed by graduate degree candidates under the supervision of faculty members. The fundamental character of this research makes it suitable for use in the graduate dissertation required of each student. The Institute also operates an Applied Research Section which undertakes projects as a service for government and industry, performed by a special staff of investigators.

## ***Center for International Programs***

H. Kenneth Barker, Ph.D., *Dean*  
International Programs

Arno K. Lepke, Ph.D., *Director*  
International Studies

The University of Akron serves a community that is very much on the international scene. The world's major rubber industries that are located here have plants in every part of the globe, as do many of the city's smaller industries. Our student population includes 225 foreign students. The faculty of this University has wide interests and has traveled extensively to various parts of the world.

The various colleges of the University have developed programs to give students an awareness of the global nature of knowledge. There are numerous courses in Non-Western studies, area concentrations, programs in international business and various opportunities for students and alumni to travel overseas.

Through its Advisory Committee, composed of faculty and students of the various

colleges, the Center for International Programs attempts to find ways of committing the University to programs that produce students who will be more knowledgeable about the total world in which we find our-

selves. Hopefully, this can be done by increasing the international content of our various courses and finding ways to expose students and faculty to the various cultures of the world.

## ***Center For Peace Studies***

Warren F. Kuehl, Ph.D., *Director*

The Center for Peace Studies at The University of Akron has been established to study the subject of international peace within the threefold framework of the University's goal of education, research, and public service. A Peace Studies certificate program is available for students who

wish to pursue this course of study and the Center sponsors special campus programs, a film series, and an international newsletter. It is engaged in research projects and cooperates with organizations in the community interest in peace and with institutes and peace centers on other campuses.

## ***Center For Urban Studies***

Frank J. Costa, Ph.D., *Director*

One of the greatest challenges facing the urban university is that of effectively using its many resources in urban analysis. The Center for Urban Studies at The University of Akron was established in 1965 in response to this challenge and is the focus around which the University applies available knowledge to urban problem solution. The Center seeks to organize and develop programs and research areas which use and stimulate faculty participation in urban area analysis. The Center's objectives are to apply new methods and to experiment with new approaches in solving urban problems. Thus, it strives to stimulate, within the University, creative solutions to urban problems by coordinating the urban perspectives of the various disciplines and professions.

The Center for Urban Studies provides advisory and research expertise in a wide range of areas to both public and private agencies on the local, state and federal levels. While most of the advisory and re-

search work of the Center is carried out under contract with various agencies, significant projects have been undertaken without remuneration in an attempt to develop new approaches and new knowledge. Center research covers such areas as urban and regional planning, administrative organization, cost-benefit analysis, community development, housing, intergovernmental relations, urban employment, criminal justice planning, recreation, social services planning and urban education.

The Center for Urban Studies represents a multidisciplinary approach to the analysis of the urban region. It augments its research capabilities by drawing upon the expertise of the faculties in the various colleges within the University. Through its programs in Research, Data Accumulation and Extension the Center provides the setting and facilities through which interested faculty and graduate students can become involved in urban research or public service activities.

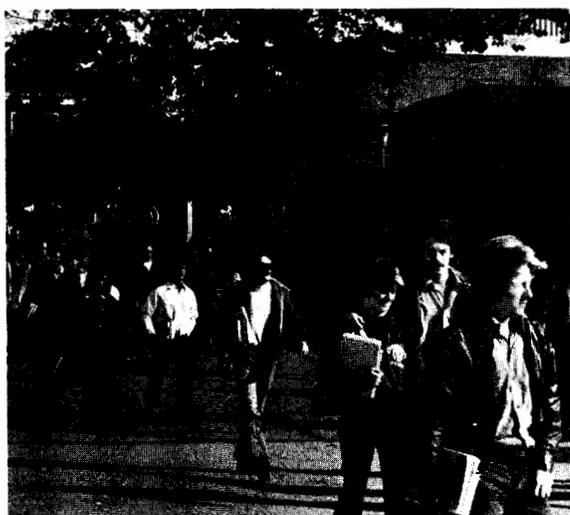


## ***Continuing Education***

Since 1968, The University of Akron has offered special institutes, workshops, and courses to professional groups. The University, through its academic departments, Institute for Civic Education, Department of Special Programs, Developmental Programs and its Institutes and Centers will continue to provide "out-reach" programs, whenever practical.

As an urban institution of higher learning, the University clearly identifies and supports its Public Service role. Off-campus programs have been developed throughout the calendar year.

For further information, please call the office of the Executive Dean for Continuing Education and Public Services, 375-7028.



# **The Urban Commitment Through Continuing Education and Public Services**

William A. Rogers, Ed.D., Executive Dean

Institute for Civic Education  
Department of Special Programs  
Institute for Life-Span Development and Gerontology  
University of Akron/AMHA Edgewood Community Services Center  
Northeastern Ohio Universities College of Medicine

## PHILOSOPHY

The three basic missions of universities are teaching, research and public service. Time and location dictates the varying manner by which institutions of higher education administers and achieves these missions.

Since man's knowledge has grown, the rate has accelerated at a staggering pace in the past three decades. There now exists a need for continued education. The universities' dual, traditional mission to educate 18 to 22-year-olds and reproduce its own replacements in the Ph.D. format is too limiting a role for the urban institution. A society that supports urban public higher education expects the university to play a wider role and to intersect with almost all segments of its population.

Some have observed that for the first time in America's history, Americans are members of a learning society in addition to the working one.

If an urban institution of higher learning is to fulfill its non-traditional role, different administrative structures within the institution are necessary to provide a proper balance among teaching, research and service.

Within the content of Continuing Education and Public Services, at The University of Akron are located a variety of units dedicated to the support of the urban commitment.

## PRIMARY OBJECTIVES

The primary objective is to provide university-level continuing education; programs for those beyond college age and other educational programs for adults interested in non-degree oriented activities.

Congruent with the primary objective, in relation to the urban commitment, is the establishment and maintenance of an effective liaison with all Akron area agencies re-

sponsible for formal and informal post-secondary education.

## MORE SPECIFIC OBJECTIVES ARE:

1. To develop an Akron area higher education council embracing all post-secondary agencies. Council to function as a primary market research agency responsible for facilitating more effective utilization of efforts.

2. To offer meaningful learning opportunities (for which the university has talents) to those engaged in the various professions.

3. To offer assistance to industry, business, labor, public officials and community leaders in developing staff personnel and programs that will help them function more effectively.

4. To offer university-level assistance and joint community assistance to local, specialized organizations, agencies and other community groups to help them achieve their educational goals.

5. To offer a variety of opportunities to adults who wish to increase their personal awareness and insights as individual members of a larger society.

To accomplish these objectives, Continuing Education and Public Service will:

1. Maintain a climate and organization which will elicit a high level of cooperation from all segments of the faculty.

2. Cooperate with all campus offices in the development of proposals that will attract funds to help the University better serve its many audiences.

3. Serve as a coordinating body for all Akron area higher education activities. (Higher education is identified by post-secondary activity.)

4. Support and conduct research directed toward the identification of innovative approaches to continuing education and public service.

5. Provide training programs for off-

campus clients that will up-grade skills and help organizations improve the quality of their services.

6. Lastly, motivate the University's con-

tinuing education personnel to become sensitive to individual and group, implicit and explicit, needs within the larger community.

## ***Institute For Civic Education***

Marvin E. Phillips, M.A., *Director*  
Mary Elizabeth Chesrown, B.A., *Assistant Director*

The Institute for Civic Education is the public services programming center for The University of Akron. Many informal programs of a continuing educational nature are designed for the community, utilizing the resources of the entire university and community. These programs are conducted both on and off the university campus and they vary in length and frequency; many are free.

Universities cannot completely rely on the traditional academic classroom approach to fulfill the requirements of education for public responsibility because learning is a life-long process distilled from varied educational and practical experiences.

The Institute sees its role as the catalyst for bringing together the skills and expertise of university personnel and community leaders to focus on the issues and problems of the urban society.

Among the continuing educational services provided by the Institute:

1. Coordination and cooperation with more than 400 community organizations in program planning, workshops and seminars.

2. Complete conference planning for organizations both on and off campus.

3. Presentation of lectures by speakers in public life and national and world affairs, often in cooperation with University departments and community organizations.

4. Developing leadership training programs for implementation within the community organizations.

5. Developing training programs for discussion leaders, board members and program planners.

6. Community and College Ambassador Programs.

7. A Speakers Bureau with more than 100 faculty members and 300 topics.

8. World-at-Our-Door travel film series.

9. Monthly Civic Educalendar listing events and programs.

10. Study discussion programs.

11. Weekly Current Issues Forums.

12. Akron Area Film Society.

Programs are described in special announcements that are distributed to a community mailing list of approximately 4,000.

The Institute represents the University in many community, state and national organizations, including:

Ohio Association for Adult Educators, United Community Council Conference of Executives, Governing Board of Community Action Council and Foreign Policy Association.

## ***Department of Special Programs***

Cecil L. Dobbins, B.B.A., *Director*

Continuing education in today's age of specialization is a necessity for many persons wishing to improve work skills. For others, it is a leisure-time avocation for personal enrichment. Since 1937 The University of Akron, through the Department of Special Programs' year-round sessions of informal courses, has offerings in both categories, for adults who do not require academic credit.

More than 175 classes, based upon the educational needs of the community, are offered each quarter. There are no requirements for admission to informal courses and any educational background is acceptable. Interest in learning in a relaxed and non-competitive environment is the only consideration.

Permanent student records are kept for all persons enrolled. Homework and exami-

nations may be given, however, certificates of satisfactory completion are awarded based solely on attendance.

Following is a representative though partial listing of types of subjects taught in informal classes:

**BUSINESS & INDUSTRY** — Accounting, Bookkeeping for Small Business, Building Trades Blueprint Reading, Diesetting, Estimating for Construction, Federal Income Taxation, Human Relations, Investing, Psychology in Business and Industry, Production & Inventory Control, Quality Control, Selling, Small Business Management, Steam Plant Operation, Supervision, Technical Drawing.

**COMMUNICATIONS SKILLS, VERBAL & WRITTEN** — Creative Writing, Effective Oral Communications, English as a Second Language — Verbal, English Grammar, English Review for the College Bound, Practical Journalism, Reading Improvement, Skills in Listening, Speed Reading, Vocabulary Improvement.

**DATA PROCESSING** — Assembler Language, Business Data Processing & Computer Programming, Cobol Workshop, Fortran, Key Punching.

**ELECTRONICS** — Basic Electronics, Fundamentals of AC-DC Circuitry.

**HUMANITIES AND FINE ARTS** — Antiques, Glass Blowing, Interior Decorating, Judaism, Motion Picture Production, Photography.

**MATHEMATICS** — Algebra, Math for Everyday Use, Plane Geometry, Trigonometry.

**METALLURGY** — Metal Casting.

**MODERN LANGUAGES AND CULTURE** — Arabic, Chinese, French, German, Greek, Italian, Polish, Romanian, Russian, Serbo-Croatian, Spanish, Swahili.

**PHYSICAL EDUCATION AND RECREATION** — Korean Karate, Physical Fitness for Men, Women, and Scuba and Skin Diving, Swimming for Women, Self-Defense for Women, Yoga.

**REAL ESTATE** — Appraising, Commercial Property, Communications, Finance, Fundamentals, I, II, House Construction, Legal Aspects, Management and Investment, Marketing Understanding Real Estate.

**SCIENCE** — Air Pollution, Engineering Refresher, German, Russian for Polymer Scientists.

**SECRETARIAL SKILLS** — Business Machines, Certified Professional Secretaries Review Seminar, Gregg Shorthand, Office Receptionist, Typewriting.

## ***Institute for Life-Span Development and Gerontology***

Harvey L. Sterns, Ph.D., *Institute Director*  
Robert Deitchman, Ph.D., *Edgewood Director*

The Institute for Life-Span Development and Gerontology was formally established at The University of Akron in February 1976. The statement of purpose of the Institute for Life-Span Development and Gerontology is to bring together disciplines and activities of the University — in training, in research, and in public service — so that, in the broad application, we may evolve education programs which will improve the quality of life for the young, the middle aged, and the elderly of our community. More specifically, the application is toward understanding ourselves and others during the later years of life. Thus, through interdisciplinary involvement, the Institute is concerned with research and training in the areas of child and adult development as well as with response to the needs and wants of older adults.

On campus, the Institute is located on the second floor of Simmons Hall, room 273. Among the objectives of the Institute are: to coordinate a multidisciplinary program in life-span development and gerontology for the entire University with undergraduate and graduate certificate programs to be received with associate, baccalaureate, or graduate degrees in existing academic programs; to provide student placement experience which involves children and older adults at The University of Akron/Akron Metropolitan Housing Authority Edgewood Community Services Center and in other community agencies and facilities.

The Edgewood Center is located about three miles off campus at Wooster Avenue and Edgewood Avenue. Robert Deitchman, Ph.D., assistant professor of psychology, is

director of the Edgewood Center, where five days each week a nutrition site and activities program is offered to older adults and where a day care center for preschool aged children is held. Edgewood serves not

only as a community facility but also as a training and research center for faculty and students of the University and for professional and paraprofessional people of the community.

## **Northeastern Ohio Universities College of Medicine**

### **HISTORY OF THE COLLEGE OF MEDICINE**

The Northeastern Ohio Universities College of Medicine was created by an Act of the 110th General Assembly of Ohio and was officially established as a new public institution of higher learning on November 23, 1973. The College of Medicine is governed by a Board of Trustees appointed by the Boards of Trustees of The University of Akron, Kent State University, and Youngstown State University. All three universities are accredited by the North Central Association of Colleges and Secondary Schools. The College of Medicine is presently classified as a "Medical College of Development" by the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association.

### **EDUCATIONAL PURPOSE OF THE COLLEGE OF MEDICINE**

The College was established to provide new opportunities in medical education by preparing well qualified physicians who are oriented to the practice of medicine at the community level, especially primary care and family medicine.

### **DESCRIPTION OF THE PROGRAM**

The curriculum, as planned, will require that students be enrolled for 11 months in each of six academic years. The first two years (Phase I) is spent on one of the university campuses. The course work during this period focuses chiefly on studies in the humanities and basic premedical sciences but will also include orientation to clinical medicine.

The Third Year of study is devoted primarily to the basic medical sciences, e.g., anatomy, physiology, microbiology, etc., and will be conducted at the Basic Medical Sciences Campus presently being developed in Rootstown.

In Years Four, Five, and Six, the student will develop competence in the clinical aspects of medicine through instruction provided principally at one or more of the associated community hospitals. The student will return to the university campus for one quarter in each of these last three years to complete the requirements for the B.S. degree at that university by enrolling in courses in the humanities and social sciences.

Successful completion of the six-year program leads to the award of the B.S. degree by one of the universities and the M.D. degree by the College of Medicine.

### **INTEGRATED CURRICULUM**

#### **ELIGIBILITY**

##### **PHASE I**

High school seniors and recent high school graduates, having demonstrated appropriate academic competence and motivation toward a career in medicine, will be considered for admission into year one of the program.

##### **PHASE II**

Other applicants with a conventional college background, including pre-medical requirements and at least three years of college level work, will be considered by the College of Medicine for admission to Phase II (year three of the program).

#### **ADMISSION PROCEDURE**

##### **PHASE I**

High school seniors and recent high school graduates (who have not attended college) should write to the Admissions Office, The University of Akron, Akron, Ohio 44325, for application forms. Complete application indicating interest in the Phase I, BS/MD Program and return prior to December 31.

## PHASE II

Conventional pre-medical students with three years or more of college should contact the College of Medicine, Rootstown, Ohio 44272, for application to Phase II, or year three of the six-year program. Applicants to Phase II should have taken the New MCAT test by May.

## PROMOTION TO PHASE II

Progress through the first two years of this program (Phase I) will be based on academic performance and development of personal maturity appropriate to assumption of professional responsibility. The Phase I Academic Review and Promotion Committee, including University and College of Medicine faculty, will assess these factors and will recommend Phase I stu-

dents for promotion and formal admission to Phase II, or the third year of the program.

## COST

Normal undergraduate fees will be assessed for years one and two. Fees for years three through six, set by the College of Medicine Board of Trustees, will be \$1,995 for three terms, which Ohio residents now pay to attend publicly supported medical schools elsewhere in this state.

## LOCATION

The Northeastern Ohio Universities Basic Medical Sciences building is located on S.R. 44 in Rootstown just south of the I-76 intersection, across from the Rootstown High School.

**VI.**  
***Courses of***  
***Instruction***

# COURSE NUMBERING SYSTEM

## THE DEPARTMENT OF DEVELOPMENTAL PROGRAMS

1020 Development Programs

### THE GENERAL COLLEGE

1100 General Studies

### U.S. AIR FORCE R.O.T.C.

1500 Aerospace Studies

### U.S. ARMY R.O.T.C.

1600 Military Science

### INTERDISCIPLINARY PROGRAMS

1810 Afro-American Studies

1830 Environmental Studies

1860 Peace Studies

1870 Honors Program

1880 Medical Studies

### THE COMMUNITY AND TECHNICAL COLLEGE

2020 Associate Studies

2200 Educational Technology

2220 Criminal Justice Technology

2230 Fire Science Technology

2240 Commercial Art

2260 Community Services Technology

2280 Food Services Management

2420 Business Management Technology

2440 Data Processing

2520 Sales and Merchandising

2540 Secretarial Science

2560 Transportation

2740 Medical Assisting

2770 Surgical Assisting

2780 Allied Health

2790 Respiratory Therapy

2840 Chemical Technology

2860 Electronic Technology

2880 Industrial Technology

2900 Instrumentation Technology

2920 Mechanical Technology

2980 Surveying and Construction Technology

### THE BUCHEL COLLEGE OF ARTS AND SCIENCES

3100 Biology

3150 Chemistry

3200 Classics

3210 Greek

3220 Latin

3250 Economics

3300 English

3350 Geography

3370 Geology

3400 History

3450 Mathematics

3470 Statistics

3500 Modern Languages

3520 French

3530 German

3550 Italian

3570 Russian

3580 Spanish

3600 Philosophy

3650 Physics

3700 Political Science

3750 Psychology

3850 Sociology

3870 Anthropology

3940 Polymer Science

3980 Urban Studies

### THE COLLEGE OF ENGINEERING

4100 General Engineering

4200 Chemical Engineering

4300 Civil Engineering

4400 Electrical Engineering

4450 Computer Science

4600 Mechanical Engineering

4980 Construction Technology

### THE COLLEGE OF EDUCATION

5100 Educational Foundations

5200 Elementary

5250 Reading

5300 Secondary

5400 Technical and Vocational

5550 Physical Education

5560 Outdoor Education

5570 Health Education

5600 Guidance and Counseling

5610 Special Education

5620 School Psychology

5630 Inner-city Education

5700 School Administration

5800 Special Programs

5850 Educational Technology

### THE COLLEGE OF BUSINESS ADMINISTRATION

6200 Accounting

6400 Finance

6500 Management

6600 Marketing

### THE COLLEGE OF FINE AND APPLIED ARTS

7100 Art

7400 Home Economics

7500 Music

7510 Music Organizations

7520 Applied Music

7600 Mass Media-Communication

7700 Speech Pathology and Audiology

7750 Social Work

7800 Theatre Arts and Dance

### THE COLLEGE OF NURSING

8200 Nursing

### THE SCHOOL OF LAW

9200 Law

# The Department of Developmental Programs

## 1020: DEVELOPMENTAL PROGRAMS

### 1020:041 DEVELOPMENTAL ENGLISH

Provides basic instruction in composition skills: grammar, sentence structure, sentence combining, and punctuation. Develops the skills necessary to enable the student to write expository paragraphs.

### 1020:042 DEVELOPMENTAL ENGLISH

Reviews the essential areas of sentence structure, sentence combining, and punctuation necessary for composition writing but concentrates on writing expository paragraphs.

### 1020:051-052 DEVELOPMENTAL MATHEMATICS

Designed to review and strengthen the skills needed for credit mathematics courses. Study focuses upon arithmetical operations and elementary algebra. Students may enroll for a second semester.

### 1020:061 DEVELOPMENTAL READING

The purpose of this course is to develop the students'

general reading abilities. Emphasis is given to increasing vocabulary, and understanding and remembering written material. Lectures, discussion and individual study.

### 1020:062 COLLEGE READING AND STUDY SKILLS

The purpose of this course is to develop the students' ability to understand and remember information in textbooks, and to use effective study techniques. Lectures, discussion and individual study.

### 1020:071-072 DEVELOPMENTAL NATURAL SCIENCE—CHEMISTRY

A review of mathematics as applied in chemistry; fundamental principles in the scientific approach to solving problems; basic principles of General Chemistry. Students may enroll for a second semester.

### 1020:299 SPECIAL TOPICS IN DEVELOPMENTAL PROGRAMS

Selected topics and subject areas of interest in Developmental Education.

# The General College

## 1100: GENERAL STUDIES

### 1100:105 INTRODUCTION TO PUBLIC SPEAKING

3 credits

Students are introduced to the principles and practice of speaking by reading examples of speeches, studying the techniques and methods employed and applying them in a variety of speaking situations.

### 1100:106 EFFECTIVE ORAL COMMUNICATION

3 credits

Students learn the principles of communication in speaker-audience, group, and informal settings and apply the principles in speeches, group discussions and other oral and written assignments.

### 1100:111 ENGLISH COMPOSITION 4 credits

### 1100:112 ENGLISH COMPOSITION 4 credits

Prerequisites: 111. Must be taken in sequence. Courses 111 and 112 are intended to enable students to obtain proficiency in reading and writing of English. The reading materials used will be literary works of our Western tradition.

### 1100:115-116 INSTITUTIONS IN THE U.S.

3 credits each

Non-sequential. A descriptive and comparative study of how modern American institutions developed. The course covers various aspects of the growth and elaboration of American governmental, social and economic institutions.

### 1100:120-190 PHYSICAL EDUCATION 1 credit each

Minimum 1 credit. Participation in individual and group sports, in which each individual can acquire knowledge and skill in activities which may be of value and satisfaction to him throughout his life. Two periods each week.

### 1100:120 ARCHERY-GYMNASTICS

### 1100:121 ARCHERY-VOLLEYBALL

### 1100:122 BADMINTON-SQUARE & FOLK DANCE

### 1100:123 BASKETBALL-INDOOR SOCCER

### 1100:124 BASKETBALL-VOLLEYBALL

### 1100:125 BOWLING-FITNESS

### 1100:126 BOWLING-MODERN DANCE

### 1100:127 BOWLING-SQUARE & FOLK DANCE

### 1100:128 BOWLING-SWIMMING (INTERMEDIATE)

### 1100:129 CANOEING-BOWLING

### 1100:130 CANOEING-SOCCER

### 1100:131 CANOEING-SWIMMING (ADVANCED)

### 1100:132 CANOEING-TENNIS

### 1100:133 FITNESS-TENNIS

### 1100:134 GOLF-INDOOR SOCCER

### 1100:135 GOLF-VOLLEYBALL

### 1100:136 GYMNASTICS-BADMINTON

### 1100:137 GYMNASTICS-VOLLEYBALL

### 1100:138 INDOOR SOCCER-HANDBALL

### 1100:139 LIFE SAVING

### 1100:140 MODERN DANCE-ARCHERY

### 1100:141 SAILING-BOWLING

### 1100:142 SCUBA-SWIMMING (ADVANCED)

### 1100:143 SKIING-CANOEING

### 1100:144 SKIING-TENNIS

### 1100:145 SOCCER-BOWLING

### 1100:146 SOCCER-FITNESS

### 1100:147 SOCCER-SWIMMING (INTERMEDIATE)

### 1100:148 S. DANCE-SWIMMING (INTERMEDIATE)

### 1100:149 S. & F. DANCE-ARCHERY

### 1100:150 SPEEDBALL-BOWLING

### 1100:151 SPEEDBALL-FITNESS

### 1100:152 SPEEDBALL-SWIMMING (INTERMEDIATE)

### 1100:153 SPEEDBALL-WRESTLING

### 1100:154 SWIMMING, ADV-DIVING

### 1100:155 SWIMMING, BEG. 1 OR 2

### 1100:156 SWIMMING-(INTERMEDIATE) FITNESS

### 1100:157 SWIMMING-(INTERMEDIATE)-SQUARE & FOLK DANCE

### 1100:158 HANDBALL-BASKETBALL

### 1100:159 HANDBALL-FLOOR HOCKEY

1100:160 TENNIS-BOWLING

1100:161 TENNIS-FITNESS

1100:162 TENNIS-MODERN DANCE

1100:163 TENNIS-SOCCER

1100:164 TENNIS-SQUARE & FOLK DANCE

1100:165 TENNIS-SWIMMING (INTERMEDIATE)

1100:166 TENNIS-WRESTLING

1100:167 VOLLEYBALL-BADMINTON

1100:168 VOLLEYBALL-GOLF

1100:169 VOLLEYBALL-SQUARE & FOLK DANCE

1100:170 WATER POLO-SOCCER

1100:171 WATER POLO-SWIMMING (ADVANCED)

1100:172 WRESTLING-BOWLING

1100:173 SELF DEFENSE

1100:174 KARATE

1100:175 SKIN & SCUBA DIVING

1100:176 VARSITY BASEBALL

1100:177 VARSITY BASKETBALL

1100:178 VARSITY CROSS COUNTRY

1100:179 VARSITY FOOTBALL

1100:180 VARSITY GOLF

1100:181 VARSITY SOCCER

1100:182 VARSITY TENNIS

1100:183 VARSITY TRACK

1100:184 VARSITY WRESTLING

1100:185 VARSITY SWIMMING

1100:186 VARSITY INDOOR TRACK

1100:187 VARSITY VOLLEYBALL (WOMENS)

1100:188 VARSITY SOFTBALL (WOMENS)

1100:189 VARSITY BASKETBALL (WOMENS)

1100:190 VARSITY TENNIS (WOMENS)

**1100:211 NUMBERS COMMUNICATION 3 credits**  
Students learn to use the language of quantitative relationships, to receive and express ideas in mathematical symbols, methods of mathematical reasoning, and creative understanding about quantitative aspects of the world.

**1100:221 NATURAL SCIENCE-BIOLOGY 3 credits**  
Designed for non-science majors to illustrate the fundamental concepts of living organisms with emphasis on man's position in, and influence on, the environment.

**1100:222 NATURAL SCIENCE-CHEMISTRY 3 credits**  
Designed for non-science majors. An introduction to the chemical principles at work in man and in his environment.

**1100:223 NATURAL SCIENCE-GEOLOGY 3 credits**  
A study of the basic principles and investigative techniques in various fields of geology with emphasis on the relationship of geological processes to society.

**1100:224 NATURAL SCIENCE-PHYSICS 3 credits**  
An introduction to, and commentary upon, some of the most significant principles, perspectives and developments in contemporary physics. Intended for non-science majors.

**1100:320-321 WESTERN CULTURAL TRADITIONS 4 credits each**  
Prerequisites: 64 credits or permission; Sequential. Students are introduced to human experiences of the past as manifested in the ideas, music and visual arts of Western Civilization, the Greeks to the present. Two lectures/two discussions per week.

**1100:330 EASTERN CIVILIZATION: CHINA 2 credits**  
Prerequisites: 64 credits.

**1100:331 EASTERN CIVILIZATIONS: JAPAN 2 credits**  
Prerequisites: 64 credits.

**1100:332 EASTERN CIVILIZATIONS: SOUTHEAST ASIA 2 credits**  
Prerequisites: 64 credits.

**1100:333 EASTERN CIVILIZATIONS: INDIA 2 credits**  
Prerequisites: 64 credits.

**1100:334 EASTERN CIVILIZATIONS: NEAR EAST 2 credits**  
Prerequisites: 64 credits.

**1100:335 EASTERN CIVILIZATIONS: AFRICA 2 credits**

**1100:336 EASTERN CIVILIZATIONS: LATIN AMERICA 2 credits**  
Prerequisites: 64 credits. The purpose of these courses is to give the student a basic knowledge of past human experiences and an understanding of current events in some key areas of the non-Western world.

# U.S. Air Force R.O.T.C.

## 1500: AEROSPACE STUDIES

### 1500:113-114. FIRST YEAR AEROSPACE STUDIES

1½ credits each

(AS100). General Military Course (GMC).

Doctrine. The mission and organization of the Air Force and current events are discussed to show how U.S. military forces contribute to national defense. The weekly Leadership Lab experience is designed to provide a working environment for the practice of military customs and courtesies and to develop a student's leadership skills.

### 1500:253-254. SECOND YEAR AEROSPACE STUDIES

1½ credits each

(AS200). General Military Course (GMC).

The emphasis in this course is on the history of air power. Many vintage films are used in the class as well as class discussion. The politico-military environment in which the Armed Forces operate will be presented. The weekly Leadership Lab provides practical leadership experiences in basic military and leader activities.

### 1500:303-304. THIRD YEAR AEROSPACE STUDIES

3 credits each

(AS300), Professional Officer Course (POC).

Prerequisite: Completion of the GMC and/or competitive selection by the Professor of Aerospace Studies. Focuses attention on the military profession, civil-military interactions and the framework and formulation of defense policy and strategy. Communicative skills are developed. Leadership Lab provides advanced leadership experiences in a practical leadership environment.

### 1500:453-454. FOURTH YEAR AEROSPACE STUDIES

3 credits each

(AS400), Professional Officer Course (POC).

A study of basic management concepts as they apply to the Air Force environment. Also includes the study of the military justice systems; leadership theory, functions and practices; professionalism; and professional responsibilities of the junior officer. Within this study, attention is devoted to developing communication skills. Leadership Lab consists of advanced leadership experiences and detailed preparation for active duty.

# U.S. Army R.O.T.C.

## 1600: MILITARY SCIENCE

### MILITARY SCIENCE I

#### 1600:100 INTRODUCTION TO MILITARY SCIENCE

1.5 credits

Orientation and overview of the Army ROTC program and career opportunities for ROTC graduates. Familiarization with the organization and capabilities of the Army and its missions. Significance of military courtesy and discipline; customs and traditions of the service; development of leadership fundamentals. Mountaineering techniques; marksmanship; combat weapons.

#### 1600:101 MAP READING AND ORIENTEERING

1.5 credits

Fundamentals of map reading and orienteering to include topographic analysis, navigation techniques and applicatory work in the use of maps, aerial photographs, and competitive orienteering. Student will select two modules for practical exercise lab—one from academic and one from military skills module list.

### MILITARY SCIENCE II

#### 1600:200 SMALL UNIT OPERATIONS 1.5 credits

Fundamentals and techniques of tactics and small unit operations to include analysis of associated leadership and management problems. Discussion and application of the problem solving process. Student will select two modules for practical exercise lab—one from academic and one from military skills module list.

#### 1600:201 BASIC MILITARY LEADERSHIP 1.5 credits

A study of functions, duties, and responsibilities of junior leaders. Operations of the basic military teams. Study of leadership techniques in community, business, and academic environment through interview and seminar. Emphasis on communicative skills. Special attention will be given to the development of leadership potential through practical exercise. Student will select two modules for practical exercise lab—one from academic and one from military skills module list.

### MILITARY SCIENCE III

#### 1600:300 ADVANCED LEADERSHIP I 3 credits

Prerequisite: Meet requirements for enrollment\*and/or instructor's permission. Development of an understanding of the leadership process to include applicatory work emphasizing officer leadership duties and responsibilities. Methods and techniques of military instruction. Familiarization with branches of the Army.

#### 1600:301 ADVANCED LEADERSHIP II 3 credits

Prerequisite: Same as 300. Review of the fundamentals and principles of small unit leadership and tactics stressing application and problem solving processes. Familiarization with weapons, communications equipment and review of the fundamentals of map reading. Orientation for advanced camp. Includes 48-hour field training exercise to provide practical exercise in leadership and problem solving.

\*Requirements for enrollment: Completion of three years of high school ROTC or two years of college ROTC (Army, Navy, or Air Force); or at least one year active service or the active Reserve service; or by successful completion of basic camp or campus summer program between sophomore and junior years.

### MILITARY SCIENCE IV

#### 1600:400 MILITARY MANAGEMENT I 3 credits

Prerequisite: 300-301; and/or instructor's permission. Principles and practices of administrative and operational staff executives, their roles and responsibilities in support of the manager. The study of formal and informal organizations, communication, job satisfaction, authority and leadership. Training and development of organizational leaders and managers by role playing, conflict resolution and situation studies.

#### 1600:401 MILITARY MANAGEMENT II 3 credits

Prerequisite: Same as 400. Concepts and implications of the military judicial system for the executive decision maker. Analysis of decision making process under a high stress condition, including planning, organizing, directing, and controlling functions of the manager. Familiarization with the historical growth and development of the Army with emphasis on changes in organization, tactics and weaponry. Analysis of the nature and causes of warfare with respect to significant errors and misjudgments.

## *Interdisciplinary Programs*

### **1810: AFRO-AMERICAN STUDIES**

#### **1810:401 GENERAL SEMINAR IN AFRO-AMERICAN STUDIES 3 credits**

Prerequisite: 3400:220 or permission. The exploration and intensive examination of a variety of issues related to role and minority group relations which normally stand outside the compass of any one subject matter area.

### **1830: ENVIRONMENTAL STUDIES**

#### **1830:201 MAN AND THE ENVIRONMENT 2 credits**

A study of man's relationship with nature, his dependence upon his environment, and his control over it. An interdisciplinary approach, with lectures from various University departments, government, and industry describing their approaches to the environment. This course will not apply toward the major.

#### **1830:401. SEMINAR IN ENVIRONMENTAL STUDIES 2 credits**

The Seminar will cover a specific environmental topic or topics from an interdisciplinary viewpoint each quarter. The topics selected will be of current interest and will be studied from varying viewpoints. The Environmental Studies Director will coordinate the course and resource persons will be drawn from the University and the surrounding community.

### **1860: PEACE STUDIES**

#### **1860:300 TOPICS IN PEACE STUDIES 1-3 credits**

Interdisciplinary topics related to peace studies. May be repeated to a total of 3 credits.

#### **1860:301 VALUE CONCEPTS ON PEACE AND WAR 3 credits**

An interdisciplinary study of attitudes, concepts, and realities regarding war and peace issues.

#### **1860:350 INDEPENDENT STUDY 1-3 credits**

Detailed study on selected topics related to peace. May be repeated for a total of 3 credits.

### **1870: HONORS PROGRAM**

#### **1870:250-350-450 HONORS COLLOQUIUM — HUMANITIES 2 credits each**

Prerequisites: Admission to University Honors Program. An interdisciplinary colloquium on important issues in the Humanities.

#### **1870:260-360-460 HONORS COLLOQUIUM—SOCIAL SCIENCES 2 credits each**

Prerequisite: Admission to University Honors Program. An interdisciplinary colloquium on important issues in the Social Sciences.

#### **1870:270-370-470 HONORS COLLOQUIUM—NATURAL SCIENCES 2 credits each**

Prerequisite: Admission to University Honors Program. An interdisciplinary colloquium on important issues in the Natural Sciences.

### **1880: MEDICAL STUDIES**

#### **1880:201 MEDICAL SEMINAR AND PRACTICUM I 3 credits**

Prerequisite: 3100:191 and permission. Description: Provides field experiences in health care delivery in the geographic area served by the Northeastern Ohio Universities College of Medicine, and The University of Akron. Students are directed in supervised roles of the professional and paraprofessional in meeting the health care needs of the community. Open to first year students in the Phase 1 of the BS/MD program, others by permission.

#### **1880:301 MEDICAL SEMINAR AND PRACTICUM II 3 credits**

Prerequisite: 201 and permission. Description: A continuation of course 201 and offered at a more advanced level of professional involvement. Open to second year students in the Phase 1 of the BS/MD program, others by permission.

#### **1880:310 SEMINAR ON HUMANITIES IN MEDICAL EDUCATION 3 credits**

Prerequisite: Junior standing in the BS/MD program; other students involved in health care delivery programs eligible by permission. An introduction to the Humanities as they bear upon the history and practice of medicine. The Seminar will draw upon lectures from the University and community, and will include performances, field trips, films and tapes appropriate to the topics discussed.

# The Community and Technical College

## 2020: ASSOCIATE STUDIES

### 2020:121 ENGLISH 4 credits

Employs various techniques, including art, films, personal journals, and critical reading, leading from pre-writing to development of structured expository essays.

### 2020:131 MATHEMATICAL ANALYSIS I 4 credits

Prerequisite: Two units of high school mathematics. Fundamental algebraic concepts, ratio, proportion and variation, graphing equations, right triangle trigonometry, linear systems, factoring and algebraic fractions, quadratic equations, trigonometric functions, oblique triangles.

### 2020:132 MATHEMATICS ANALYSIS II 3 credits

Prerequisite: 131 or equivalent. Exponents and radicals, exponential equations, logarithms, vectors, graphs of trigonometric formulas and identities, complex numbers.

### 2020:135 MATHEMATICS FOR DATA PROCESSING

3 credits

Prerequisite: 131 or equivalent. Sets and logic, basic probability and statistics, matrix algebra, and business applications.

### 2020:222 TECHNICAL REPORT WRITING 3 credits

Prerequisite: 121 or equivalent. Prepares the student to write the types of reports most often required of engineers, scientists, and technicians. Contents include types of reports memoranda, letters, techniques of research, documentation, and writing of reports.

### 2020:233 MATHEMATICAL ANALYSIS III 3 credits

Prerequisite: 132. Analytic geometry of the conics, introduction to differentiation, the derivative, application of the derivative, integration, differentiation and integration of transcendental functions.

### 2020:240 HUMAN RELATIONS 3 credits

An examination of the principles and methods which aid in understanding the individual's response to his society and the relationship between society and the individual.

### 2020:241 MAN AND TECHNOLOGY 2 credits

An examination of this impact of scientific and technical change upon man, his values and his institution arrangements. Topics include biomedical technology, automation, economic growth, the natural environment, and Technology and the quality of life.

### 2020:242 AMERICAN URBAN SOCIETY 3 credits

This course is a multi-disciplinary treatment of urban processes and problems. It concerns itself with the historical, political, social, economic and other environmental forces which impact upon the individual in an urban setting.

### 2020:247 SURVEY OF BASIC ECONOMICS 3 credits

An introduction to economic analysis and issues designed for those students taking only one course in economics. Coverage includes: economic systems, exchange, money and banking, national income, employment, fiscal policy, and current domestic economic problems.

### 2020:251 WORK RELATIONSHIPS 2 credits

An examination of the relationship between man and the work organization. Emphasis is upon involvement, sense of job satisfaction, supervision, and goals of the organization.

### 2020:254 THE BLACK AMERICAN 2 credits

An examination of Black American, including origins, historical achievements and the present striving to achieve first class citizenship in American society. Emphasis is placed on analysis of the forces in American society that create racial separation.

### 2020:290 SPECIAL TOPICS IN ASSOCIATE STUDIES

1-4 credits

(May be repeated with a change in topic.) Prerequisite: Permission. Selected topics on subject areas of interest in Associate Studies.

### 2020:334 MATH FOR TECHNICAL APPLICATIONS

3 credits

Prerequisite: 233. Applications of integration, methods of integration, series (including fourier), numerical methods of approximation, introduction to differential equations, second order differential equations, laplace transforms.

## 2200: EDUCATIONAL TECHNOLOGY

### 2200:201 CATALOGING, CLASSIFYING AND PROCESSING MATERIALS 3 credits

Study of the principles of descriptive cataloging, the Dewey decimal, Library of Congress classifications and subject headings. Problems and practice in each area such as typing catalog cards and filing.

### 2200:202 ORGANIZING AND OPERATING LIBRARY/MEDIA CENTERS 3 credits

Includes functional aspects of facility, ordering and processing materials, circulation procedures and other control systems. The operational functions include program development and implementation, services of library/media centers and public relations.

### 2200:203 MATERIALS SELECTION 2 credits

Introduction to tools used in selecting print and non-print materials for libraries/media centers. Problems of censorship, intellectual freedom and academic freedom are discussed as they relate to the evaluation selection process.

### 2200:204 REFERENCE PROCEDURES 3 credits

Introduction to the study and use of basic information tools including almanacs, encyclopedias, dictionaries, bibliographies, yearbooks and specialized reference tools. Actual reference practices and procedure will be used.

### 2200:290 SPECIAL TOPICS IN EDUCATIONAL TECHNOLOGY 1-2 credits

(May be repeated for a total of 4 credits.) Prerequisite: Permission. Selected topics or subject areas of interest in Educational Technology.

## 2220: CRIMINAL JUSTICE TECHNOLOGY

### 2220:100 INTRODUCTION TO CRIMINAL JUSTICE 3 credits

An overview of the Criminal Justice system its history, development and evolution within the U.S. Subsystems: Police, Courts Corrections-Constitutional limitations-Current Criminal Justice practices i.e., human relations, professionalization, prevention, etc.

**2220:104 CONCEPTS OF CRIMINAL LAW AND LEGAL PROCEDURE 5 credits**

Prerequisite: 100. Historical development and philosophy of law, including definitions, constitutional provisions and classifications of crime-Case law, legal research. Types of evidence, Court procedures and Ohio Criminal Code.

**2220:106 JUVENILE JUSTICE PROCESS 2 credits**

Prerequisite: 100. An examination of the Juvenile Justice process, functions of the various components; adolescent subculture, delinquency prevention and treatment methodologies.

**2220:110 SOCIAL VALUES AND THE CRIMINAL JUSTICE PROCESS 3 credits**

Prerequisites: 100. An in-depth exploration stressing the philosophy that social values and ethics are basic principles of a sound criminal justice process and the roles of administration of justice practitioners in relation to the public they serve.

**2220:150 CRIMINAL JUSTICE ADMINISTRATION AND SUPERVISION 3 credits**

Prerequisite: 100. An examination and analysis of the basic concepts of administration, supervision, policy formulation in the criminal justice system. Organizational function, structure processes and behavior. Theory related to administrative practice.

**2220:200 CRIMINAL JUSTICE THEORY AND PRACTICE 3 credits**

Prerequisites: 100, 150. An in-depth examination of Criminal Justice administrative problems in the areas of Personnel Selection, Training, Advancement, Personnel Utilization. Consolidation and cooperation between agencies. Advanced concepts for change within the Criminal Justice system.

**2220:240 DYNAMICS OF VICE CRIME AND SUBSTANCE ABUSE 3 credits**

Prerequisite: 100 and Permission. Introduction to the problems of vice crime and narcotics and drug abuse in our society. Provides knowledge concerning the issues involved in consensual acts. The impact on society the physical and psychological results of substance abuse.

**2220:250 CRIMINAL CASE MANAGEMENT 6 credits**

Prerequisites: 100, 2840:100 and permission. Reconstruction of the chronological sequence of a crime including searching collection, preserving and evaluation of physical and oral evidence. The scientific approach to criminal investigation.

**2220:290 SPECIAL TOPICS IN CRIMINAL JUSTICE 1-4 credits**

(May be repeated for a total of 6)

Prerequisites: 100 and permission. Workshops and special programs in selected areas of Criminal Justice i.e., Community relations, Crime statistics, Ethics, Survival, etc.

**2220:294 CRIMINAL JUSTICE INTERNSHIP EVALUATION 1 credit**

Prerequisites: 100, 30 semester hours of credit, and permission. Corequisite: 295. An analysis by the student and the instructor of internship experience. A sharing of knowledge gained by students during their internships.

**2220:295 CRIMINAL JUSTICE INTERNSHIP 3 credits**

Prerequisite: 100 and 30 semester hours of credit, permission. A supervised work experience in a criminal justice agency for the purpose of increasing student understanding of the criminal justice process.

**2230: FIRE SCIENCE TECHNOLOGY****2230:100 INTRODUCTION TO FIRE SCIENCE 2 credits**

History and philosophy of fire protection; introduction to agencies involved in fire protection; current legislative developments; discussion of current related problems, expanding future of fire protection and career orientation.

**2230:102 FIRE PREVENTION AND BUILDING CONSTRUCTION 2 credits**

Exploration of building construction and design with emphasis on fire protection concerns; review of related statutory and suggested guidelines local, state and national in scope.

**2230:104 FIRE INVESTIGATION METHODS 2 credits**

The history of fire investigation; gathering of evidence and development of technical reports; fundamentals of arson investigation; processing of criminal evidence and procedures related to local and state statutes.

**2230:200 FIRE DETECTION AND SUPPRESSION SYSTEMS 2 credits**

Study of protection systems; automatic sprinklers and special extinguishing systems; analysis of various automatic detection and signaling systems.

**2230:202 FIRE-FIGHTING TACTICS AND STRATEGY 2 credits**

Efficient and effective utilization of manpower, equipment and apparatus. Emphasis on preplanning, fireground organization problem solving related to fireground decision making and attack tactics and strategy.

**2230:204 FIRE PREVENTION PRACTICES 2 credits**

Inspection techniques and procedures; setting up a fire prevention bureau. Recognition and correction of fire hazards, public relations and code enforcement.

**2230:240 FIRE DEPARTMENT ADMINISTRATION AND SUPERVISION 2 credits**

A study of methods and principles of fire department organization, both formal and informal, line and staff, emphasis on supervisory responsibilities and functions.

**2230:250 HAZARDOUS MATERIALS 2 credits**

Study of chemical characteristics and reactions related to storage, transportation and handling of hazardous materials. Emphasis on emergency situations, fire fighting, and control.

**2230:252 FIRE HYDRAULICS AND EQUIPMENT 2 credits**

Basic hydraulics as used in fire service.

**2230:254 LEGAL ASPECTS OF FIRE PROTECTION 2 credits**

A study of legal rights and duties, liabilities, responsibility of the fire department organizations while carrying out their duties.

**2230:256 FIRE SAFETY CODES (OSHA) 2 credits**

A history and development of codes with emphasis on the nature and scope of legal statutes and related codes in fire protection control.

**2230:290 SPECIAL TOPICS IN FIRE SCIENCE TECHNOLOGY 1-2 credits**

## 2240: COMMERCIAL ART

**2240:124 DESIGN IN COMMERCIAL ART 3 credits**  
Projects in visual design fundamentals. An analysis of the design/research process applied to advertising layout and composition. Design constructions in pattern and self-contained forms.

**2240:140 TYPOGRAPHY & LETTERING 3 credits**  
Prerequisite: 124. Letter symbols studied in terms of communication and aesthetic design. History of letter forms, type indication, copyfitting and type specification for commercial application. Analysis of contemporary type faces.

**2240:222 ADVERTISING PHOTOGRAPHY 2 credits**  
Prerequisite: 7100:275. Creative commercial use of photographic materials and equipment. Photography is studied for its use in advertising and creative photo-illustration. Student must own or have use of a camera with controllable shutter, lens diaphragm and focus.

**2240:242 ADVERTISING LAYOUT DESIGN 3 credits**  
Prerequisite: 140. Problems in commercial graphic design, analysis, research, visual experimentation and finished art. Emphasis on visual problem solving in advertising and communications.

**2240:243 PUBLICATION DESIGN 3 credits**  
Prerequisites: 242 & 7100:275. The study of publications, and the design of promotional brochures, annual reports, and other multi-paged communication devices. Emphasis on total design systems from concept to camera ready art. Portfolio development.

**2240:245 DESIGNING FOR PRODUCTION 3 credits**  
Prerequisite: 140. An analysis of the design process as applied to commercial printing processes. Design projects are taken to camera ready art. Color separation systems, key-line, mechanicals, and preparation of finished art procedures.

**2240:247 PACKAGING DESIGN 3 credits**  
Prerequisites: 242 & 245. Visual design and development of protective devices for packaging, shipment and display of consumer products. Analysis of products marketing potential and point of purchase advertising.

**2240:290 SPECIAL TOPICS IN COMMERCIAL ART 1-2 credits**  
Prerequisite: Instructor's Approval. Selected topics or subject areas of interest in Commercial Art.

## 2260: COMMUNITY SERVICES TECHNOLOGY

**2260:260 ALCOHOL USE AND ABUSE 3 credits**  
A survey of the use and abuse of alcohol in our society with particular emphasis on replacing common stereotypes, myths and attitudes with improved understanding.

**2260:261 ALCOHOLISM RESOURCES 2 credits**  
Prerequisites: 260. Survey of theory and practices in the treatment and prevention of alcohol problems with special emphasis on being able to discriminate as to applicability and effectiveness of different approaches.

**2260:278 TECHNIQUES OF COMMUNITY WORK 4 credits**  
For those intending to work at community organization and outreach assignments in inner city and other poverty areas in the United States and for others desiring an understanding of these newly developing technical community service roles.

**2260:279 TECHNICAL EXPERIENCE IN COMMUNITY AND SOCIAL SERVICES 2-4 credits**  
Prerequisites: 278 or permission. Individual placement in selected community and social service agencies for educationally supervised experience in a community and social services technician position. Does not substitute for 3860:476 or 477.

**2260:290 SPECIAL TOPICS IN COMMUNITY SERVICES TECHNOLOGY 1-3 credits**  
Prerequisites: Permission. Selected topics or subject areas of interest in Community Services Technology.

## 2280: FOOD SERVICE MANAGEMENT

**2280:121 FUNDAMENTALS OF FOOD PREPARATION 4 credits**  
To develop skills and a working knowledge of food preparation in a laboratory situation. Also involves Merchandising and evaluation of food products and instills positive attitudes in Food Sanitation.

**2280:135 FOOD PURCHASING 3 credits**  
Food Purchasing for various types of food services; storing and handling. Emphasis on specification requirements and selection for major foods purchased for food services.

**2280:233 QUANTITY FOOD SERVICE 4 credits**  
An introduction to large quantity food service procedures with emphasis on sound principles of food handling service and sanitation in large quantity operations. Gourmet meals are served in a simulated restaurant atmosphere.

**2280:236 MENU PLANNING & COST CONTROLS 3 credits**  
Menu planning for various types of commercial, industrial, school, and institutional food services; basic factors influencing planning; merchandising techniques. Special emphasis on catering and vending services. Food cost control.

**2280:237 FOOD SERVICE INTERNSHIP 2 credits**  
A continuation of 233. Food Service experience under commercial operating conditions.

**2280:240 FOOD SERVICE MANAGEMENT 3 credits**  
Introduction to management principles pertinent to the organization and administration of food service systems, supervisory development, personnel selection and training, labor relations, cost control structures, and evaluation of current procedures.

**2280:243 FOOD EQUIPMENT & PLANT OPERATIONS 3 credits**  
A course to acquaint the student with available food service equipment, its selection, use and care. Field trips will be taken to wholesale outlets and food service establishments to see food service equipment demonstrated and in operation.

**2280:290 SPECIAL TOPICS IN FOOD SERVICE MANAGEMENT 1-2 credits**  
(may be repeated for a total of 4 credits)  
Prerequisite: Permission. Selected topics or subject areas of interest in Food Service Management.

## 2420: BUSINESS MANAGEMENT TECHNOLOGY

**2420:101 ELEMENTS OF DISTRIBUTION 2 credits**  
Principles and methods in distribution. Functions, institutions and general commodities in the marketing process. Overview of agricultural, consumer, and industrial goods disbursement including brand, product and channels of distribution policies.

**2420:102 PERSONNEL PRACTICES 3 credits**  
Provides information necessary to develop policies and programs that attract, retain and motivate employees. Includes: Staffing, Human Resources Development, Compensation Plans, Labor and Management Relations, Appraisal Systems and Career Planning.

**2420:103 THE ROLE OF SUPERVISION IN MANAGEMENT 3 credits**  
Presentation of basic management techniques; motivation, planning, organizing, leading, and controlling. Elements of group behavior, communication, and employee compensation.

**2420:104 INTRODUCTION TO BUSINESS 3 credits**  
Survey course of business in its entirety including production, distribution, finance, control, and personnel functions. Emphasis on descriptive materials, technical vocabulary, and career opportunities and responsibilities in various business fields.

**2420:105 REAL ESTATE PRINCIPLES 2 credits**  
Introduction to real estate as a profession, process, product and the measurement of its productivity. Students are responsible for reading and discussions relative to real estate and the American system.

**2420:111 PUBLIC RELATIONS 2 credits**  
The study of philosophy, techniques, and ethics of the management function known as public relations. Defines the variety of publics and the methods of communication.

**2420:115 ELEMENTS OF HOUSING DESIGN AND CONSTRUCTION 2 credits**  
Prerequisites: 105, 185. Included are discussions and readings on neighborhoods and sites, details of the interior and exterior of homes, mechanical systems and house construction which help the professional discharge his agency responsibilities.

**2420:121 ADMINISTRATIVE OFFICE SUPERVISION 2 credits**  
Aids the student in developing supervisory leadership skills and includes the basic concepts of: the function of office work, management of information, control of office services, and work simplification.

**2420:125 ELEMENTS OF LAND AND REAL ESTATE DEVELOPMENT 2 credits**  
Prerequisites: 105, 185. A course that requires the student to learn and apply the step-by-step processes that are needed by the professional developer in producing real estate for consumption.

**2420:170 BUSINESS MATHEMATICS 2 credits**  
Review of fundamentals of math applicable to business, interest and discount, stocks and bond yields, payrolls, elementary statistics, retail math, consumer math, checking accounts reconciliations, and depreciation methods.

**2420:180 ESSENTIALS OF LAW 3 credits**  
A brief history of the law and the judicial system, study of contracts with emphasis on sales, agency, commercial paper and bailments.

**2420:185 REAL ESTATE LAW 2 credits**  
Prerequisite: 105. A study of the contents of contemporary real estate law. Students are responsible for readings covering units on estates, property rights, license laws, contracts, deeds, mortgages, civil rights and zoning.

**2420:205 INTRODUCTION TO REAL ESTATE MANAGEMENT 3 credits**  
Prerequisites: 105, 185. A survey course focusing upon the application of the management process to the specialized field and product of real estate. Discussion and research topics include property analysis marketing and administration.

**2420:211 BASIC ACCOUNTING I 4 credits**  
Accounting for sole proprietorships and partnerships. Service and merchandising concerns. Journals, ledgers, work sheets and financial statements. Includes handling of cash, accounts receivable, notes, inventories, plant and equipment, and payroll.

**2420:212 BASIC ACCOUNTING II 2 credits**  
Prerequisite: 211. Study of accounting principles as applied to the corporate form of business and a study of manufacturing accounting for job order and process costing, budgeting, and standard costs.

**2420:215 ESSENTIALS OF REAL ESTATE ECONOMICS 2 credits**  
Prerequisites: 105, 185. The student will learn and apply the techniques of analysis found in economics to the local real estate market and to parcels of real estate found within the market.

**2420:225 INDUSTRIAL REAL ESTATE 2 credits**  
Prerequisites: 105, 185. An elements course focusing on the functions of the industrial real estate broker. Topics of discussion and research include site selection, development, marketing and financing the transfer of industrial property.

**2420:235 COMMERCIAL REAL ESTATE 2 credits**  
Prerequisites: 105, 185. An elements course focusing on the functions of the commercial real estate broker. Topics of discussion and research include site selection, development, marketing and financing the transfer of commercial paper.

**2420:243 SURVEY IN FINANCE 3 credits**  
Prerequisites: three credits of Economics and three credits of Accounting. A survey of the field including instruments, procedures, practices and institutions. Emphasis on basic principles.

**2420:245 REAL ESTATE FINANCE 2 credits**  
Prerequisites: 105, 185. A study of the contents of contemporary real estate finance. Units on reading and discussion include mortgage instruments, financial institutions, the mortgage market, governmental influence on finance and risk analysis and mortgage lending.

**2420:255 VALUATION OF RESIDENTIAL PROPERTY 2 credits**  
Prerequisites: 105, 185. A study of methods used to estimate value in residential property including the cost of reproduction, market data, and income approach. The student prepares an appraisal on a residential property.

**2420:265 REAL ESTATE BROKERAGE 2 credits**  
Prerequisites: 105, 185. A study of the application of

the management functions of planning, organizing, directing, controlling, and staffing to the real estate brokerage office. Student activities include reading, discussion and research.

**2420:275 SPECIAL PROJECT IN REAL ESTATE**

2 credits

Prerequisites: 105, 185. The student must demonstrate his knowledge of real estate by preparing a written report covering the brokerage process as it relates to a parcel of property.

**2420:285 APPLIED REAL ESTATE MATHEMATICS**

2 credits

Prerequisites: 105, 185. The student will learn and apply the mathematics necessary to the profession of real estate. Topics include proration of taxes, area calculations, appraising math, mortgage math and closing statements.

**2420:290 SPECIAL TOPICS IN BUSINESS MANAGEMENT TECHNOLOGY** 1-2 credits  
(may be repeated for a total of 4 credits)

Prerequisite: Permission. Selected topics or subject areas of interest in Business Management Technology.

## 2440: DATA PROCESSING

**2440:120 INTRO. TO INFO. PROCESSING** 2 credits

This course is designed to give a general overview of data processing techniques, and provide the fundamentals necessary for subsequent computer oriented courses.

**2440:131 INTRODUCTION TO PROGRAMMING**

2 credits

Prerequisite: 120. This course is designed to illustrate the basic function of a computer and provide specific information about third generation computers, including programming in actual and assembly language.\*

**2440:132 ASSEMBLER PROGRAMMING AND JCL** 4 credits

4 credits

Prerequisite: 131. This course involves an indepth coverage of basic assembler language including linkage conventions and macro construction. The fixed-point and decimal instruction set are included.\*

**2440:133 COBOL PROGRAMMING** 2 credits

Prerequisite: 131. This course is an introduction to COBOL with specific orientation toward the IBM system/370.\*

**2440:234 ADVANCED COBOL PROGRAMMING**

3 credits

Prerequisite: 133. This course is a continuation of COBOL Programming including detailed applications in areas such as payroll and inventory. Disk concepts will be emphasized.\*

\*Student programming included.

**2440:235 CURRENT PROGRAMMING TOPICS**

2 credits

Prerequisites: 234. This course emphasizes topics which are varied to fit the needs of the students at the time. Such topics as APL programming, Teleprocessing and PL/1 programming may be included.\*

**2440:239 RPG II PROGRAMMING** 1 credit

Prerequisite: 133. Study of Report Program Generator II (RPG II) programming. Includes training in RPG II coding and logical debugging as well as a discussion of applications which lend themselves to the use of RGP II.\*

**2440:241 DATA PROCESSING SYSTEMS** 3 credits

Prerequisite: 132. This course is designed to cover all phases of business systems analysis, design, develop-

ment and implementation. Such principles as system and program flowcharting, and file and document design are emphasized.

**2440:251 DATA PROCESSING PROJECTS** 5 credits

Prerequisite: 241. This course provides a workshop for an accomplished student to thoroughly apply what he has learned. Projects involve systems design and implementation using COBOL.\*

**2440:290 SPEC. TOPICS: DATA PROCESSING**

1-3 credits

Prerequisite: permission. Seminar in topics of current interest in Data Processing or special individual student projects in Data Processing.

\*Student programming included.

## 2520: SALES AND MERCHANDISING

**2520:103 PRINCIPLES OF ADVERTISING** 3 credits

A review of the basic principles and functions of current advertising practice. Also included is an overview of related distributive institutions, media types, and economic functions of advertising.

**2520:104 VISUAL MERCHANDISING** 2 credits

A basic studio course in retail display techniques. Includes window, interior, and point-of-purchase display categories.

**2520:105 SALES PROMOTION** 3 credits

Prerequisites: 104. Principles of design as applied to commercial art. Function in visual design, elements of design, color theory, lettering, printing processes, layout to camera-ready art. No credit toward Commercial Art major.

**2520:201 PRINCIPLES OF WHOLESALING** 2 credits

An examination of the wholesaler and the wholesaling function. Attention is given to the buying process and the relationship of the ultimate consumer to the wholesaler.

**2520:202 RETAILING FUNDAMENTALS** 4 credits

Presents basic principles and practices of retailing operations, including site selection, buying, pricing, and promotion practices. Use is made of extensive projects, and investigations and actual retail operations.

**2520:210 CONSUMER SERVICE FUNDAMENTALS**

2 credits

Prerequisite: 101. A discussion of the problems facing business today created by the social issues in our society. Emphasis is placed on understanding the viewpoints of all groups involved.

**2520:211 MATHEMATICS OF RETAIL DISTRIBUTION** 3 credits

Prerequisite: 170. A basic skills course dealing with merchandising mathematics. This includes an understanding of the types of markups, the retail method of inventory, sales and stock planning, and open-to-buy computations.

**2520:212 PRINCIPLES OF SALESMANSHIP** 4 credits

A study of the basic principles of selling, emphasizing individual demonstrations and sales projects. Includes a review of the sales function as an integral part of the marketing process.

**2520:290 SPECIAL TOPICS IN SALES AND MERCHANDISING** 1-2 credits

(May be repeated for a total of 4 credits.)

Prerequisite: Permission. Selected topics or subject areas of interest in Sales and Merchandising.

## 2540: SECRETARIAL SCIENCE

### 2540:119 BUSINESS ENGLISH 3 credits

Fundamentals of the English language with emphasis on grammatical correctness, acceptable usage, spelling, and punctuation. Limited writing primarily involves choice of precise words and effective sentence structure with some attention to paragraph development.

### 2540:121 OFFICE PROBLEMS 3 credits

Introduction to concepts regarding role of the office worker, human relations, communications, productivity, reference materials, technological advances in processing information, and employment opportunities.

### 2540:125 BUSINESS MACHINES 2 credits

Basic operations of 10-key electronic calculators. Applied business problems in depreciation, retailing, payroll, interest, taxes, metrics, proration, expense reports, percentages, inventories, and basic statistics.

### 2540:150 BEGINNING TYPEWRITING 3 credits

(2 hours laboratory required)

For beginning students or those who desire a review of fundamentals. Includes basic keyboard, letters, tables, and manuscripts. Minimum requirement: 30 wam with a maximum of 5 errors for 3 minutes.

### 2540:151 INTERMEDIATE TYPEWRITING 3 credits

Prerequisites: 150 or equivalent. For further development of typewriting skill. Includes advanced letter styles, forms, reports, and shortcuts. Minimum requirement: 40 wam with a maximum of 5 errors for 5 minutes.

### 2540:171 SHORTHAND PRINCIPLES 4 credits

Gregg shorthand theory is taught. Minimum attainments: reading from notes at 110 wam and taking dictation from new material at 50 wam for 3 minutes. Credit not allowed if taken after 172.

### 2540:172 SHORTHAND REFRESHER & TRANSCRIPTION 4 credits

An accelerated review of Gregg shorthand theory. Minimum attainments: reading from notes at 110 wam and taking dictation from new material at 60 wam for 5 minutes. Credit allowed if taken after 2540:171.

### 2540:173 SHORTHAND AND TRANSCRIPTION 3 credits

Prerequisite: 171 or equivalent. Typewriting prerequisite or corequisite: 151 or equivalent. Emphasis on developing skill in taking shorthand dictation and transcribing at typewriter. Minimum speed attainment of 70 wam for 5 minutes on new material required.

### 2540:241 INFORMATION MANAGEMENT 3 credits

Prerequisite: 150 or equivalent. (two-hour lab required.) A study of the creation, classification, encoding, transmission, storage, retention, transfer, and disposition of information. Emphasis on written, oral, and machine language communication media used in business information systems.

### 2540:253 ADVANCED TYPEWRITING 3 credits

Prerequisites: 151 or equivalent. To increase students' ability to do office-style production typewriting with minimal supervision. Minimum requirement: 55 wam with a maximum of 5 errors for 5 minutes.

### 2540:254 LEGAL TYPEWRITING 2 credits

Prerequisite: 151. A course to develop skill in typing of legal documents and printed legal forms from rough draft materials as well as from straight-copy material.

### 2540:257 SECRETARIAL MACHINES 3 credits

Prerequisites: 253. (2-hour lab required.) Demonstration and laboratory practice in machines used to process data in the modern office, including machines used in transcription, duplicating, automated typing, and statistical typing.

### 2540:263 BUSINESS COMMUNICATIONS 3 credits

Prerequisites: 119 or 2020:120 or equivalent. Business writing with emphasis on communicating in typical business situations and expressing ideas effectively to achieve specific purposes. Includes business letters, memoranda, application letters, resumes, and a business report.

### 2540:274 ADVANCED DICTATION AND TRANSCRIPTION 4 credits

Prerequisite: 173 or equivalent. Emphasis on building dictation speed, producing mailable transcripts, increasing business and shorthand vocabulary, and reviewing theory and expert shortcuts. Minimum speed attainment: 90 wam for 5 minutes.

### 2540:276 EXECUTIVE DICTATION & TRANSCRIPTION 4 credits

Prerequisite: 274. Final shorthand course in Executive Secretarial program. Development of skills to level of employability in the business office. Emphasis on vocabulary building in specialized areas of modern business and technology. Speed range 100-140 wam.

### 2540:277 LEGAL DICTATION & TRANSCRIPTION 4 credits

Prerequisite: 274. A course to develop shorthand and transcription skill of legal correspondence, basic pleadings, legal papers, reports and rules of practice. Minimum speed at end of course is 100 wam.

### 2540:279 LEGAL OFFICE PROCEDURES 3 credits

Prerequisite or corequisite: 277 or equivalent. Introduction of the most common legal situations students will face on the job. Simulated office situations with cassette material, work papers, and projects in noncourt and court documents and actions.

### 2540:290 SPECIAL TOPICS IN SECRETARIAL SCIENCE 1-2 credits

Prerequisite: Permission (may be repeated for a total of 4 credits). Selected topics or subject areas of interest in Secretarial Science.

## 2560: TRANSPORTATION

### 2560:110 TRANSPORTATION ECONOMIC POLICY 3 credits

Analysis of the role of transportation in the nation's economic development. A survey course of the early development of the economical aspects of rail, highway, water, air and pipeline.

### 2560:115 TRANSPORTATION: COMMERCIAL MOTOR 3 credits

A study of the economic characteristics of the commercial motor industry with emphasis on the problems, practices, rates, regulations, fares, tariffs, operations, equipment and financial aspects.

### 2560:116 TRANSPORTATION: COMMERCIAL AIR 2 credits

An analysis of the economic characteristics of the commercial air industry. A study of its problems, practices, regulations, rates, fares, tariffs, and their services.

**2560:117 TRANSPORTATION: COMMERCIAL WATER**  
2 credits

Analysis of theories, practices and regulations of the inland and ocean-going water transportation including classification, rates, practices and tariffs.

**2560:118 TRANSPORTATION: FREIGHT RATES**  
3 credits

Analysis of freight rates, tariffs and classifications with particular attention to their application in the motor transport field and an extensive study through progressive problem solving.

**2560:220 TRANSPORTATION: TERMINAL MANAGEMENT & SAFETY OPERATIONS** 2 credits

Study of the management problems, practices and decision-making as pertains to location of facilities, personnel programs, operations, organization and control. Attention directed to the safety aspects of transportation operations.

**2560:221 TRANSPORTATION TRAFFIC PRINCIPLES AND PRACTICES** 3 credits

Principles and practices applicable to industrial traffic management and factors affecting transportation decisions. Operations, services, warehousing, privileges and documentation are some of the items to be analyzed.

**2560:225 TRANSPORTATION INTERSTATE REGULATION I** 3 credits

A thorough review of the Interstate Commerce Commission; Interstate Commerce Act; their functions with emphasis on their application to each mode of transportation.

**2560:226 TRANSPORTATION INTERSTATE REGULATION II** 3 credits

Prerequisite: 225. A continuing analysis of Interstate Commerce Commission regulations, related acts, and practitioner procedure. State regulations, case studies and transportation code of ethics will be included.

**2560:290 SPECIAL TOPICS IN TRANSPORTATION**  
1-2 credits

(May be repeated for a total of 4 credits) Prerequisite: Permission. Selected topics or subject areas of interest in Transportation.

## 2740: MEDICAL ASSISTING

**2740:120 MEDICAL TERMINOLOGY** 3 credits

Prerequisites: 3100:147 and 148; 2840: 101. This course is designed for the novice entering the medical assistant field. Emphasis on vocabulary and medical terms: prefixes, stems, suffixes, combining forms, abbreviations, pronunciation, spelling and application of these terms.

**2740:130 OFFICE NURSING TECHNIQUES I** 2 credits

Prerequisites: 3100:147 and 148; 2840:101; 283. This course provides theory and practice in nursing duties most often performed in a physician's office: vital signs, examining room procedures, care of instruments and methods of sterilization; orientation to disease.

**2740:231 OFFICE NURSING TECHNIQUES II**

2 credits

Prerequisites: 130. This course deals with laboratory techniques; orientation to urinalysis, hematology, roentgen rays, electrocardiograms, dentology terms; principles of medication, the metric system and the administration of injections.

**2740:232 OFFICE NURSING TECHNIQUES III**

2 credits

Prerequisite: 231. Theory and practice in taking vital signs, giving parenteral injections, and orientation to pharmacology and the metric system.

**2740:240 MEDICAL MACHINE TRANSCRIPTIONS**

2 credits

Prerequisites: 3100:147 and 148; 2840:101; 283, 284, 285, & 257. This course is designed to correlate the medical terminology with the secretarial skills and includes practice in the various machines used in dictation and transcription found in the medical office.

**2740:250 MEDICAL ASSISTING**

**SPECIALTIES** 3 credits

Prerequisites: 231, graduate of the program, or special permission. Provides student with more precise knowledge in the field of medical specialties.

**2740:290 SPECIAL TOPICS:**

**MEDICAL ASSISTING** 1-2 credits

Prerequisite: permission. Selected topics or workshops of interest in Medical Assisting Technology

## 2770: SURGICAL ASSISTING

**2770:100 INTRODUCTION TO SURGICAL ASSISTING TECHNOLOGY** 4 credits

Prerequisite: admission to the program. Study of basic principles which underlie patient care in the operating room. Role of operating room technician and legal and ethical responsibilities are defined.

**2770:121 SURGICAL ASSISTING**

**PROCEDURES I** 4 credits

Prerequisite: 100. Didactic and laboratory practice in principles and practices of surgical asepsis, the surgical patient, surgical procedures, care and maintenance of equipment and materials, immediate post-operative responsibilities, and emergency situations in the operating room.

**2770:131 CLINICAL APPLICATION I** 3 credits

Prerequisite: permission. Application of learned skills in the care of patients in the operating room of an affiliated hospital.

**2770:222 SURGICAL ASSISTING**

**PROCEDURES II** 4 credits

Prerequisite: 121. Continuation of course 2770:121.

**2770:232 CLINICAL APPLICATION II** 3 credits

Prerequisite: 131. Application of learned skills in the care of patients in the operating room of an affiliated hospital.

**2770:233 CLINICAL APPLICATION III** 3 credits

Prerequisite: 232. Application of learned skills in the care of patients in the operating room of an affiliated hospital.

**2770:290 SPECIAL TOPICS:**

**SURGICAL ASSISTING** 1-2 credits

Prerequisite: permission. Selected topics or workshops of interest in Surgical Assisting Technology.

**2780: ALLIED HEALTH****2780:101 INTRODUCTION TO PHYSICAL THERAPY**  
2 credits

Description: History of Physical Therapy and survey of treatment procedures. Role and rationale for the Physical Therapist Assistant. Legal and ethical responsibilities.

**2780:161 BASIC PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY I** 2 credits

Prerequisite: 2020:131 and permission. Description: Introduction to systems of measurement. Matter, force, motion, work, power, energy, basic electricity and magnetism.

**2780:165-166 RADIOGRAPHIC PRINCIPLES, I, II**  
3 credits, 2 credits

Prerequisite: 161. Description: Sequential. Elementary principles of ionizing radiation and their application in the medical setting. Radiographic accessories and chemical processing of the exposed X-ray film.

**2780:261 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY I** 3 credits

Prerequisite: 161. Description: Fundamentals of electricity and radiation physics. Principles of X-ray equipment and other radiation sources used in the medical setting.

**2780:290 SP. TOP: ALLIED HEALTH** 1-3 credits

Prerequisite: Permission.

**2790: RESPIRATORY THERAPY****2790:121 INTRODUCTION TO RESPIRATORY THERAPY TECHNOLOGY** 3 credits

Prerequisite: Admission to program or permission of instructor. Description: Basic science and laws governing gases as well as appliances to administer & monitor oxygen. Covers equipment used to generate and give aerosol therapy, including I.P.P.B. therapy. Lecture/Lab.

**2790:122 PATIENT CARE IN RESPIRATORY THERAPY** 3 credits

Prerequisite: 121. Description: Covers basic hospital practices in sterile technique, suctioning, C.P.R., postural drainage, dealing with patient records & sick patients. Lecture/Lab.

**2790:123 PULMONARY FUNCTION & VENTILATORS** 3 credits

Description: The student will be exposed to basic pulmonary function studies and their interpretation. They will also be introduced to different brands of ventilators and their functions. Lecture/Lab.

**2790:131 CLINICAL APPLICATION I** 3 credits

Prerequisite: Admission to the program or permission. Description: This course is intended to introduce the student to work in a hospital and provide hands on experience for equipment he will use there. Lab.

**2790:132 CLINICAL APPLICATIONS II** 2 credits

Prerequisite: Admission to program or permission. Description: This will be the first of several rotations through hospitals. Speciality area of each hospital will be covered at that hospital. Lab.

**2790:133 CLINICAL APPLICATIONS III** 5 credits

Prerequisite: Admission to program or permission. Description: The semester will be broken into three, five-week rotations, one at each hospital to cover the speciality area for that site. Lab.

**2790:134 CLINICAL APPLICATIONS IV** 5 credits

Prerequisite: Admission to program or permission. Description: This semester will have three, five-week sessions. The first two will be spent at different clinical sites working on their speciality areas. The last one will give students experience working as technicians and experience working different shifts. Lab.

**2790:141 PHARMACOLOGY** 2 credits

Prerequisite: Admission to program or permission. Description: This course deals with the drugs which administered by Respiratory Therapy & their effect & route of action in the body. Lecture.

**2790:142 PATHOLOGY FOR RESPIRATORY THERAPY** 2 credits

Prerequisite: 201. Description: This discusses the disease processes and diseases of the lung, heart, and kidney and their effect on the field of Respiratory Therapy.

**2790:201 ANATOMY AND PHYSIOLOGY OF CARDIOPULMONARY SYSTEMS** 3 credits

Prerequisite: Anatomy & Physiology and admission to the program. Description: This unit deals with the normal anatomy & physiology of the heart and lungs. Includes E.K.G.'s and interpretation of arterial blood gases. Laboratory.

**2790:223 ADVANCED RESPIRATORY THERAPY** 3 credits

Description: This unit covers blood gas analysis, and machines, intubation, drawing arterial gases, problems with artificial airways, pulmonary functions research studies, and radio-active pulmonary function studies. Lecture/Lab.

**2790:224 PULMONARY REHABILITATION & THE RESPIRATORY THERAPY DEPARTMENT** 2 credits

Description: This covers the area of pulmonary rehabilitation of the chronic lunger. It also includes the essentials of how to set up your own Respiratory Therapy Department. Lecture.

**2840: CHEMICAL TECHNOLOGY****2840:100 BASIC CHEMISTRY** 3 credits (2-1)

Elementary treatment of facts and principles of chemistry emphasizing biological application. Elements and compounds important in everyday life, biological processes, and medicine. Introduction to laboratory techniques. Primarily for Medical Assistant, Criminal Justice and Allied Health students. Laboratory.

**2840:101 INTRODUCTORY CHEMISTRY** 3 credits (2-1)

Facts and theories of general chemistry. Elements and compounds and their uses. Elementary treatment of atomic structure, gaseous state, periodic table, water, solutions. For Chemical Technology and Bachelor of Technology students. Laboratory.

**2840:102 INTRODUCTORY AND ANALYTICAL CHEMISTRY** 3 credits (2-1)

Prerequisite: 101 or permission. Chemical equilibria, ionization, radioactivity. Properties of selected metals and nonmetals. Introduction to Organic Chemistry. Basic concepts of qualitative analysis. Identifications of cations and anions. Laboratory.

**2840:103 CHEMICAL CALCULATIONS** 2 credits (2-0)

Prerequisite: Permission. Review of mathematics as applied to problems in introductory chemistry and

other science courses. Topics include unit conversions, percentages, concentrations, pH, gas laws, chemical equilibria, solubility products. Suitable as a refresher course.

**2840:121 ORGANIC PRINCIPLES 4 credits (3-1)**

Structure, nomenclature and classification of simple organic compounds. Further, their physical and chemical properties, methods of separation, analysis and synthesis. Laboratory.

**2840:151 BASIC PHYSICS: MECHANICS 3 credits (2-1)**

Corequisite, 2020:131. Principles of mechanics. Topics include force and motion, work and energy, properties of fluids and gases, and introduction to atomic physics. Laboratory.

**2840:152 BASIC PHYSICS: ELECTRICITY AND MAGNETISM 2 credits (1-1)**

Prerequisite, 151 and 2020:131. Principles of electricity and magnetism. Topics include electrostatics, basic direct current circuits, magnetism and electromagnetism, alternating currents and basic a-c circuits. Laboratory.

**2840:153 BASIC PHYSICS: HEAT, LIGHT AND SOUND 2 credits (1-1)**

Prerequisite, 151 and 2020:131. Principles of heat, light and sound. Topics include thermal behavior of matter, wave motion, sound waves, light and illumination, reflection and refraction, mirrors and lenses, interference and diffraction. Laboratory.

**2840:201 QUANTITATIVE ANALYSIS 4 credits (3-1)**

Prerequisite, 102. Theory of quantitative analytical chemistry including gravimetric, volumetric and electrochemical procedures. Laboratory.

**2840:202 INSTRUMENTAL METHODS 4 credits (3-1)**

Prerequisite, 201 and one year of physics; or permission. Instrumentation employed in qualitative and quantitative analysis. Theory and practice in chromatographic, spectrophotometric and other instrumental methods. Laboratory.

**2840:210 SCIENTIFIC GLASS BLOWING 1 credit (0-1)**

Laboratory instruction in the art of glass blowing. Fabrication and blowing of scientific glassware and chemical apparatus.

**2840:250 ELEMENTS OF PHYSICAL CHEMISTRY 3 credits (2-1)**

Prerequisite: 102, 153, 2020:132. Physical principles governing behavior of chemical systems. Introductory thermodynamics, solution properties, chemical equilibrium, phase rule, chemical kinetics and structure of matter. Laboratory.

**2840:255 LITERATURE OF SCIENCE AND TECHNOLOGY 1 credit (1-0)**

Prerequisite: Permission. The literature of science and technology as used to gather technical information. Techniques of abstracting and the computer search.

**2840:260 COMPOUNDING METHODS 2 credits (1-1)**

Prerequisite: 102, 121, or permission. Principles and methods of selecting and compounding rubber for specific end uses. The compounder's art. Processing and testing of basic elastomers and products. Laboratory.

**2840:270 NATURAL AND SYNTHETIC ORGANIC POLYMERS 4 credits (3-1)**

Prerequisite: 121 or permission. Structure and properties of macromolecules with particular reference to carbohydrates, proteins, nucleic acids, rubber and further, synthetic thermoplastic, thermosetting and elastomeric polymers.

**2840:290 SPECIAL TOPICS IN CHEMICAL TECHNOLOGY 1-2 credits**

Prerequisite: Permission. (May be repeated for a total of 4 credits.) Selected topics or subject areas of interest in Chemical Technology.

## 2860: ELECTRONIC TECHNOLOGY

**2860:120 DC CIRCUITS 4 credits**

Corequisite: 2020:131. Nature of electricity, current and voltage, OHM's Law, Network Analysis, DC Instruments, Magnetism, Inductance, Capacitance, Transients and Time Constants.

**2860:122 AC CIRCUITS 3 credits**

Prerequisite: 120, Corequisite: 2020:132. Sinusoidal voltages and currents, reactance and impedance, methods of AC circuit analysis, AC power, transformers, resonance, polyphase circuits.

**2860:123 ELECTRONICS I 4 credits**

Corequisite: 122. Physical theory characteristics, operational parameters and incircuit consideration of solid state electronic devices.

**2860:225 ELECTRONICS II 4 credits**

Prerequisite: 123. Study of application of active devices. Topics include power amplifiers, heat sinks, transistor interfacing, differential amplifiers, DC power supplies, time delay circuits, feedback circuits, and operational amplifiers.

**2860:227 MEASUREMENTS 3 credits**

Prerequisite: 128 or 211. Principles and use of electrical and electronic instruments including moving coil instruments, bridges, oscilloscopes and signal generators. Analysis of measurement errors.

**2860:237 DIGITAL CIRCUITS I 3 credits**

Prerequisites: 123 or 211. An introduction to devices and techniques used in the design of combinational logic circuits. Topics include number systems, binary arithmetic, codes, Boolean algebra, Karnaugh mapping and integrated circuits.

**2860:238 DIGITAL CIRCUITS II 3 credits**

Prerequisite: 237. A continuation of combinational logic design plus introduction to sequential logic design and the microcomputer. Integrated circuit information is continually presented and is extended into MOS and CMOS devices. A survey of microprocessors is included.

**2860:242 MACHINERY AND CONTROLS 3 credits**

Prerequisites: 122 and 123 or 211. Principles, characteristics and applications of DC and AC generators and motors. Control circuits for rotating machinery. Principles of industrial electronic devices used in machinery control such as unijunctions, SCR's and Triacs.

**2860:251 COMMUNICATIONS CIRCUITS 3 credits**

Prerequisite: 225. Principles of radio-wave propagation, modulation and demodulation. Fundamentals, components, and circuits of communication systems. Electric and magnetic fields, antennas and propagation.

**2860:255 ELECTRONIC DESIGN AND CONSTRUCTION 2 credits**

Prerequisite: 123. Electronic drafting fundamental emphasizing printed circuits. Shop safety practices, usage of hand and power tools. Chassis and printed circuit board fabrication. Metal finishing and packaging. Performance testing and troubleshooting.

**2860:260 ELECTRONIC PROJECT 2 credits**

Prerequisites: Final semester or permission and 255. Design, construction and test by the student of an electronic circuit of his choice. Progress Reports, oral and written reports are required. Discussion of electronic design and fabrication techniques.

**2860:270 SURVEY OF ELECTRONICS I 3 credits**

Corequisite: 2020:131. Fundamentals of electrical circuits. Surveys of electromechanical devices emphasizing electrical/mechanical interface. For non-electronic technology majors.

**2860:271 SURVEY OF ELECTRONICS II 2 credits**

Prerequisite: 210 and Corequisite: 2020:132. Survey of the most commonly used solid state circuit components including typical applications. For non-electronic technology majors.

**2860:290 SPECIAL TOPICS: ELECTRONIC TECHNOLOGY 1-2 credits**

Prerequisite: Permission.

**2860:350 ADVANCED CIRCUITS 3 credits**

Prerequisites: 124, 242 and 2020:334. Analysis of linear circuits in frequency and time domain. Loop analysis by matrix methods, fourier analysis of non-sinusoidal wave forms, LaPlace transformations, Power and power-Factor correction, polyphase systems and mutual inductance.

**2860:351 INDUSTRIAL ELECTRICAL SYSTEMS 3 credits**

Prerequisites: 350 and 4450:206. Power system single-phase and three-phase analysis, balanced and unbalanced systems, fault calculations, symmetrical components with industrial applications.

**2860:352 DIGITAL SYSTEMS 3 credits**

Prerequisites: 238 and 350. Detailed study of several digital computing systems including topics in architecture, software, and I/O. Specific systems studied include the PDP-8 minicomputer and the 6100 and 8080 based micro-computers. A survey and comparison of microprocessors is included.

**2860:353 CONTROL SYSTEMS 3 credits**

Prerequisites: 350 and 2900:231. System analysis and design using Laplace transform, frequency response, Bode diagram and root locus. Design of control of industrial process variables. Introduction into AC, discrete and digital control systems.

**2860:400 DATA ANALYSIS 3 credits**

Prerequisites: 4450:206 and 3470:260. Application of statistics to electronic data. Problems include quality control, failure estimating, and synthesizing equations of dependence. Analysis methods include hypothesis estimation, curve fitting regression, correlation and analysis of variance.

**2860:402 INSPECTION TRIPS 1 credit**

Prerequisites: Senior standing or permission. Guided tours through area industrial plants and technical facilities, with emphasis on their electrical/electronic aspects. Class size limited to 15 students.

**2860:406 COMMUNICATION SYSTEMS 3 credits**

Prerequisites: 351 and 350. Antennas, transmission lines, matching networks, modulation systems, propagation, noise, radar and microwaves. Problems encountered in communication systems.

**2860:410 TECHNOLOGY PROJECT 1 credit**

Prerequisite: Senior Standing. A detailed study of a problem selected by the student. Includes problem definition, literature search, comparison of solutions, and formal report.

## 2880: INDUSTRIAL TECHNOLOGY

**2880:100 INTRODUCTION TO MANUFACTURING MANAGEMENT 2 credits (2-0)**

An introduction to the functions of the major sections of a manufacturing concern. Departmental purposes are identified and sequential relationships are studied. Students introduced to topics pursued in depth in later courses.

**2880:130 WORK MEASUREMENT PROCEDURES I 2 credits (1-1)**

Prerequisite: 100. This course familiarizes student with procedures for handwork and techniques for choosing the "best method" for accomplishing such tasks.

**2880:141 SAFETY PROCEDURES 3 credits (3-0)**

Co-requisite: 100. Sources and causes of accidents. Philosophy of accident prevention. Appraisal of cost of accidents. Elements of an effective safety program. Human factors in safety, safety promotion and enforcement.

**2880:200 MANUFACTURING PROFITABILITY 3 credits (3-0)**

Prerequisite: 100 & 2420:211. Profit is defined. Cost analysis and control are studied. Control of price and profit within market limitations are discussed.

**2880:210 CONTROLLING AND SCHEDULING PRODUCTION 2 credits (2-0)**

Prerequisite: 100. The production order is followed from the sales order through requisitioning, plant loading, expediting, scheduling, and shipping. Also covers material control and inventory record keeping. Critical path, linear programming, and EDP techniques are discussed.

**2880:231 PLANT LAYOUT 3 credits (3-0)**

Prerequisite: 100. Solution of the activities for a production facility. Optimum arrangements of the factors of production: manpower, materials, and equipment.

**2880:232 LABOR MANAGEMENT RELATIONS 3 credits (3-0)**

Prerequisite: 100. Studies of the historical background of the labor movement, management view points, legal framework for modern labor organization, and the collective bargaining process.

**2880:235 WORK MEASUREMENT PROCEDURES II 2 credits (1-1)**

Prerequisite: 130. Continuation of 130. Work measurement techniques and establishment of production standards for optimization of lowered costs.

**2880:241 QUALITY CONTROL PROCEDURES 3 credits (1-2)**

Theory and practice of inspection and sampling techniques for measurement of quality, QC charts, sampling plans, mill specs, checking machine capabilities, and setting tolerances.

**2880:290 SPECIAL TOPICS IN INDUSTRIAL TECHNOLOGY 1-2 credits**

(May be repeated for a total of 4 credits.)

Prerequisite: Permission. Selected topics or subject areas of interest in Industrial Technology.

## 2900: INSTRUMENTATION TECHNOLOGY

### 2900:121 FUNDAMENTALS OF INSTRUMENTATION 4 credits

Prerequisites: 2840:151 and 2860:210. A study of variables encountered in process instrumentation, the indicating and recording devices, and applications of the physical principles effecting measurement and control.

### 2900:231 CONTROL PRINCIPLES 4 credits

Prerequisite: 211 or 225. Corequisite: 2020:233. Principles of mathematical and analog computer modeling of physical systems. Design of controls for physical systems. Principles of closed loop control systems and performance characteristics. Design of servomechanisms.

### 2900:232 PROCESS CONTROL 3 credits

Prerequisite: 231. A study of the analysis and design of process control systems with emphasis on the techniques and instrumentation used in process control. Digital control fundamentals are introduced.

### 2900:239 PULSE CIRCUIT TESTING 3 credits

Prerequisite: 2860:237. A study of the analysis and design of process control systems with emphasis on the techniques and instrumentation used in process control. Digital control fundamentals are introduced.

### 2900:240 CALIBRATION AND STANDARDIZATION 1 credit

Prerequisite: 231. A laboratory experience in the calibration and standardization of electrical, electronic, and mechanical systems. Instrument theory, maintenance, trouble-shooting, specifications, performance, and safe working practices are included.

### 2900:241 INSTRUMENTATION PROJECT 2 credits

Prerequisite: Final semester or permission. Design construction and testing of an approved instrumentation project by an individual student, promoting independent study, initiative, assumption of responsibility, and application of the skills attained in related courses.

### 2900:290 SPECIAL TOPICS: INSTRUMENTATION TECHNOLOGY 1-2 credits

Prerequisite: Permission.

## 2920: MECHANICAL TECHNOLOGY

### 2920:121 TECHNICAL DRAWING I 3 credits (1-2)

Lettering and proper use of drawing instruments. Freehand sketching. Geometric drawing. Orthographic projection. Pictorials. Introduction to basic descriptive geometry.

### 2920:122 TECHNICAL DRAWING II 3 credits (1-2)

Prerequisite: 121. Sections and conventions. Dimensioning. Allowances and tolerances. Threads and fasteners. Descriptive geometry. Intersections. Developments.

### 2920:242 DESIGN MATERIALS 3 credits (2-1)

Prerequisite: 2980:125; Corequisite: 2980:241. Fundamental properties of materials. Material testing. Applications of methods to control material properties.

### 2920:243 KINEMATICS 2 credits (1-1)

Prerequisites: 122; 2020:132; 2980:125. The study of rigid-body motions of simple linkages, cams, gears, and gear trains. Graphical vector solutions are emphasized. Industrial applications are presented.

### 2920:244 DYNAMICS 2 credits (1-1)

Prerequisite: Permission.

### 2920:245 MECHANICAL DESIGN I 5 credits (3-2)

Prerequisites: 242, 243; 2980:241. Design of machine elements: springs, shafts, fasteners, welded joints. Combined stress and fatigue analysis. Design projects. Experimental stress analysis.

### 2920:247 SHOP METHODS AND PRACTICES 3 credits (1-2)

Set up and operation of tool room machines: Lathe, drill press, shaper, milling machine, and tool grinder. Planning operations & lay-out.

### 2920:249 APPLIED THERMAL ENERGY 2 credits (2-0)

Prerequisites: 2020:233, 2840:153. Thermodynamic principles. Study of power cycles. Applications in I.C. engines, compressors, steam power cycles, refrigeration.

### 2920:251 FLUID POWER 2 credits (2-0)

Prerequisites: 2020:233, 2840:153. Statics and dynamics of fluids. Viscosity, energy and momentum relationships. Fluid machinery and measurements.

### 2920:252 THERMO-FLUIDS LABORATORY 1 credit (0-1)

Prerequisite: 249, Corequisite: 251. Laboratory experiments in applied thermal energy and fluid power.

### 2920:290 SPECIAL TOPICS IN MECHANICAL TECHNOLOGY 1-3 credits

(May be repeated for a total of 4 credits.)

Prerequisite: Permission. Selected topics or subject areas of interest in Mechanical Technology.

### 2920:310 ECONOMICS OF TECHNOLOGY 3 credits (3-0)

Prerequisite: 64 credits or permission. Principles economics as they pertain to technology. Equivalence, alternatives, costs, depreciation, valuation. Project studies.

### 2920:346 MECHANICAL DESIGN II 3 credits (3-0)

Prerequisite: 245. Continuation of design of machine components. Bearings, gears, brakes, clutches. Machine vibrations and dynamic loads.

### 2920:347 PRODUCTION MACHINERY & PROCESSES 3 credits (3-0)

Prerequisites: 247; 2020:334. Study of modern production machines, processes and techniques. Casting, forging, rolling, welding, powder metallurgy, plastics molding.

### 2920:348 INTRODUCTION TO NUMERICAL CONTROL 3 credits (3-0)

Prerequisites: 121; 2020:132. Introduction to numerical control (N/C) of the operation of machine tools and other processing machines. Includes programming, types of N/C systems, economic evaluation.

### 2920:495 INSPECTION TOURS 1 credit (0-1)

Prerequisite: Senior Standing. Trips through area industrial plants and technical facilities.

## 2980: SURVEYING AND CONSTRUCTION TECHNOLOGY

### 2980:122 BASIC SURVEYING 3 credits

Basic tools and computations for surveying, measure-

ments of distance, elevations, and angles, traverse surveys. Field practice.

**2980:123 SURVEYING FIELD PRACTICE 2 credits**  
Prerequisite: 122. Practical experience in the use of surveying equipment and methods of surveying. Provides student with responsibility for making decisions and planning and directing complete project.

**2980:125 STATICS 3 credits**  
Prerequisites: 2840:151 and 2020:132. Forces, resultants and couples. Equilibrium of force systems. Trusses, frames, first and second moment of areas, friction.

**2980:133 CONSTRUCTION ADMINISTRATION 2 credits**  
Construction specifications. Office organization, preparation of construction documents. Bidding, bonds. Construction management and supervision. Agreements and contracts.

**2980:222 CONSTRUCTION SURVEYING 3 credits**  
Prerequisite: 122. Methods and procedures for establishing line and grade for construction. Circular, spiral and parabolic curves. Cross-sectioning methods and earth work. Field practice.

**2980:224 LAND SURVEYING 3 credits**  
Prerequisites: 122 or permission. Historical development of boundaries, rectangular system of public land surveys, systems used to describe property, working and interpretation of deed descriptions, surveyor's rights, duties and responsibilities.

**2980:225 ADVANCED SURVEYING 2 credits**  
Prerequisite: 122. Introductory to theory of errors, precise leveling, baseline measurements, triangulation, trilateration, and bearings from celestial observation. Photogrammetry. Field Practice.

**2980:226 SUBDIVISION DESIGN 2 credits**  
Prerequisite: 222; Corerequisite: 224. Site analysis, land use controls and plotting procedures. Laboratory includes the preparation of various types of projects leading to a complete subdivision.

**2980:231 BUILDING CONSTRUCTION 2 credits**  
Materials and types of construction used in heavy construction. Encompasses buildings constructed with heavy timber, steel, concrete or a combination of these materials.

**2980:232 CONSTRUCTION 3 credits**  
Prerequisite: 222 or permission. Planning of construction operations. Construction equipment and selection for typical jobs. Emphasis on heavy construction.

**2980:234 ELEMENTS OF STRUCTURES 3 credits**  
Prerequisite: 241. Principles of stress and structural analysis. Members in steel, timber, and concrete connections.

**2980:237 MATERIALS TESTING I 2 credits**  
Laboratory testing of soils with emphasis on the physical properties of soil. Laboratory and field procedures used for quality control. Testing of concrete mixes.

**2980:238 MATERIALS TESTING II 2 credits**  
Corerequisite: 241. Mix design of concrete. Laboratory testing of ferrous and nonferrous metals, woods, and concrete. Experiments demonstrate the physical properties as they relate to design.

**2980:241 STRENGTH OF MATERIALS 3 credits**  
Prerequisite: 125. Stress, strain, and stress-strain relationships. Tension, compression, torsion, beams. Shear and moment diagrams.

**2980:245 COST ANALYSIS AND ESTIMATING 3 credits**  
Quantity surveys in construction. Elements of cost in construction, determination of unit costs, analysis of cost records.

**2980:250 STRUCTURAL DRAFTING 2 credits**  
Prerequisite: 2920:121. Duties of the structural draftsman in the preparation of detailed working drawings for steel, concrete and wood members. Emphasis on the portrayal, dimensions, and notes on a working drawing.

**2980:290 SPECIAL TOPICS IN SURVEYING AND CONSTRUCTION TECHNOLOGY 1-2 credits**  
Prerequisite: Permission. Selected topics or subject areas of interest in surveying and construction technology.

# Buchtel College of Arts and Sciences

## 3100: BIOLOGY

### 3100:100 NATURE STUDY PLANTS 3 credits

Description: Identification and biology of common plants of this region. Recommended for teachers of nature study. Not available for credit towards a degree in biology. Laboratory.

### 3100:101 NATURE STUDY ANIMALS 3 credits

Description: Identification and biology of common animals of this region. Recommended for teachers of nature study. Not available for credit towards a degree in biology. Laboratory.

### 3100:103 INTRODUCTION TO MICROBIOLOGY

3 credits  
Description: Basic microbiology; destruction, removal and inhibition of microorganisms; immunity and allergy; common pathogens. Not available for credit toward a degree in biology. Laboratory.

### 3100:105 ECOLOGY AND BIOLOGICAL RESOURCES

2 credits  
Description: Basic principles governing the structure and function of natural ecosystems. Various options for managing natural resources, human populations, biotic communities, and industrial technologies at the global level will be emphasized. Not available for credit toward a major in biology.

### 3100:106-107 ANATOMY AND PHYSIOLOGY

3 credits each  
Description: Sequential structure and function of human body with emphasis on physiological processes. Background of high school chemistry or equivalent strongly recommended. Not open to biology or B.S.M.T. majors. Laboratory.

### 3100:111 PRINCIPLES OF BIOLOGY 4 credits

Description: The molecular and cellular basis of life; energy transformations and metabolism; nutrient procurement, gas exchange, internal transport, homeostatic mechanisms, and control systems in plants and animals. Laboratory.

### 3100:112 PRINCIPLES OF BIOLOGY 4 credits

Description: Cell reproduction, genetics, development, evolution, classification, behavior, and ecology of plants and animals. (111-2 constitute an integrated course designed for majors in biology and related fields.) Laboratory.

### 3100:130 PRINCIPLES OF MICROBIOLOGY 3 credits

Description: Basic principles and terminology of microbiology; cultivation and control of microorganisms; relationships of microorganisms to man and his environment; medical microbiology. Laboratory.

### 3100:190-191 HEALTH CARE DELIVERY SYSTEMS

1 credit each  
Description: Health care principles and practices. Restricted to students in NEOUCOM, 6 year BS/MD program. Graded credit/no credit. Not available toward credit as major in biological sciences.

### 3100:211 GENERAL GENETICS 3 credits

Prerequisite: 112. Description: Principles of heredity, fundamental principles of genetics.

### 3100:212 GENETICS LABORATORY 1 credit

Prerequisite or corequisite: 211. Description: Fundamental principles of genetics illustrated by experiments with *Drosophila* and other organisms.

### 3100:214 ORGANIC EVOLUTION 3 credits

Prerequisite: 112 or permission. Description: Early

Concepts of evolution; Darwinian Theory and supporting evidence; the mechanisms of evolution; molecular evolution; evolutionary trends in plants and animals.

### 3100:215 ORGANIC EVOLUTION DISCUSSION

1 credit

Corequisite: 214. Description: Informal discussions of various aspects of organic evolution of general or special interest.

### 3100:217 GENERAL ECOLOGY 3 credits

Prerequisite: 112 or permission. Description: A study of the interrelationships between organisms and environment.

### 3100:264 ANATOMY & PHYSIOLOGY OF SPEECH

AND HEARING 3 credits

Description: A study of the anatomy and physiology of organs directly and indirectly responsible for sound perception and the production of speech. Laboratory.

### 3100: 265 INTRODUCTORY HUMAN PHYSIOLOGY

4 credits

Description: A study of physiological processes in the human body particularly at the organ systems level. Not open to preprofessional majors. Laboratory.

### 3100: 311 CELL BIOLOGY 2 credits

Prerequisite: 112 and Org. Bio. Chem. (The laboratory 384 is a corequisite). Description: A study of the structure and functions of cells using microbial and animal cells for demonstration of common tenets.

### 3100: 331 MICROBIOLOGY 4 credits

Prerequisite: 112. Description: Survey of protists with emphasis on the bacteria: their morphology, cultivation and chemical characteristics. Relationships of microorganisms to man and his environment. Laboratory.

### 3100: 332 MICROBIOLOGY 4 credits

Prerequisite: 331 or equivalent. Description: Basic elements of microbial genetics, and temporary variation in the bacteria. Classification and identification of major groups of bacteria. Laboratory.

### 3100: 341 FLORA AND TAXONOMY I. 3 credits

Prerequisite: 112. Description: Collection-identification of autumn-flowering plants, their family characteristics and discussion of methods used to determine their relationships. Plants used by man will be discussed and plant collection required. Laboratory.

### 3100: 342 FLORA AND TAXONOMY II. 3 credits

Prerequisite: 112. Description: Classification systems, the international rules governing application of names and collection-identification of spring flowering plants. Family characteristics are discussed and plant collection is required. Laboratory.

### 3100: 351 INVERTEBRATE ZOOLOGY 4 credits

Prerequisite: 112. Description: Invertebrate groups, their classification, anatomy and life history of representative forms. Laboratory.

### 3100:353 GENERAL ENTOMOLOGY 4 credits

Prerequisite: 112. Description: Structure, physiology, life cycles, and economic importance of insects: survey of orders and major families. An insect collection is made. Laboratory

### 3100:355 PARASITOLOGY 4 credits

Prerequisite: 112. Description: Principles of parasitism; survey of the more important human and veterinary parasitic diseases. Laboratory.

### 3100:358 ORNITHOLOGY 3 credits

Prerequisite: 112. Description: An introduction to the

biology of birds: classification, anatomy, physiology, behavior, ecology, evolution, natural history, and field identification. Laboratory.

**3100:361-362 HUMAN ANATOMY AND PHYSIOLOGY 3 credits each**

Prerequisite: College Chemistry (Sequential). Description: A study of structure and function of the human body. Laboratory.

**3100:365 HISTOLOGY I 3 credits**

Prerequisite: 311. Description: The microscopic study of animal tissue preparations and histochemical stains; emphasis on functional differences. Laboratory.

**3100:366 HISTOLOGY II 3 credits**

Prerequisite: 365. Description: Study of cellular structure of organs in relation to their functional activity, life history and comparative development. Laboratory.

**3100:381 HUMAN GENETICS 2 credits**

Prerequisite: 112 or 362. Description: Principle of genetics in the human, immuno-genetics, mutation, genetics of population, selection and eugenics. Not open to students.

**3100:383 LABORATORY TECHNIQUES AND INSTRUMENTATION IN BIOLOGY 2 credits**

Prerequisite: 112. (The laboratory 384 is a corequisite). Instruction in techniques and instrumentation used in biological laboratories.

**3100:384 TECHNIQUES AND INSTRUMENTATION LABORATORY IN BIOLOGY 1 credit**

Corequisite: 311 or 383. Description: Application of biological techniques and instrumentation with emphasis on isolation and identification of cellular components and metabolites; also includes enzymology, use of radioisotopes and light and electron microscopy.

**3100:422/522 CONSERVATION OF BIOLOGICAL RESOURCES 4 credits**

Prerequisite: 217 or permission. Description: Basic principles for the management of plant and animal resources and natural areas. Political, economic, and social aspects of resource management. Laboratory with field trips.

**3100:424/524 LIMNOLOGY 3 credits**

Prerequisite: 217. Description: Field and laboratory study of lake ecosystems. Species composition of selected biotic communities, community energetics, and nutrient cycling emphasized. A limnological survey of a local lake is made. Laboratory.

**3100:426/526 APPLIED AQUATIC ECOLOGY 3 credits**

Prerequisite: Permission. Description: Biological methods for assessing the quality of natural waterways. Emphasis given to the use of benthic invertebrates as indices of water quality. Laboratory.

**3100:428/528 BIOLOGY OF BEHAVIOR 2 credits**

Prerequisite: 14 credit hours in Biology and/or Psychology. Description: The biological basis of behavior: Ethological theory; the function, causation, significance, evolution, and adaptiveness of behavior.

**3100:431/531 BACTERIAL PHYSIOLOGY 3 credits**

Prerequisite: 332 and Org. and Biochemistry. Description: Biochemical activities in the bacterial cell, emphasizing enzymatic mechanisms of metabolic transformations. Energy relationships in catabolic and biosynthetic pathways are stressed.

**3100:433/533 PATHOGENIC BACTERIOLOGY 4 credits**

Prerequisite: 332. Description: Study of the major groups of bacteria which produce infections in man. The biochemical properties of microorganisms which

engender virulence, and the nature of host resistance. Laboratory.

**3100:435/535 VIROLOGY 4 credits**

Prerequisite: 332. Description: Physical, chemical and biological properties of viruses including mechanisms of infection, genetics and tumor formation; methods of cultivation and identification. Laboratory.

**3100:437/537 IMMUNOLOGY 4 credits**

Prerequisites: 332 - 433 recommended. Description: The nature of antigens, the antibody response, and antigen-antibody reactions. The site and mechanism of antibody formations, hypersensitivity, immunologic tolerance, and the immune diseases will also be considered. Laboratory.

**3100:441/541 PLANT DEVELOPMENT 4 credits**

Prerequisites: 112 and 1 year of Org. Chem. Description: Embryology and morphogenesis of plants in relation to physical, chemical, genetic, and spatial factors. Laboratory.

**3100:442/542 PLANT ANATOMY 3 credits**

Prerequisite: 112. Description: Structure and development of cells, tissues, organs and organ systems of seed plants. Laboratory.

**3100:444/544 BIOLOGY OF THE THALLOPHYTES 4 credits**

Prerequisite: 311. Description: Designed to give insight into the phylogeny, taxonomy, morphology, and ecology of the major groups of the fungi and algae. To include field and laboratory study of the vegetative and reproductive structures of the local flora. Laboratory.

**3100:445/545 PLANT MORPHOLOGY 4 credits**

Prerequisite: 112. Description: The structure, reproduction, life cycles, ecology, evolution, and economic significance of land plants including bryophytes, club-mosses, whisk ferns, horsetails, ferns, and seed plants. Laboratory.

**3100:447/547 PLANT PHYSIOLOGY 3 credits**

Prerequisite: 112 and 1 year of Org. Chemistry. Description: Water, soil and mineral requirements of plants, and their metabolism, growth, and their response to internal and external stimuli. Laboratory.

**3100:449/549 PLANT BIOSYSTEMATICS 2 credits**

Prerequisite: 4 hours botany at 400 level. Description: Current research methods and theories in plant phylogeny and taxonomy. Includes study of original publications, discussion of experimental methods and the use of the herbarium in research.

**3100:458/558 VERTEBRATE ZOOLOGY 4 credits**

Prerequisite: 217 or permission. Description: Biology of the vertebrates, except birds — evolution, ecology, behavior, systematics, and anatomy. Laboratory with field trips.

**3100:461-462/561-562 HUMAN PHYSIOLOGY 4 credits each**

Prerequisite: Senior or Graduate standing. Description: A detailed study of function of the human body with special emphasis on neuromuscular, cardiovascular, respiratory, renal, and endocrine physiology. Laboratory.

**3100:464/564 GENERAL AND COMPARATIVE PHYSIOLOGY 4 credits**

Prerequisites: 112 and 1 year Organic Chemistry. Description: A study of cellular, osmoregulatory, respiratory, cardiovascular, endocrine and neural mechanisms involved in understanding the physiology of a variety of invertebrate and vertebrate animals. Laboratory.

**3100:466-467/566-567 DEVELOPMENTAL****ANATOMY 4 credits each**

Prerequisite: 112. Description: A sequence designed to introduce the process of vertebrate development. Lecture and laboratory work include descriptive and experimental embryology, phylogenetic development of the major vertebrate orders, and individual student research. Laboratory.

**3100:480/580 RADIATION BIOLOGY 3 credits**

Prerequisite: Permission. Description: Principles of radioactivity, interaction with matter, particularly affects on biological systems. Detection devices, radiation safety and dosimetry, use of radiolabeled compounds in the laboratory. Laboratory.

**3100:481/581 ADVANCED GENETICS 3 credits**

Prerequisite: 211. Description: The nature of the gene; genetic codes; hereditary determinants; mutagenesis and genes in population. Lecture and seminar.

**3100:485/585 LABORATORY ANIMAL MANAGEMENT 3 credits**

Prerequisite: 112 and permission. Description: The principles involved in maintaining laboratory animals. Emphasis is placed on selection of animal models, proper care, nutrition and legal aspects of animal use. Laboratory.

**3100:495 SPECIAL TOPICS IN BIOLOGY 1-3 credits**

(May be repeated for a maximum of 4 hrs.)

Prerequisite: Permission. Description: Special courses which are offered once or only occasionally in areas where no formal course exists.

**3100:497-498/597-598 BIOLOGICAL****PROBLEMS 1-2 credits each**

Prerequisite: Permission. Description: Honors level work, usually consisting of laboratory investigations.

**GRADUATE COURSES****3100:631 EXPERIMENTAL BACTERIAL PHYSIOLOGY 4 credits**

Prerequisite: 531 or permission of instructor. Description: The basic techniques peculiar to the study of microbial physiology and modification of selected biochemical techniques for application to microbial systems. Laboratory.

**3100:660 ENVIRONMENTAL PHYSIOLOGY 3 credits**

Prerequisites: 561-562. Description: A study of the physiological reactions of healthy mammals to natural changes or extremes of the physical environment.

**3100:667 EXPERIMENTAL EMBRYOLOGY 3 credits**

Prerequisite: Permission.

Description: The principles and experimental methods of developmental biology. Practical application to oncology, drug interaction, and inductive mechanisms. Laboratory.

**3100:681 CYTOLOGY 3 credits**

Prerequisite: 311

Description: The structure and functional organization of cells at the ultrastructural level. Three lecture hours a week and one report due.

**3100:685 ANIMAL TISSUE CULTURE 3 credits**

Prerequisite: 332

Description: Tissue culture techniques; biology and physiology of animal cells and tissues under in vitro conditions; application of these techniques to radiobiology, cancer chemotherapy and animal cell genetics. Laboratory.

**3100:695 SPECIAL TOPICS IN BIOLOGY 1-3 credits**

Prerequisite: Permission may be repeated for a maximum of 4 hrs.

Description: Special courses which are offered once or only occasionally in areas where no formal course exists.

**3100:697-698 SEMINAR IN BIOLOGY 1 credit each**

Prerequisite: Permission.

Description: Limited to graduate students in the thesis option who present a seminar on their research.

**3100:699 MASTERS RESEARCH 1-6 credits**

(May be repeated for a maximum of 6 hrs.)

**3150: CHEMISTRY****3150:121-122 INORGANIC CHEMISTRY I, II.**

3 credits each

Sequential. Designed primarily for students in Medical Technology. Fundamental laws and theories of chemistry; the more important elements and their compounds. Laboratory.

**3150:124 CHEMISTRY 3 credits**

Fundamentals of organic, inorganic and physiological chemistry. Discussion.

**3150:129-130 GENERAL CHEMISTRY I, II. 4 credits each**

Sequential. Introduction to the principles of chemistry and fundamentals of inorganic, organic, and biochemistry. Structure and chemistry of carbohydrates, lipids, proteins; bio-chemistry of enzymes, metabolism, body fluids, and radiation effects.

**3150:132 PRINCIPLES OF CHEMISTRY I. 4 credits**

Introduction to basic facts and principles of chemistry, including atomic and molecular structure, states of matter, and thermodynamics. For chemistry majors, premedical students, and most other science majors. Laboratory.

**3150:133 PRINCIPLES OF CHEMISTRY II. 3 credits**

Prerequisite, 132. Continuation of 132, including aqueous solution theory, chemical kinetics, equilibrium, electrochemistry, and nuclear chemistry. For chemistry majors, pre-medical students and most other science majors.

**3150:134 QUALITATIVE ANALYSIS. 2 credits**

Corequisite, 133. A laboratory course applying the principles of chemical equilibrium to inorganic qualitative analysis.

**3150:201-202 ORGANIC CHEMISTRY AND BIOCHEMISTRY I, II. 3 credits each**

Sequential. Prerequisite, 122. Designed especially for students in Medical Technology. Principles of organic chemistry with emphasis on biological systems. Laboratory.

**3150:263-264 ORGANIC CHEMISTRY LECTURE I, II. 3 credits each**

Structure and reactions of organic compounds, mechanism of reactions.

**3150:265-266 ORGANIC CHEMISTRY LABORATORY I, II. 2 credits each**

Sesquential. Corequisite, 263, 264. Laboratory experiments to develop techniques in organic chemistry and illustrate principles.

**3150:313-314 PHYSICAL CHEMISTRY LECTURE I, II. 3 credits each**

Sequential. Prerequisites, 265, 3450:236, 3650:293, or permission of instructor. Gases, thermodynamics, thermochemistry, solutions, dilute solutions, chemical equilibrium, phase rule, chemical kinetics, electrochemistry, electrolytic equilibria, atomic and molecular structure.

**3150:315-316 PHYSICAL CHEMISTRY LABORATORY I, II. 2 credits each**

Sequential. Corequisites, 313, 314. Laboratory designed for illustrating techniques and equipment used in physical chemical investigations.

**3150:335-336 ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS I, II. 4 credits each**

Sequential. Prerequisite, 133 and 134 or 122. Intended primarily for students preparing to become laboratory or hospital technicians. Theory and calculations in qualitative and quantitative analysis, laboratory, methods used in hospital laboratories.

**3150:401/501 BIOCHEMISTRY LECTURE I. 3 credits**

Sequential. Prerequisite, 264. Biochemistry of amino acids and proteins, enzymes and their role as biocatalysts, structure and biochemistry of nucleotides, nucleic acids, carbohydrates and lipids, energy storage and utilization.

**3150:402/502 BIOCHEMISTRY LECTURE II. 3 credits**

Sequential. Prerequisite, 401/501. Carbohydrate, lipid and amino acid metabolism, protein, nucleotide and nucleic acid biosynthesis, and gene function.

**3150:404/504 BIOCHEMISTRY LABORATORY I.**

1 credit

Corequisite, 401/501. Investigation of amino acids, proteins, carbohydrates, lipids, and nucleic acids. Chromatography, oxygen measurements, spectrophotometry and use of radioisotopes.

**3150:405/505 BIOCHEMISTRY LABORATORY II.**

1 credit

Sequential. Corequisite, 402/502. Biological synthesis and degradation, the role of enzymes, their characteristics and utilization of energy released during oxidation of biological compounds.

**3150:408/508 THE PROFESSIONAL CHEMIST IN INDUSTRY 2 credits**

Prerequisite, senior year or degree in chemistry or chemical engineering or permission. The business, legal, societal, economic, and other non-chemical aspects of a chemist's profession.

**3150:411/511 PHYSICAL CHEMISTRY FOR BIOLOGY MAJORS 3 credits**

Prerequisites, 266 and 3450:116 and permission. Gases, thermodynamics, electrochemistry, chemical kinetics, macromolecules and colloids, special topics in biochemistry, biophysics and molecular biology.

**3150:415/515 CHEMICAL INSTRUMENTATION**

3 credits

Prerequisites, 424, 426 or permission. Principles and applications of electrical and electronic devices and various transducers for chemical analysis. Laboratory.

**3150:416/516 INSTRUMENTAL METHODS OF ANALYSIS 3 credits**

Prerequisite, 415/515. Principles and applications of analytical chemical techniques based on physical measurements. Laboratory.

**3150:421/521 QUALITATIVE ORGANIC ANALYSIS**

4 credits

Sequential. Prerequisites, 266 and 426 or permission. Identification and characterization of organic substances, separation and identification of components of organic mixtures. Laboratory.

**3150:423-424 ANALYTICAL CHEMISTRY LECTURE I, II 3 credits each**

Prerequisite, 264 or 133 and permission. Theoretical principles of quantitative analysis. Techniques and calculations, gravimetric and volumetric methods. Instrumental analysis with emphasis on newer analytical tools and methods.

**3150:425-426 ANALYTICAL CHEMISTRY LABORATORY I, II 2 credits each**

Sequential. Corequisites, 423, 424. Laboratory techniques employed in gravimetric, volumetric, and instrumental analysis.

**3150:463/563 ADVANCE ORGANIC CHEMISTRY 3 credits**

Prerequisite, 264. Introduction to the study of mechanisms of organic reactions.

**3150:472/572 ADVANCED INORGANIC CHEMISTRY 3 credits**

Corequisite, 314. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organo-metallics and metal carbonyls.

**3150:498 SPECIAL TOPICS 1-3 credits****3150:499 RESEARCH PROBLEMS 2 Credits**

May be repeated to a total of 12 credits. Prerequisite, permission. An assignment of special problems to the student, designed as an introduction to research problems.

**GRADUATE COURSES****3150:601-602 CHEMISTRY OF POLYMERS I, II.**

2 credits each

Sequential. Prerequisites, 264 and 266 or permission of instructor. History, classification and nomenclature; natural polymers. Types and methods of polymerization. Ring vs. chain stability. Natural and synthetic polypeptides, nucleic acids.

**3150:604-605 CHEMISTRY OF POLYMERS LABORATORY I, II. 2 credits each**

Sequential. Prerequisites, 264, 266. Preparation and identification of polymers to illustrate the method of polymerization discussed in 601, 602, and 649.

**3150:609 MICRO-QUANTITATIVE ORGANIC ANALYSIS. 2 credits**

Prerequisites, 266, 426 and permission. Micro-quantitative analytical methods for determination of carbon, hydrogen, nitrogen, sulfur, and halogens in organic substances. Laboratory.

**3150:610 BASIC QUANTUM CHEMISTRY. 2 credits**

Prerequisite, 314. A discussion of quantum mechanics with applications to molecular systems. Topics include angular momentum, molecular hamiltonians, variation and perturbation methods, and molecular orbital theories.

**3150:611 CHEMICAL BONDING AND SPECTROSCOPY. 2 credits**

Prerequisite, 610. Application of quantum chemistry to the elucidation of chemical bonding, structure, and the interpretation of molecular spectra.

**3150:613 SYNTHETIC METHODS OF ORGANIC CHEMISTRY. 2 credits**

Prerequisite, 264. A discussion of synthetic organic chemistry. Standard syntheses of organic compounds as well as newer techniques.

**3150:621-622 ADVANCED PREPARATIONS I, II.**

1-2 credit each

Prerequisite, permission. Methods for preparing and purifying organic and inorganic compounds. Laboratory.

**3150:625 COLLOID CHEMISTRY. 2 credits**

Prerequisites, 424, 426. A thermodynamic and kinetic approach to interfacial, electrokinetic, and colligative phenomena. Application of Schlieren optics. Debye double layer concept and colloid stability. Micelles. Adsorption and related phenomena.

**3150:629-630 THEORETICAL INORGANIC CHEMISTRY. 2 credits each**

Sequential. Prerequisites, 314, 472 or permission. Detailed treatment of the chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics and mechanism, magnetism, electronic spectra, molecular orbital theory.

**3150:635 THERMODYNAMICS, STATISTICAL THERMODYNAMICS, AND KINETICS I 2 credits**

Prerequisites, 313, 314. A rigorous treatment of the laws of thermodynamics and their application to selected chemical systems (gases, solutions, and surfaces). The fundamentals of statistical thermodynamics.

**3150:636 THERMODYNAMICS, STATISTICAL THERMODYNAMICS, AND KINETICS II. 2 credits**

Prerequisite, 635. Applications of statistical thermodynamics to chemical systems in equilibrium. Theories of Rate Processes. Fundamentals of chemical kinetics: methods of investigation and interpretation of data.

**3150:638-639 ADVANCED PHYSICAL CHEMISTRY LABORATORY I, II. 1 credit each**

Prerequisite, permission. Laboratory experiments in physical chemistry.

**3150:649 CHEMISTRY OF ELASTOMERS. 2 credits**

Prerequisites, 264, 266 or permission. A study of the molecular structure and chemical reaction and properties of natural and synthetic rubbers, polymerization processes in the formation of the synthetic elastomers.

**3150:651-652 QUANTUM CHEMISTRY I, II. 3 credits each**

Sequential. Prerequisite, 3450:236, or permission. Wave mechanics: exactly soluble problems and approximation methods in many-particle systems; structure, properties, symmetry and spectroscopy of molecules; self-consistent field techniques.

**3150:660 BIO-ORGANIC REACTIONS. 2 credits**

Prerequisites, 264, 313, 314, 402 or permission. Bio-organic mechanisms, including nucleophilic displacements on carbonyl and phosphorus; hydration and redox reactions; chemistry of cofactors; enzyme catalysis and models.

**3150:665 BIOENERGETICS. 2 credits**

Prerequisites, 313, 314, 402 or permission. Energy production and utilization in living systems including historical aspects, thermodynamics, glycolysis, phosphorylation, citric acid cycle, respiratory chain, electron transport, metabolic control, active transport and muscle contraction.

**3150:667 ADVANCED BIOCHEMISTRY TECHNIQUES. 2 credits**

Prerequisites, 402, 405, 426 or permission. An advanced analytical course in Biochemistry laboratory; purification and characterization of DNA, RNA and chromatin; study of metabolic pathways in bacteria using advanced biochemistry techniques.

**3150:670 CHEMICAL MICROSCOPY AND MICRO CHEMICAL ANALYSIS. 2 credits**

Prerequisite, 426 and permission. Microscale titrations and physical measurements, phase studies, identifications, microchemical procedures.

**3150:671 THERMOANALYTICAL TECHNIQUES 2 credits**

Prerequisite, Permission. The methods of differential thermal analysis, thermogravimetry and related techniques and methods of programming, recording, data treatment and effects of atmosphere and sample parameters are described with applications.

**3150:672 ADVANCED ANALYTICAL CHEMISTRY 2 credits**

Prerequisite, 426 or equivalent. Two lectures, two laboratory periods. Advanced techniques for separation, determination and identification. classical as well as recent techniques.

**3150:673 STEREOCHEMISTRY OF ORGANIC COMPOUNDS 2 credits**

Prerequisite, 264. Stereochemistry and its application to reactions of organic chemistry.

**3150:674-675 PHYSICAL CHEMISTRY OF POLYMERS I, II 2 credits each**

Sequential. Prerequisite, 314 or Permission of instructor. Basic statistical ideas. Molecular weights, distributions, sizes and shapes. Kinetics and mechanism of polymerization. Copolymerization. Degradation. Thermodynamics of polymer solutions.

**3150:685-686 EXPERIMENTAL PHYSICAL CHEMISTRY OF POLYMERS I, II 2 credits for 685; 2-3 credits for 686**

Sequential. Prerequisite or corequisite, 674, 675, respectively. Laboratory experiments to illustrate methods and principles discussed in 674 and 675.

**3150:688 ADVANCED CHEMICAL THERMODYNAMICS 2 credits**

Prerequisite, 636. Thermodynamics of solutions, fluctuation theory, generalized thermodynamic potential, irreversible thermodynamics.

**3150:691 ADVANCED INSTRUMENTAL ANALYSIS 2 credits**

Prerequisite, 416/516. Modern instruments.

**3150:692 ADVANCED INSTRUMENTATION 2 credits**

Prerequisites, 316,426. Theory and application of instrumental measurements. Interpretation of data.

**3150:699 MASTER'S RESEARCH CHEMISTRY 1-6 credits**

For properly qualified candidates for Master's degree. Supervised original research in analytical, inorganic, organic, physical, or biochemistry.

**3150:710 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY 1-2 credits**

(May be repeated). Prerequisite, permission. Topics in advanced analytical chemistry. Electronanalysis, activation analysis, atomic absorption spectrometry, mass spectrometry, liquid-liquid, liquid-solid, and gas chromatography, ion exchange, thermoanalytical methods, separation standard, sampling recent developments.

**3150:711 SPECIAL TOPICS IN INORGANIC CHEMISTRY. 1-2 credits**

(May be repeated). Prerequisite, permission. A consideration of topics in modern inorganic chemistry, such as: Coordination compounds, the chemistry of the solid state, representative elements, non-aqueous solvents, organometallic compounds, homogeneous catalysis.

**3150:712 SPECIAL TOPICS IN ORGANIC CHEMISTRY 1-2 credits**

(May be repeated). Prerequisite, permission. Topics in advanced organic chemistry such as natural products, heterocyclic compounds, photochemistry.

**3150:713 SPECIAL TOPICS IN PHYSICAL CHEMISTRY. 1-2 credits**

(May be repeated). Prerequisite, permission. subject matter from the areas of modern physical chemistry.

**3150:714 SPECIAL TOPICS IN POLYMER CHEMISTRY. 1-2 credits**

(May be repeated) Lectures and/or laboratory. Prerequisites, 264, 266, 314, 316 or permission. Study of topical subjects of current interest. Chemistry of macromolecules, encompassing organic, inorganic or physical chemistry aspects, and including laboratory work where applicable.

**3150:715 SPECIAL TOPICS IN BIOCHEMISTRY 1-2 credits**

(May be repeated.) A consideration of topics in biochemistry such as: isoenzymes and disease, genetic engineering, membrane structure and functions, and recent developments in the field.

**3150:785-784 PHYSICAL ORGANIC CHEMISTRY I, II 3 credits each**

Prerequisites, 264 and 314 completed recently, or instructor's permission. Corequisite for 783: 610. Consideration of physical-chemical principles that determine the course of an organic chemical reaction; discussion of reactive intermediates.

**3150:786 THEORETICAL ORGANIC CHEMISTRY 2 credits**

Prerequisite, 784. The application of modern quantum chemistry and thermodynamics to problems of organic chemistry.

**3150:899 DOCTORAL RESEARCH CHEMISTRY 1-16 credits**

Open to properly qualified students accepted as candidates for the degree of Doctor of Philosophy in Chemistry. supervised original research may be undertaken in organic, inorganic, physical, analytical, or biochemistry.

**3200: CLASSICS****3200:161-162 COMPARATIVE LITERATURE**

3 credits each  
Major writers of Greece and Rome; their influence on later European literature. No foreign language necessary. Required of majors.

**3200:189 CLASSICAL MYTHOLOGY 3 credits**

Myths, legends and folklore of Greece and Rome; some attention to the history of religion. No foreign language necessary.

**3200:313-314 CLASSICAL ARCHAEOLOGY**

3 credits each  
The ruins and monuments of Greece and Rome; history reconstructed by examination of the material remains. No foreign language necessary. Required of majors.

**3200:401-402/501-502 EGYPTOLOGY 3 credits each**

Prerequisite: permission of instructor. Classical Egyptian (standard hieroglyphic of the 18th Dynasty); the history and antiquities of Egypt as far as the Roman occupation.

**3200:404-405/504-505 ASSYRIOLOGY 3 credits each**

Prerequisite: permission of instructor. The Akkadian language; history and antiquities of Mesopotamia. May be repeated for credit with another cuneiform language.

**3200:407-408/507-508 ANCIENT NEAR EASTERN ARCHAEOLOGY 3 credits each**

Prerequisite: permission of instructor. Palestine, Mesopotamia, Asia Minor and adjacent lands; the Old Testament reviewed in the light of material evidence. May be repeated for credit with change of subject.

**3210: GREEK**

**3210:121-122 ELEMENTARY GREEK 4 credits each**  
Sequential. The standard language of Hellenistic times with some attention to Modern Greek.

**3210:223-224 SECOND YEAR GREEK 3 credits each**  
Prerequisite: 121-122 or equivalent. Xenophon or New Testament.

**3210:497-498/597-598 GREEK READING AND RESEARCH 3 credits each**

Prerequisite: permission of instructor. Homer, Sophocles, Plato or the like. May be repeated for credit with change of subject.

**3220: LATIN**

**3220:121-122 ELEMENTARY LATIN 4 credits each**  
Sequential. Some attention to the development of the Romance languages, especially Italian.

**3220:243-244 SECOND YEAR LATIN 3 credits each**  
Prerequisite: 121-122 or equivalent. Selections from Virgil, Pliny, Nepos, or other material

**3220:303-304 ADVANCED LATIN 3 credits each**  
Prerequisite: 243-244 or equivalent. Sequence by semesters: Satirists, Dramatists, Historians, Philosophical and Religious Writers, Mediaeval Writers, Lyric and Elegiac Poets, Novelists. May be repeated for credit with change of subject.

**3220: 497-498/597 598 LATIN READING AND RESEARCH 3 credits each**

Prerequisite: permission of instructor. Generally Latin Epigraphy, Prose Composition, or Philology; Numismatics or certain other archaeological topics may be offered. May be repeated for credit with change of subject.

**3250: ECONOMICS**

**3250:100 INTRODUCTION TO ECONOMICS 3 credits**  
May not be substituted for 201, 202, 244. In this course economics will be primarily considered in a broad social science context. Adequate amount of basic theory will be introduced.

**• 3250:201-202 PRINCIPLES OF ECONOMICS**

3 credits each  
Sequential. 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 244.

**3250:244 INTRODUCTION TO ECONOMIC ANALYSIS 3 credits**

For engineering majors. Intensive introduction to the analysis of modern industrial society and the formulation of economic policy. The structure of economic theory and its relation to economic reality. (No credit for persons having completed 201, 202).

**3250:248 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.

**3250:330 LABOR PROBLEMS 3 credits**

Prerequisite, 202. Labor economics, principles, and public policy. Study of the structure of the labor market and the impact unions have on labor management relations.

**3250:333 LABOR ECONOMICS 3 credits**

Prerequisite, 330. Theoretical tools used in the analysis of the problems of labor in any modern economic system. Emphasis is given to the examination of the determinants of the demand for and the supply of labor.

**3250:360 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY 3 credits**

Prerequisite, 201-202. The role of industrial structure and firm conduct in the performance of industry and the way in which antitrust policy is designed to provide remedies where performance is unsatisfactory.

**3250:380 MONEY AND BANKING 3 credits**

Prerequisite, 202. Institutions of money, banking and credit, monetary expansion and contraction, public policies affecting this process, development of our money and banking system.

**3250:385 ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT 3 credits**

Prerequisites, 100, 202, 244 or permission. An introduction to the economic analysis of the use of natural resources and economics of the environment. Problems of water and air pollution, natural environments, natural resource scarcity, conservation, economic growth.

**3250:400 MACRO-ECONOMICS 3 credits**

Prerequisite, 201, 202; recommended 6500:348-49. Changes in the national income, production, employment, price levels, long-range economic growth, short-term fluctuations of economic activity.

**3250:405 PUBLIC FINANCE. 3 credits**

Prerequisite, 201,202. 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.

**3250:410 MICRO-ECONOMICS 3 credits**

Prerequisite, 201, 202. Advanced analysis of consumer demand, production costs, market structures, determinants of factor income.

**3250:420/520 MATHEMATICAL ECONOMICS I 3 credits**

Prerequisites: 201, 3450:140, 195 or permission. Mathematical treatment of economic theory in the framework of comparative statics. Emphasis will be placed on the theory of the firm, theory of consumer behavior, general equilibrium analysis and welfare analysis.

**3250:421/521 MATHEMATICAL ECONOMICS II 3 credits**

Prerequisites, 420 or permission. Use of calculus and linear algebra to dynamic economic analysis; solution techniques; and some significant dynamic models from the literature.

**3250:426/526 STATISTICAL APPLICATIONS IN ECONOMICS 3 credits**

Prerequisites, 201, 202, 6500:348-49, or permission. The techniques of making forecasts as basis for decisions in business and government as well as for the verification of hypotheses.

**3250:431/531 LABOR AND THE GOVERNMENT 3 credits**

Prerequisites, 201, 202, 330. 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 post-war periods.

**3250:432 THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING 3 credits**

Prerequisites, 201, 202, 330. Principles and organiza-

tion of collective bargaining, collective bargaining agreements, issues presented in labor disputes and settlements, union status and security, wage scales, technological change, production standards, etc.

**3250:440/540 SPECIAL TOPICS IN ECONOMICS 3 credits**

Prerequisite, permission. Opportunity for students to study special topics and current issues in economics.

**3250:450 COMPARATIVE ECONOMIC SYSTEMS 3 credits**

Prerequisite, 201, 202. Systems of economic organization, ranging from the theoretical extreme of unregulated private enterprise to that of Marxian communism.

**3250:460/560 ECONOMIC DEVELOPMENT AND PLANNING FOR UNDERDEVELOPED COUNTRIES 3 credits**

Prerequisite, 201, 202, 6500:348-49. Basic problems in economic development. Theories of development. Government planning for development. Trade and development of underdeveloped countries. No credit for graduate majors in economics.

**3250:461 PRINCIPLES OF INTERNATIONAL ECONOMICS 3 credits**

Prerequisite, 201, 202. Theory of international trade and foreign exchange, policies of free and controlled trade, international monetary problems.

**3250:475/575 DEVELOPMENT OF ECONOMIC THOUGHT 3 credits**

Prerequisite, 201, 202. Evolution of theory and method, relation of ideas of economists to contemporary conditions.

**3250:481/581 MONETARY AND BANKING POLICY 3 credits**

Prerequisites, 380, 400. Control over currency and credit, policies of control by central banks and governments, U.S. Treasury and Federal Reserve System.

**3250:486 GHETTO ECONOMIC DEVELOPMENT 3 credits**

Prerequisite, 201, 202. This course will stress careful study of the question of economic planning and development at the urban level, in response to the pervasive phenomena of urban ghetto structures.

**3250:487 URBAN ECONOMICS: THEORY AND POLICY 3 credits**

Prerequisite, 410. Theoretical and empirical analyses of allocation, growth, and structure in the urban economy. Urban problems. Special attention will be given to resource allocation in the urban public sector.

**GRADUATE COURSES****3250:600. FOUNDATIONS OF ECONOMIC ANALYSIS. 3 credits**

Prerequisite, graduate standing. Determination of national income, employment and price level; aggregate consumption, investment, and asset holding; also, decision problems faced by the household and the firm. Partial equilibrium analysis of competition and monopoly and general equilibrium analysis. May not be substituted for 602, 603, 611 or toward the 30 hours of graduate credit required for M.A. in Economics.

**3250:602. MACRO-ECONOMIC ANALYSIS I 3 credits**  
The construction of static macro-economic models. The analysis is predominantly in terms of comparative statics with only relatively brief mention of dynamic models.

**3250:603. MACRO-ECONOMIC ANALYSIS II 3 credits**  
Prerequisite, 602. Macrodynamics economics and stabil-

ity analysis of the closed and open Keynesian system. Inclusive coverage of the post-Keynesian theories of economic growth.

**3250:606 PUBLIC FINANCE 3 credits**

An examination of public sector economies, with an emphasis on public revenues and public expenditures. Develops the objectives of taxation, welfare aspects of the public sector, and the theory of public goods. Considers specific taxes, cost-benefit analysis, expenditures analysis and fiscal federalism.

**3250:611 MICROECONOMIC THEORY I. 3 credits**

Modern theory of consumer behavior and of the firm. Determination of market prices. Optimization models, establishment of criteria for productive, allocative, and distributive efficiency.

**3250:612 MICROECONOMIC THEORY II. 3 credits**

Prerequisite, 611. This course is a continuation of Microeconomics I, and will cover multimarket equilibrium, general equilibrium, and welfare economic theory, and applications in public choice and applied welfare theory.

**3250:615 INDUSTRIAL ORGANIZATION 3 credits**

Examines link between market structure, firm conduct, and economic performance. Measurement and effects of monopoly power, industrial concentration, and their changes over time.

**3250:616 ANTITRUST AND REGULATION 3 credits**

Prerequisite, 611 and 615 recommended or consent of instructor. Antitrust policy, public utility regulation, and regulation by independent commission. Government policy with respect to such problems as conspiracy, monopolization, restraints of trade, price discrimination, rate regulation, and the economic appraisal of policy alternatives.

**3250:627 ECONOMETRICS 3 credits**

Prerequisite, 526 or equivalent. Formulation of functional relations among economic variables suitable for statistical estimation from observational data and construction of multiequation econometric models and methods of estimation.

**3250:633 THEORY OF WAGES AND EMPLOYMENT**

**3 credits**  
Analytical approach to the integration of economic theory with observed labor market phenomena. Discussion of wage and employment theories, effects of unions, collective bargaining theories, and the effects of government regulation.

**3250:634 COLLECTIVE BARGAINING 3 credits**

The economic issues and implications involved in hours of work, employment and unemployment, and the impact of trade unions upon the basic institutions of a free private enterprise economy.

**3250:635 LABOR LAW 3 credits**

The evaluation of labor relations laws. Public policy affecting both public and private worker organizations, collective bargaining, strikes, and picketing.

**3250:664 SEMINAR ON ECONOMIC GROWTH AND DEVELOPMENT 3 credits**

Main theories of economic growth since the age of classical economics are reviewed. Problems in the development of emerging countries. Aggregative macro models of capital formation, investment, technology and external trade are discussed.

**3250:665 SEMINAR ON ECONOMIC PLANNING**

**3 credits**  
Types, methods, and applications of planning. Planning for growth. Application of Input-Output, linear programming, computer simulations, and other statistical and mathematical methods in planometrics.

**3250:666 SEMINAR ON REGIONAL ECONOMIC ANALYSIS AND DEVELOPMENT 3 credits**

The study of a particular national or international regional development. Any one or a combination of the following regions may be considered. The Middle East, North Africa, areas within Latin America, Southern Europe, South East Asia or Eastern Europe.

**3250:670 INTERNATIONAL MONETARY ECONOMICS 3 credits**

International financial relations. The foreign exchange market and exchange rate adjustments. Balance of payments adjustment policies. The international monetary system.

**3250:671 INTERNATIONAL TRADE 3 credits**

The traditional trade theory. Recent developments in trade theory and their policy implications in trade relations among developed and developing economics.

**3250:683 MONETARY ECONOMICS 3 credits**

An intensive study of the important areas of Monetary Theory. Emphasis will be placed on the integration of money and value theory among other areas, plus some pressing policy issues.

**3250:697-698 READING IN ADVANCED ECONOMICS**

**1-4 credits each**

(A maximum of 6 credits may be applied toward the master's degree in economics.) Intensive investigation of selected problem area in advanced economics under supervision of the instructor. Since the subject matter is decided upon in each case, the course may be taken repeatedly for credit.

**3250:699 RESEARCH AND THESIS 3 credits**

May be retaken for credits up to 6 hours.

## 3300: ENGLISH

**3300:150-155 FRESHMAN ENGLISH. 4 credits each**

A sequence of courses in Freshman English with special emphasis on writing. The sequence, taken by special arrangement, will count in lieu of the General College requirements, 1100:111-112.

**3300:219 ENGLISH LITERATURE. 4 credits**

Readings in major and minor writers in English Literature from Old English to 1660, emphasizing specific representative works and the cultural and intellectual backgrounds which produced them.

**3300:220 ENGLISH LITERATURE 4 credits**

Readings in major and minor writers from 1660 to the present, emphasizing cultural backgrounds which produced them.

**3300:249 REPRESENTATIVE AMERICAN WRITERS BEFORE 1865 3 credits**

The study of major American writers to 1865 including selected readings in Cooper, Poe, Emerson, Thoreau, Hawthorne, Melville, and Whitman.

**3300:250 REPRESENTATIVE AMERICAN WRITERS 1865 TO PRESENT 3 credits**

The development of American literature from 1865 to the present, including readings in Twain, James, Dickinson, Crane, Dreiser, Hemingway, Fitzgerald, Frost, and Faulkner.

**3300:270 INTRODUCTION TO LINGUISTICS 3 credits**

A broad range of topics on language and an introduction to its scientific study. Topics include: language origins and history, dialects, sound-systems, syntax, semantics, animal language, writing systems, language universals.

**3300:275 SPECIALIZED WRITING 3 credits**

Principles and practice of style, structure and purpose in writing, with special applications to the writing demands of a specific career area. May be repeated for different topics, with permission.

**3300:277 INTRODUCTION TO POETRY WRITING 3 credits**

Practice in writing poems. Study of various techniques in poetry, using contemporary poems as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.

**3300:278 INTRODUCTION TO FICTION WRITING 3 credits**

Practice in writing short stories. Study of various techniques in fiction, using contemporary stories as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.

**3300:279 INTRODUCTION TO SCRIPT WRITING 3 credits**

Practice in writing scripts. The study of various techniques in script writing, using contemporary models for study. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.

**3300:280 APPRECIATION OF POETRY 3 credits**

Close reading of a wide selection of British and American poems with emphasis on Dramatic Situation, Description, Tone, Analogical Language, Theme and Meaning.

**3300:281 FICTION APPRECIATION 2 credits**

The course will focus on some modern masters of the short story and novel: Conrad, Faulkner, Joyce, Lawrence, Malamud, Bellow, and Barth, approaching fiction as experience and as art.

**3300:282. DRAMA APPRECIATION 2 credits**

The course explores dramatic material in terms of theme, characterization, and style. Offered either as a text course or as film appreciation. Both may be taken for separate credit.

**3300:289. STUDIES IN LITERATURE 3 credits**

Concentrated, in-depth study of thematically-grouped fiction, drama, poetry and/or exposition. May be repeated for credit, with permission, as different topics are offered, but not for credit toward an English major.

**3300:315 SHAKESPEARE: THE EARLY PLAYS 3 credits**

An introduction to the early drama of Shakespeare with a close reading of 8 to 10 plays including tragedies, histories and comedies. The course will include explanatory lectures of both the plays and their backgrounds.

**3300:316 SHAKESPEARE: THE MATURE PLAYS 3 credits**

A study of eight to ten of Shakespeare's plays after 1598, beginning with the mature comedies. Concentration on the major tragedies and the romances.

**3300:319. ENGLISH DRAMA TO 1642 3 credits**

The development of non-Shakespearean drama from the earliest Mystery plays to the death of Queen Elizabeth, 1603.

**3300:320. ENGLISH DRAMA: 1600-1800 3 credits**

A study of major dramatic works from the reopening of the English theatre in 1660 to the end of the eighteenth century.

**3300:329 THE ENGLISH NOVEL BEFORE 1830 3 credits**

The development of the English novel before 1830. The course will focus on the works of Defoe, Richardson, Fielding, Smollett, Sterne, Austen, and Scott.

**3300:330 THE ENGLISH NOVEL: 1830-1900 3 credits**

At least five major novels of the Victorian era, of varying length, are read, by Emily Bronte, Dickens, Eliot, Thackeray, and Hardy. Characterization, theme, and attitude toward life are emphasized.

**3300:350 BLACK AMERICAN LITERATURE 3 credits**

A survey of representative Black American writers from the nineteenth century to the present, with particular attention to historical and social backgrounds.

**3300:360 THE OLD TESTAMENT AS LITERATURE 3 credits**

The history of the Hebrews to 586 B.C., as revealed through epic, fiction, saga and poetry, will be viewed against the background of the Oriental World.

**3300:361 THE NEW TESTAMENT AND APOCRYPHA AS LITERATURE 3 credits**

These two bodies of literature are read with emphasis upon the form of gospel and epistle, and the concept of apocalypse. Both are viewed against their historical and social backgrounds.

**3300: 365 CONTINENTAL DRAMA 3 credits**

A study of masterpieces of European drama emphasizing the evolution of dramatic forms, styles, and subjects from Greek, Roman, Italian, Spanish, French, German, Scandinavian, and Russian Playwrights.

**3300:366 EUROPEAN BACKGROUNDS OF ENGLISH LITERATURE 3 credits**

Representative French, German, Italian, and Spanish works from the Middle Ages, the Renaissance, the Enlightenment, and the Romantic Period, read in translation.

**3300:367 MODERN EUROPEAN LITERATURE 3 credits**

Representative European writers from about 1850 to the present, in translation, the course will focus on the fiction of such writers as Zola, Tolstoy, Dostoyevsky, Mann, Proust, Kafka, and Solzhenitsyn.

**3300:370 INTERMEDIATE LINGUISTICS 3 credits**

Prerequisite: 270 or permission. In-depth scientific look at language structure, especially the relation of sentences and their meanings. The variety of the English language's methods for constructing complex sentences from simple ideas is investigated.

**3300:377 ADVANCED POETRY WRITING 3 credits**

Prerequisite: 277 or permission. Advanced practice in writing poems, with an emphasis on shaping publishable works. Survey of poetry market. Class discussion of student poems; individual conference with instructor.

**3300:378 ADVANCED FICTION WRITING 3 credits**

Prerequisite: 278 or permission. Advanced practice in writing short stories, with an emphasis on shaping publishable works. Survey of fiction market. Class discussion of student stories; individual conferences with instructor.

**3300:389 SPECIAL TOPICS IN LITERATURE AND LANGUAGES 3 credits**

Prerequisite: 110 or 112. Traditional and non-traditional topics in English literature and language, supplementing courses listed in the University Bulletin, generally constructed around theme, genre, and language study. The

course may be repeated for credit as different topics are offered.

**3300:400/500 ANGLO SAXON 3 credits**

Studies in old English Language and Old English prose and poetry, including Beowulf.

**3300:406/506 CHAUCER 3 credits**

A close study of Chaucer's major works — *The Canterbury Tales* and *Troilus and Criseyde* in Middle English.

**3300:407/507 MIDDLE ENGLISH LITERATURE 3 credits**

A study of genres, topics, styles, and writers of Middle English literary works from the 12th to 15th century. Readings in Middle English.

**3300: 410/510 16th CENTURY LITERATURE 3 credits**

Prose and poetry from the early tudor period to the later Elizabethan period, excluding drama. The literature will be studied in the context of the general intellectual and artistic movements of the age.

**3300: 417/517 17th CENTURY LITERATURE 3 credits**

An overview of major authors of the earlier seventeenth century, especially Bacon, Donne, Bunyan, Jonson, and several fiction writers. The course involves genre study, historical and cultural perspectives, and new Critical analysis.

**3300: 418/518 MILTON 3 credits**

Emphasis is placed upon Milton's major poems and prose works: *Paradise Lost*, *Paradise Regained*, *Areopagitica*, the divorce tracts, and the poems of the 1645 edition. Students become acquainted with Milton the man and Milton the artist.

**3300:420/520 THE EIGHTEENTH CENTURY 3 credits**

The first half of this course examines satire as a major mode in the work of Butler, Dryden, Pope, Swift among others. The second half emphasizes Johnson and Boswell.

**3300: 425/525 LITERATURE OF THE ROMANTIC PERIOD 3 credits**

The literary, philosophical, psychological, and social revolutions of the Romantic Period as reflected in the works of such major writers as Wordsworth, Byron, and Keats.

**3300:430/530 LITERATURE OF THE VICTORIAN PERIOD 3 credits**

The poetry and prose of the later nineteenth century excluding fiction, with attention to Tennyson, Browning, Arnold, Carlyle, Ruskin, and other major writers.

**3300:435/535 TWENTIETH CENTURY BRITISH POETRY 3 credits**

A concentrated study of the major poems of Yeats, Eliot and Auden, with attention also to Hardy, Housman, Spender, C. Day Lewis, Dylan Thomas, and others.

**3300:437/537 BRITISH FICTION SINCE 1925 3 credits**

A study of important British novelists since 1925, excluding Lawrence, Joyce and Woolf. Attention also to the development of the British short story from 1925 to the present.

**3300:439/539 MODERN BRITISH & IRISH DRAMA 3 credits**

A study of the major British dramatists, principally those post-World War II. Shaw, Galsworthy, O'Casey; Osborne, Arden, Pinter — these are the focal figures.

**3300:447/547 AMERICAN NON-FICTION 3 credits**

A study of non-fictional writing including the journals, notebooks, auto-biographical writings, biographies, and essays of major American Writers.

**3300:448/548 AMERICAN FICTION: TO 1885 3 credits**  
An examination of early American fiction, tracing its genesis, its romantic period, and its germinal movements toward realism. Writers discussed include Cooper, Poe, Hawthorne, Melville and Twain.

**3300:449/549 AMERICAN FICTION: 1885-1918 3 credits**

An examination of American writers of realistic and naturalistic fiction (e.g., Howells, James, Crane, Dreiser), tracing developments in American fiction against the background of cultural and historical change.

**3300:450/550 AMERICAN FICTION SINCE 1918 3 credits**

A study of significant American short and long fiction from Sherwood Anderson to Kurt Vonnegut.

**3300:452/552 AMERICAN POETRY 3 credits**

A survey of American poetry from the beginning to the present time.

**3300:454/554 TWENTIETH CENTURY AMERICAN DRAMA 3 credits**

An examination of the major, established playwrights and a sampling of the new and rising ones. Includes O'Neill, Miller, Williams, Albee and Rabe.

**3300:470/570 HISTORY OF ENGLISH LANGUAGE 3 credits**

The development of the English language from its beginnings: The sources of its vocabulary, its sounds, its rules; semantic change; political and social influences on changes; dialect origins; correctness.

**3300:475/575 THEORY OF RHETORIC 2 credits**

Ancient and modern theories of rhetoric, with attention to the classical oration, the "topics" of rhetoric, and their application to the teaching of English.

**3300:480 HONORS IN ENGLISH 2 credits**

Prerequisite: Senior standing and permission. Directed studies in individual and group sessions to encourage independent reading and thought, based on a series of readings arranged by the instructor.

**3300:481 HONORS IN ENGLISH 2 credits**

Prerequisite: Senior standing and permission. Curriculum as above. 480 and 481 may be taken once each.

**3300:489/589 SEMINAR IN ENGLISH 2-3 credits**

Special studies, and methods of literary research, in selected areas of English and American Literature and Language. May be repeated with different topics.

**3300:490/590 WORKSHOP IN ENGLISH 1-3 credits**

Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for elective credit only. May be repeated on different topics.

## GRADUATE COURSES

**3300:615 SHAKESPEAREAN DRAMA 3 credits**

A concentrated study of several Shakespearean plays with emphasis upon historical, critical and dramatic documents pertinent to the development of Shakespeare's art.

**3300:616 SHAKESPEARE'S CONTEMPORARIES IN ENGLISH DRAMA 3 credits**

Readings in such playwrights as Lyly, Greene, Marlowe, Jonson, Beaumont, Fletcher, Webster, Middleton and Ford and in contemporary writings relevant to the theory and practice of drama.

**3300:627 KEATS AND HIS CONTEMPORARIES 3 credits**

The writings of John Keats, studied against the background of romantic poetic theory and the poetry of Keats' contemporaries.

**3300:632 VICTORIAN POETS 3 credits**

A study of major poems of Tennyson, Browning, Arnold and Hopkins, in light of Victorian intellectual currents and theories of poetry. Brief attention to Swinburne, D. G. Rossetti and later Victorian poets.

**3300:639 THEORY AND PRACTICE OF MODERN POETRY 3 credits**

A study of modern prosody, critical theories of modern poetry, and the relation between a writer's theory and his practice, with particular attention to Frost, Stevens, Yeats and Eliot.

**3300:645 AMERICAN ROMANTIC FICTION 3 credits**

An intensive exploration of American romantic fiction, focusing especially on the writings of Poe, Hawthorne, and Melville.

**3300:649 REALISM AND NATURALISM IN AMERICAN FICTION 3 credits**

Analysis of the relevant works of J.W. DeForest, Stephen Crane, Theodore Dreiser, Harold Frederic, W.D. Howells, Frank Norris, and selected writers of local color and native honor.

**3300:665 LITERARY CRITICISM. 3 credits**

An inquiry into the nature and value of literature and the problems of practical criticism as represented in major statements of ancient and modern critics.

**3300:670 MODERN LINGUISTICS. 3 credits**

Introductory examination of methods and results of modern grammatical research in syntax, semantics, phonology, and dialects. Goals include understanding of language variation and background preparation for linguistic studies of literature.

**3300:679 SCHOLARLY WRITING. 2 credits**

A study of theories of good and bad writing styles and the forms of scholarly writing; with special attention to thesis and dissertation writing and the scholarly essay, and to the special requirement of journal articles. Class discussion and demonstration, drawn from scholarly and dissertation writing and from the students' own writing.

**3300:689 SEMINAR IN ENGLISH. 2-3 credits**

Special topics within the general field of literature and language, usually focusing on major figures or themes. Can be repeated as different topics are offered.

**3300:691 BIBLIOGRAPHY AND LITERARY RESEARCH. 2 credits**

Examines choosing research topics, typical problems in literary scholarship, abstracting of scholarly material, and bibliographic sources for literary research. Bibliographic exercises are done and models of literary scholarship read.

**3300:698 INDIVIDUAL READING IN ENGLISH. 1-2 credits**

Individual study under the guidance of a professor who will direct and coordinate the student's reading and research.

**3300:699 RESEARCH ENGLISH: THESIS. 3 credits**

Original work in the field of literature and language and the completion of the graduate student's required thesis.

## 3350: GEOGRAPHY

**3350:100 INTRODUCTION TO GEOGRAPHY 3 credits**  
Analysis of world patterns of population characteris-

tics, economic activities, settlement features, landforms, and climate as an interrelated complex.

**3350:210 PHYSICAL AND ENVIRONMENTAL GEOGRAPHY 3 credits**

Landforms, weather and climate, soils and vegetation, and natural hazards. The nature and distribution of these environmental elements and their significance to man. Laboratory.

**3350:220 ECONOMIC GEOGRAPHY 3 credits**

The geographical basis for production, exchange, and consumption of goods. The effect of economic patterns on man's cultural and political relationships.

**3350:230 RURAL AND URBAN SETTLEMENT 3 credits**

The origin, function and rationale of settlements. Includes analysis of rural settlement landscape as well as fundamentals of urban geography.

**3350:240 MAPS AND MAP READING 3 credits**

Interpretation and use of various map materials. Study of basic map elements, symbolism, and methods of creating maps. Historical aspects associated with these developments also considered. Laboratory.

**3350:314 CLIMATOLOGY 3 credits**

Prerequisite: 210 or permission. Analysis and classification of climates, with emphasis on regional distribution. Basic techniques in handling climatic data.

**3350:326 ENERGY AND ECOLOGY 3 credits**

Prerequisite: 220 or permission. The traditional fossil fuels and recently developed alternative sources of energy are studied along with electricity production. Production and consumption patterns, effects of conservation and environmental damage, and energy policy are considered.

**3350:335 RECREATION RESOURCE PLANNING 3 credits**

Prerequisite: 230 or permission. The effect of the physical and economic environment on recreational patterns. Case studies of important recreational activities and areas in which tourism contributes significantly to the area economy.

**3350:340 CARTOGRAPHY 3 credits**

Use of graphic/cartographic principles and techniques as a means of presenting information.

**3350:350 ANGLO AMERICA 3 credits**

Prerequisite: 100 or permission. A regional and topical study of the U.S. and Canada, with emphasis on environmental, economic, and cultural patterns and their interrelationships.

**3350:353 LATIN AMERICA 3 credits**

Prerequisite: 100 or permission. An analysis of the relationship of cultural and economic patterns to physical environment in Mexico, Central America, the Caribbean, and South America.

**3350:356 EUROPE 3 credits**

Prerequisite: 100 or permission. Regional and topical analysis of cultural, economic, and environmental patterns, excluding the U.S.S.R.

**3350:358 U.S.S.R. 3 credits**

Prerequisite: 100 or permission. Regional and topical analysis of cultural, economic, and environmental patterns, with comparison to other major world regions.

**3350:360 ASIA 3 credits**

Prerequisite: 100 or permission. Environmental, cultural, and economic geography of East, Southeast, South Asia, and the Middle East with emphasis on the contemporary.

**3350:363 AFRICA SOUTH OF THE SAHARA 3 credits**  
Prerequisite: 100 or permission. Environmental and human bases of regional contrasts. Emphasis on tropical environmental systems and changing patterns of resource utilization.

**3350:385 PLANNING SEMINAR 1 credit**  
Prerequisite: permission of instructor. Development of planning studies including completion of a paper covering a planning topic in depth. Projects are presented by students and critically analyzed.

**3350:397 SPECIAL PROBLEMS 1-3 credits**  
Prerequisite: permission of instructor. Directed reading and research in special field of interest. May be repeated to a total of five hours.

**3350:428/528 INDUSTRIAL AND COMMERCIAL SITE LOCATION 3 credits**  
Prerequisite: 220 or permission. Relationship between land, resources, population, transportation and the industrial and commercial location process.

**3350:433/533 URBAN, REGIONAL AND RESOURCE PLANNING 3 credits**  
Prerequisite: 230 or permission. The role of geographic investigation in city, regional, and resource planning.

**3350:436/536 URBAN LAND USE ANALYSIS 3 credits**  
Prerequisite: 230 or permission. Land use classification systems and their spatial variation in urban areas. Land use data are collected by students by field workers and analyzed to identify the associations and structure of sub-regions.

**3350:438/538 WORLD METROPOLITAN AREAS 3 credits**  
Prerequisite: 230 or permission. Comparative analysis of selected metropolitan regions of the world. Urbanism, land use, housing, transportation, population, and the role of cities in economic development in different cultures.

**3350:442/542 THEMATIC CARTOGRAPHY 3 credits**  
Prerequisite: 240 or permission. Principles and techniques used in thematic mapping. Stresses use of maps to indicate certain characteristics of classes of information both qualitative and quantitative.

**3350:444/544 MAP COMPILATION AND REPRODUCTION 3 credits**  
Prerequisite: 240 or permission. Production of new/improved maps from existing maps, aerial photographs, surveys, new data, and other sources. Includes special cartographic considerations for photography, lithography, and printing.

**3350:447/547 INTRODUCTION TO REMOTE SENSING 3 credits**  
Prerequisite: 240 or permission. Study of aerial photography and non-photographic imagery developed by radar, thermal, multi-spectral and satellite scanners. Emphasis on use in geographical, geological, biological and engineering research.

**3350:448/548 AUTOMATED COMPUTER MAPPING 3 credits**  
Prerequisite: 240 or permission. Study of computer assisted map compilation and execution. Emphasis is placed upon integration of computer and cartographic skills and techniques. Problems adapted to specialized interests of students.

**3350:449/549 ADVANCED REMOTE SENSING 3 credits**  
Prerequisite: 447/547 or permission. Current research in remote sensing. Applications in the study of man's

cultural and bio-physical environment. Practice in planning, design, execution, and interpretation of remote sensing studies.

**3350:481/581 INTRODUCTION TO GEOGRAPHIC RESEARCH 2 credits**  
Prerequisite: 12 hours of Geography courses. The techniques and source materials used in geographic research. Library resources and techniques of professional writing are stressed.

**3350:483/583 INTRODUCTION TO SPATIAL ANALYSIS 2 credits**  
Prerequisite: 481/581 or permission. Analysis of mapped statistical surfaces (assumptions, properties, appropriate uses). Principles for the use of the map as a model for statistical evidence, prediction, and hypothesis testing.

**3350:490/590 WORKSHOP IN GEOGRAPHY 1-3 credits**  
Group studies of special topics in Geography. May be repeated to a total of six hours.

**3350:495/595 SOIL AND WATER FIELD STUDIES 3 credits**  
Prerequisite: 210 or permission. Properties, origins, and uses of major soil and water regime landscapes. Stresses relationships between soil and the hydrological cycle, urbanization, suburbanization and agriculture. Field trips required.

**3350:496/596 FIELD RESEARCH METHODS 3 credits**  
Prerequisite: 481/581 or permission. Field Work enabling the student to become competent in the collecting, organizing, and analysis of the data while carrying out field research projects.

## GRADUATE COURSES

**3350:600-601-602 SEMINAR 3 credits each**  
Prerequisite: permission. Investigation and analysis of selected topics in particular fields of geography. Specialization indicated by second portion of title. Each may be repeated for a maximum of 6 credits.

**3350:680 ADVANCED SPATIAL ANALYSIS 4 credits**  
Prerequisite: 483/583 or permission. Advanced concepts and methodologies in geographical research. Emphasis on the quantitative revolution in geographical analysis including multivariate procedures as factor, discriminant, and economical analysis, and multidimensional scaling.

**3350:685 PLANNING—FIELD EXPERIENCE 2 credits**  
Prerequisite: permission. Individual experience in selected planning agencies for supervised performance in professional planning work.

**3350:687 HISTORY OF GEOGRAPHIC THOUGHT 3 credits**  
Prerequisite: 481/581 or permission. A critical review of the major developments in geographic concepts from ancient times to the present.

**3350:698 INDIVIDUAL READING AND RESEARCH 1-3 credits**  
Prerequisite: permission of the instructor. Intensive investigation of selected topics under the guidance of a faculty member. May be repeated to a total of five hours.

**3350:699 THESIS RESEARCH 2 credits**  
Prerequisite: permission of Department Head. Supervised original research.

**3370: GEOLOGY****3370:100 EARTH SCIENCE 3 credits**

Introduction to earth science for non-science majors. Survey of the earth in relation to its physical, composition, structure history, atmosphere, oceans, and relation to solar system and universe.

**3370:101 INTRODUCTORY PHYSICAL GEOLOGY 4 credits**

Comprehensive survey of the minerals, rocks, structures, geologic processes of the solid earth. Laboratory.

**3370:102 INTRODUCTORY HISTORICAL GEOLOGY 4 credits**

Prerequisite: 101. Geologic history of the earth and succession of major groups of plants and animals as interpreted from rocks and fossils. Laboratory.

**3370:200 ENVIRONMENTAL GEOLOGY 3 credits**

Analysis of the geologic aspects of man's environment with emphasis on geologic hazards of the environmental impact of society's demand for water, minerals and energy.

**3370:201 EXERCISES IN ENVIRONMENTAL GEOLOGY 1 credit**

Recognition and evaluation of environmental problems related to geologic setting through field and laboratory exercises and demonstrations which apply concepts from Environmental Geology.

**3370:202 GEOLOGY OF THE NATIONAL PARKS 2 credits**

Prerequisites: 100 or 101. The geologic setting of major national parks, interpreted in terms of those geological principles and processes which have shaped them in the past and/or currently affect them, including the rock cycle, evolution of landscapes, and plate tectonics. No laboratory.

**3370:210 GEOMORPHOLOGY 3 credits**

Prerequisites: 101. Landforms of the earth. Emphasis on origins, geologic processes, and distributions. Laboratory.

**3370:230 MINERALOGY 3 credits**

Prerequisites: 101 and 3150:132. Study of morphological crystallography and general mineralogy. Laboratory emphasis on mineral recognition. Concentration will be in either: "A" Crystallography or "B" Physical-Chemical-Descriptive Mineralogy. Student may earn credit for both "A" and "B", a maximum of 6 credits. Laboratory.

**3370:233 PETROLOGY 2 credits**

Prerequisite: 230. Megascopic identification, classification, and concepts of origin of igneous, sedimentary, and metamorphic rocks. Laboratory.

**3370:271 OCEANOGRAPHY 3 credits**

Prerequisite: 101. Introduction to the physical processes, geologic history, and development of marine areas.

**3370:324 SEDIMENTATION AND STRATIGRAPHY 3 credits**

Prerequisite: 102. Introduction to the processes and environments of sedimentation and stratigraphic principles employed in the examination of sedimentary strata. Hand specimens and sequences of sedimentary strata will be studied. Laboratory.

**3370:350 STRUCTURAL GEOLOGY 4 credits**

Prerequisite: 101 or permission. Origins and characteristics of folds, faults, joints, and rock cleavage. Structural features of sedimentary, igneous, and metamorphic rocks. Laboratory.

**3370:360 INTRODUCTORY INVERTEBRATE PALEONTOLOGY 4 credits**

Prerequisite: 102 or permission. An introductory course emphasizing morphology and evolution of the major invertebrate groups with consideration of practical applications of paleontology. Laboratory.

**3370:395 FIELD METHODS IN GEOLOGY 2 credits**

Prerequisites: 101 and 102 or permission. Use of geologic field equipment including Brunton compasses, alidades and plane tables, stereoscopes, and aerial photographs.

**3370:404/504 ASTROGEOLOGY 3 credits**

Prerequisites: 433; 3150:134; 3650:233 or 263 or 269; or permission. Relations of planet earth to the solar system and universe. Analysis and implications of data from lunar and space probes.

**3370:410/510 REGIONAL GEOMORPHOLOGY OF NORTH AMERICA 3 credits**

Prerequisites: 101, 102, 210, or permission. Recommended, 250. Examination of physiographic provinces of North America emphasizing structure, tectonic setting, stratigraphy and processes responsible for landforms in each province. Laboratory.

**3370:411/511 GLACIAL GEOLOGY 2 credits**

Prerequisite: 210 or permission. Causes and effects of the Pleistocene expansion of polar ice masses with emphasis on glacial deposits and world climatic changes.

**3370:425/525 STRATIGRAPHY 3 credits**

Prerequisites or corequisites: 360, 324 or permission. Principles of nomenclature; sedimentary facies; fossils in subdivision of the rock record and correlation; geologic time, time-rock, and rock units. Field studies.

**3370:432/532 OPTICAL MINERALOGY 3 credits**

Prerequisite: 231 or equivalent. Introduction to the petrographic microscope. Optical properties and identification of minerals in thin section and as crushed fragments. Laboratory.

**3370:433/533 PETROGRAPHY 3 credits**

Prerequisite: 432/532. Origin and petrogenesis of igneous, metamorphic, and sedimentary rocks as determined by microscopic studies of textures and mineral assemblages in thin section.

**3370:435/535 PETROLEUM GEOLOGY 3 credits**

Prerequisite: 250 or permission; recommended, 324. Natural occurrences of petroleum. Characteristics, origin, entrapment, and exploration methods.

**3370:437/537 ECONOMIC GEOLOGY 3 credits**

Prerequisites: 250 and 433. Study of metallic and non-metallic mineral deposits emphasizing paragenesis and exploration. Laboratory.

**3370:441/541 FUNDAMENTALS OF GEOPHYSICS 3 credits**

Prerequisites: 3450:235 or permission and 3650:293. Fundamental concepts in solid earth geophysics, planetary physics, geodesy, and geomagnetism. Contributions of geophysics to recent major developments in geoscience.

**3370:446/546 EXPLORATION GEOPHYSICS 3 credits**

Prerequisites, 3450:235, 3650:298. Basic principles and techniques of geophysical exploration with emphasis on gravimetric, magnetic, seismic, and electrical methods and application to geological problems. Laboratory.

**3370:450/550 ADVANCED STRUCTURAL GEOLOGY 2 credits**

Prerequisite, 215 or permission. Fundamental and advanced concepts of structural geology with emphasis on current and developing concepts.

**3370:463/563 MICROPALAEONTOLOGY 3 credits**  
Prerequisite, 360 or permission. Introduction to the techniques of micropaleontology evolution and paleoecology of selected microfossil groups.

**3370:470/570 GEOCHEMISTRY 3 credits**  
Prerequisites: minimum of 12 credits in chemistry and geology or permission. Chemical systems of the earth, both open and closed, with emphasis on mineral-water relationships. Laboratory.

**3370:474/574 GROUND-WATER HYDROLOGY 3 credits**  
Prerequisite: 101. Origin, occurrence, regimen, and utilization of ground-water. Qualitative and quantitative presentation of the geological and geochemical aspects of ground-water hydrology. Laboratory.

**3370:490/590 WORKSHOP 1-3 credits**  
Group studies of special topics in geology. May not be used to meet undergraduate or graduate major requirements in geology. May be used for elective credit only. May be repeated.

**3370:495 FIELD STUDIES IN GEOLOGICAL STRUCTURES AND PROCESSES 1 credit**  
(May be repeated for a total of 4 credits.)  
Prerequisite, permission. Field trip course emphasizing phases of geology not readily studied in Ohio. Includes pretrip preparation and post trip examination. Students will bear trip expenses.

**3370:496/596 GEOLOGY FIELD CAMP 6 credits**  
Prerequisites, 215 and permission; recommended, 217, 313, 323. Emphasis on collection, recording, and interpretation of field data; detailed structural and stratigraphic field study.

**3370:499 RESEARCH PROBLEMS 1 credit**  
(May be repeated for a total of 4 credits.)  
Prerequisite, permission. Directed reading and research in an aspect of geology chosen by student in consultation with an instructor.

## GRADUATE COURSES

**3370:608 REMOTE SENSING IN GEOLOGY 3 credits**  
Prerequisites: 3350:447/547, or equivalent. Techniques for analysis and processing of remotely sensed data from conventional and satellite sensing systems. Applications to local, regional and global geologic and environmental geology problems. Laboratory.

**3370:610 APPLIED QUANTITATIVE GEOMORPHOLOGY 3 credits**  
Prerequisite: 210. Quantification of geomorphic processes and associated landforms. Application of statistical methods and evaluation of the validity of these methods. Examination of these methods in practical problems: Lecture and Laboratory.

**3370:623 SEDIMENTARY PETROLOGY 3 credits**  
Prerequisite: 324 and 432/532 or permission. Detailed hand specimen and thin section examination of selected sedimentary suites, particularly with respect to mineralogy and texture. Laboratory.

**3370:631 ROCKS AND MINERALS 4 credits**  
Prerequisite: 101 and permission. Intensive course integrating crystallography, mineralogy, and petrology for science teachers and graduate students from disciplines other than geology. Laboratory.

**3370:632 IGNEOUS PETROLOGY 3 credits**  
Prerequisite: 433/533. Origin and paragenesis of igneous rocks. Theory, petrochemistry, and occurrences of the major igneous rock types. Selected rock suites will be studied. Laboratory.

**3370:633 METAMORPHIC PETROLOGY 3 credits**  
Prerequisite: 433/533. Textures, chemistry of metamorphic reactions, phase diagrams, and the occurrences of metamorphic rocks. Selected rock suites will be studied. Laboratory.

**3370:634 CLAY MINERALOGY 3 credits**  
Prerequisite: 432/532. The classification, identification, and genesis of clay minerals and clay rocks, their use and exploitation. Laboratory will stress methods of identification of clay minerals and the analysis and petrogenetic interpretation of clay materials in suites of samples from the rock record.

**3370:636 COAL GEOLOGY 3 credits**  
Prerequisites: 101, 102, suggested, 324. Origin, composition, and occurrence of coal with emphasis on depositional environments, coalification processes, exploration, evaluation, and exploitation. Laboratory.

**3370:638 ORE MICROSCOPY 3 credits**  
Prerequisites: 432/532, 437/537. Identification and study of ore minerals and their textures using the reflected-light microscope. Discussion of diagnostic physical and optical properties of opaque minerals.

**3370:643 GEOSTATISTICS 3 credits**  
Prerequisites: 101, 461/561, or an equivalent course in statistics. Application of statistical methods to geology and geophysics, including tests of hypotheses, trend surface analysis, analysis of variance, nonparametric statistics and time series analysis.

**3370:645 TERRESTRIAL HEAT FLOW 3 credits**  
Prerequisites: 101, and 3450:235, or permission. Techniques of measuring terrestrial heat flow, solutions of heat conduction equation, results of heat flow measurements, geophysical deductions, and the future of geothermal energy.

**3370:656 GLOBAL TECTONICS 3 credits**  
Prerequisites: 350, 441/541, or permission. Theoretical study of the physical forces involved in the formation and deformation of the earth's crust with emphasis on plate tectonics and associated diastrophic features.

**3370:660 EVOLUTION AND THE FOSSIL RECORD 2 credits**  
Prerequisite 360. Major features of evolution including rates and extinction using selected fossil groups as examples.

**3370:674 ADVANCED GROUND WATER HYDROLOGY 3 credits**  
Prerequisites: 474/574. Study of water table and artesian aquifers under steady and non-steady state conditions. Collection and evaluation of field data with regard to theory. Water well and well field design. Lecture, Laboratory, and Field Work.

**3370:675 GEOCHEMICAL METHODS OF PROSPECTING 2 credits**  
Prerequisites: 9 credits of chemistry, 9 credits of mineralogy and/or petrology, recommended 537 and 570. Application of geochemical methods of analysis and interpretation to the search for ore deposits, emphasis on stability, mobility, and associations of elements in geologic environments. Laboratory.

**3370:678 URBAN GEOLOGY. 3 credits**  
Prerequisites, 210, 217 or permission. Problems of urbanization related to our finite resources and creation of wastes. Geologic hazards. Case histories demonstrate the application of geologic data to urban development.

**3370:680 SEMINAR IN GEOLOGY. 2 credits**  
(may be repeated for a total of 9 credits). Selected topics for discussion, reference material from original published literature.

**3370:684 SELECTED TOPICS IN GEOLOGY. 1-3**

credits  
(may be repeated for a total of 8 credits). Prerequisite, permission. Topics not regularly offered as formal courses, generally of classic or current importance. Entails lectures, readings, discussions, and/or guided laboratory work.

**3370:695 ADVANCED FIELD STUDIES. 1 credit**

(may be repeated for a total of 4 credits). Prerequisite, permission. Field trip course emphasizing phases of geology not readily studied in Ohio. Includes pretrip preparation, field observations and data gathering, post trip examination and/or written report. Students will bear trip expenses.

**3370:698 GRADUATE RESEARCH PROBLEMS. 1 credit**

(may be repeated to a total of 6 credits). Prerequisite permission. Directed reading and research in an aspect of geology chosen by student in consultation with an instructor.

**3370:699 THESIS RESEARCH. 1-6 credits**

Embodies an independent and original investigation. Must be successfully completed, report written and defended before a thesis committee.

**3400: HISTORY****3400:201 U. S. HISTORY TO THE CIVIL WAR**

4 credits  
A survey of American history from the age of discovery through colonization, and nation building to the civil war era.

**3400:202 U. S. HISTORY SINCE THE CIVIL WAR**

4 credits  
A survey of U. S. history from the civil war era to the present.

**3400:207 EUROPE: RENAISSANCE THROUGH THE 18TH CENTURY 4 credits**

A survey of European history from the renaissance and reformation; development of nation states, religious wars, the age of Louis XIV and the enlightenment.

**3400:208 EUROPE: 19TH AND 20TH CENTURIES**

4 credits  
A survey of European history from the French Revolution and Napoleon; 19th century "isms", the formation of Germany and Italy, the two World Wars, totalitarian dictatorship, and the postwar age.

**3400:220 BLACK PEOPLE OF THE UNITED STATES**

3 credits  
A survey of the social, economic, political and cultural history of Afro-Americans from the 17th century to the present.

**3400:304 THE ANCIENT NEAR EAST 3 credits**

Mesopotamia and Egypt; Israel and her neighbors to the time of the Persian Empire.

**3400:305 GREECE 3 credits**

The Minoans and Mycenaeans; classical Greece to the triumph of Macedon.

**3400:306 ROME 3 credits**

Rome and the Hellenistic East to the end of classical times.

**3400:307 THE EASTERN ROMAN EMPIRE (324-1453)**

3 credits  
Byzantine culture and history from 324 to the fall in 1453.

**3400:334 U.S. SOCIAL-CULTURAL HISTORY TO 1877**

3 credits  
Selected concepts and attitudes considered in their social, cultural framework. Emphasis on population growth, rural and urban life, religion, education, literature, the arts, reform and impact of the civil war.

**3400:335 U. S. SOCIAL-CULTURAL HISTORY SINCE 1877 3 credits**

Selected concepts and attitudes; emphasis on business, agrarianism, self-made man cult, revolt against formalism, progressivism; impact of world wars, social-economic planning, trends in religion, education, literature and art.

**3400:407/507 UNITED STATES DIPLOMACY TO 1919 3 credits**

Establishment of basic policies, diplomacy of expansion, and emergence of a world power.

**3400:408/508 UNITED STATES DIPLOMACY SINCE 1914 3 credits**

Responses of government and the public to the challenges of war, peacemaking, and power politics.

**3400:413 BLACK SOCIAL AND INTELLECTUAL HISTORY 3 credits**

Examination of Black thought and activities reflective of Afro-American culture, conditions facing Black people within America and efforts toward coordinated Black activity.

**3400:415/515 LATIN AMERICA: ORIGINS OF NATIONALITY 3 credits**

Pre-Columbian civilizations, discovery and conquests; colonialism, struggle for independence, and the formation of new societies.

**3400:416/516 LATIN AMERICA: THE TWENTIETH CENTURY 3 credits**

Social revolution, political ideology and contemporary problems.

**3400:337 THE WEST IN THE DEVELOPMENT OF THE UNITED STATES 3 credits**

Examination of the westward movement from the revolution to the closing of the frontier; types of frontiers; the impact of the west as a section on the nation's development.

**3400:338 WOMEN IN THE UNITED STATES 3 credits**

Changing roles, status, self-images and activities of women in the context of American social, economic, political and intellectual movements.

**3400:339 AMERICAN IMMIGRATION 3 credits**

An examination of European migrants to the American colonies and the United States, their reasons for leaving Europe and coming to America, and their experience after arrival.

**3400:340 PEACE, WAR AND MANKIND 3 credits**

An historical examination of theories of war and peace, including a study of leaders, groups, and ideas for peace.

**3400:350 SELECTED TOPICS IN HISTORY 3 credits**

Includes experimental offerings such as those crossing subject or chronological lines, and subjects not listed in the catalogue. See departmental office for current subject.

**3400:397 INDIVIDUAL STUDY OR RESEARCH IN HISTORY 1-3 credits**

(May be repeated for a maximum of 4 credits.) Prerequisite: Permission. For individual study or research in history, including special projects, and summer study tours, or specialized training.

**3400:401 HONORS SEMINAR 3 credits**

Prerequisite: Permission of chairman and instructor. Selected readings; the writing of a research paper; for students seeking to graduate with honors in history and for students in the University Honors Program.

**3400:405/505 HISTORICAL METHODS 2 credits**

Practice in historical research and writing. Required for history majors, and for graduate majors who have not taken equivalent course elsewhere but does not count for graduate hour requirements.

**3400:417/517 THE U. S., LATIN AMERICA, AND IMPERIALISM 3 credits**

Inter-American relations, militarism, dependency, Marxism, and recent international and ideological trends.

**3400:418/518 MEXICO 3 credits**

History of Mexico from Indian civilizations to the present with emphasis on relations with the United States; social and political ramifications of the 20th century Mexican revolution.

**3400:420/520 COLONIAL AMERICA 3 credits**

Establishment of European colonies in North America with special emphasis on English settlements and the evolution of the first British Empire to 1713.

**3400:421/521 AMERICAN COLONIES FROM EMPIRE TO INDEPENDENCE 3 credits**

Colonial life between the Glorious Revolution and the War of Independence. Anglo-French struggle for control of North America, the development of British colonial institutions and of American independence.

**3400:422/522 FOUNDING OF THE UNITED STATES 3 credits**

The revolution and struggle for independence; creating a new nation from the Confederation to the Constitution and Federalist Era.

**3400:424/524 NEW NATION AND THE JACKSONIAN ERA, 1801-1846 3 credits**

Party formation and Jeffersonian politics; War of 1812 and the era of good feelings; westward expansion, Jacksonian democracy, Whigs and the age of reform.

**3400:425/525 THE CIVIL WAR 3 credits**

Slavery and causes of the Civil War; politics and the conduct of the war.

**3400:426/526 THE CIVIL WAR AND RECONSTRUCTION 3 credits**

Politics and the conduct of the war. Reconstruction and the roots of Jim Crow mentality; the emergence of an industrialized society.

**3400:428/528 THE ORIGINS OF MODERN AMERICA 3 credits**

The United States from the Reconstruction era to World War I (1877-1920); emphasis on political responses to the rise of an industrialized-urbanized society, the populist and progressive movements.

**3400:429/529 THE UNITED STATES BETWEEN THE WORLD WARS 3 credits**

World War I and Versailles; the 1920's, the great depression and the New Deal; World War II.

**3400:430/530 RECENT AMERICA: THE UNITED STATES SINCE WORLD WAR II 3 credits**

The nuclear age, cold war, foreign policy and domestic affairs to the present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.

**3400:432/532 AMERICAN ECONOMY TO 1900 3 credits**

A survey of economic developments from the colonial era to 1900, including agriculture, commerce and labor. Special emphasis on business and labor.

**3400:433/533 AMERICAN ECONOMY SINCE 1900 3 credits**

A survey of economic developments since 1900; topics include agriculture, business and labor. Special emphasis on the role of big business and the evolution of monetary and fiscal policy.

**3400:435/535 OHIO 3 credits**

The political, social, economic and intellectual history

of Ohio, with special emphasis upon Ohio's relationship to the Old Northwest and to the nation.

**3400:436/536 THE AMERICAN CITY 3 credits**

Development of urbanization and its consequences from the colonial period to the present.

**3400:442/542 EUROPE IN THE BAROQUE ERA 3 credits**

The constitutional, diplomatic, cultural, intellectual and social developments of 17th century Europe.

**3400:444/544 EUROPE IN THE FRENCH REVOLUTIONARY ERA 3 credits**

Development of French Revolution; Napoleon's regime and satellite kingdoms.

**3400:445/545 MEDIEVAL EUROPE, 400-1200 3 credits**

The migration of peoples, Carolingian revival, renewed invasions; social, economic, and intellectual stirrings leading to the "birth of Europe."

**3400:446/546 MEDIEVAL EUROPE, 1200-1500 3 credits**

The middle ages and the middle class; economic and political change, international wars, social unrest, and religious cross-currents.

**3400:449/549 THE RENAISSANCE 3 credits**

The European renaissance (1350-1600). Economic and political trends with special emphasis on intellectual and artistic developments.

**3400:450/550 THE REFORMATION 3 credits**

Europe in the 16th century; its religious, cultural, political and diplomatic development, with special emphasis upon the Protestant, Anglican and Catholic reformations.

**3400:451/551 NINETEENTH CENTURY EUROPE, 1815-1871 3 credits**

Europe in the century of change; revolution, romanticism, industrialization, democratization, the first wars of the industrial age.

**3400:452/552 NINETEENTH CENTURY EUROPE, 1871-1914 3 credits**

Socialism, imperialism, nationalism and the great war. The belle epoque and contemporary artistic and intellectual currents.

**3400:454/554 TWENTIETH CENTURY EUROPE, 1914-1939 3 credits**

Europe between world wars; Russian revolution, fascism and national socialism; the plight of the democracies.

**3400:455/555 TWENTIETH CENTURY EUROPE SINCE 1939 3 credits**

Europe in World War II, the cold war, and attempts at unity.

**3400:458/558 RUSSIA TO 1801 3 credits**

A survey of Russian history from the Kievan period to the death of Paul I, emphasizing the development of autocratic government, Russia culture, the reigns of Peter and Catherine.

**3400:459/559 RUSSIA SINCE 1801 3 credits**

A survey of the 19th and 20th centuries. Special emphasis on problems of modernization, the revolution and the development of communism.

**3400:470/570 ANGLO-SAXON AND MEDIEVAL ENGLAND 3 credits**

Anglo-Saxon life, thought and institutions; the Norman conquest; medieval life, thought and institutions to 1471.

**3400:471/571 EARLY MODERN ENGLAND TO 1640 3 credits**

Yorkists and Tudors, transition from medieval to early

modern times; Elizabeth and the early Stuarts.

**3400:472/572 EARLY MODERN ENGLAND, 1640-1783** 3 credits

Conflict under the Stuarts and civil war; the restoration, the sensible revolution and early Hanoverians. Politics, religion and society in the age of aristocracy.

**3400:473/573 ENGLAND SINCE 1783** 3 credits

The agricultural and first industrial revolution; politics of reform and transition; the welfare state, society and war.

**3400:477/577 WESTERN SCIENCE AND TECHNOLOGY TO 1800** 4 credits

Science and technology in Greek, Roman, Islamic and European societies. Scientific, technological developments related to one another and to the cultures of these societies; scientific and industrial revolutions.

**3400:478/578 WESTERN SCIENCE AND TECHNOLOGY SINCE 1800** 4 credits

Continuing development of physical and biological sciences and technology in Western European and American societies. Second industrial revolution, atomic physics and weapons, evolution, genetics, and the chemical basis of life.

**3400:480/580 TRADITIONAL CHINA** 3 credits

A selective study of institutional, intellectual, political and artistic developments in Chinese civilization from antiquity to the 18th century emphasis upon general features of traditional Chinese culture.

**3400:481/581 MODERN CHINA** 3 credits

A survey of China since the 18th century with focus on the process of modernization. Background of the contemporary scene is stressed.

**3400:485/585 JAPAN** 3 credits

A survey of the history of Japan from antiquity to the present; emphasis on developments since 1600, the impact of the west and the modernization process.

## GRADUATE COURSES

**3400:622 PROSEMINAR IN ANCIENT HISTORY** 4 credits

Study of historical literature, sources of materials, and major interpretations of ancient history, especially Greek and Roman periods.

**3400:623 SEMINAR IN ANCIENT HISTORY** 4 credits

Prerequisite: 622. Research and writing in selected topics of ancient history, particularly Greek and Roman eras.

**3400:625 PROSEMINAR IN MEDIEVAL HISTORY** 4 credits

Study of historical literature, sources of materials, and major interpretations of medieval European history.

**3400:626 SEMINAR IN MEDIEVAL HISTORY** 4 credits

Prerequisite: 625. Research and writing in selected topics of European medieval history from the barbarian invasions through the later middle ages.

**3400:631 PROSEMINAR IN MODERN EUROPEAN HISTORY TO 1815** 4 credits

Study of historical literature, sources of materials, and major interpretations of early modern European history from the renaissance to the Napoleonic era.

**3400:632 SEMINAR IN MODERN EUROPEAN HISTORY TO 1815.** 4 credits

Prerequisite: 631. Research and writing in selected topics of early modern European history, occasionally including social, economic and intellectual subjects.

**3400:634 PROSEMINAR IN MODERN EUROPEAN HISTORY SINCE 1815** 4 credits

Study of historical literature, sources of materials, and major interpretations of modern European history since the early 19th century.

**3400:635 SEMINAR IN MODERN EUROPEAN HISTORY SINCE 1815** 4 credits

Prerequisite: 634. Research and writing in selected topics of modern European history, occasionally including social, economic and intellectual subjects.

**3400:651 PROSEMINAR IN THE HISTORY OF ENGLAND AND THE EMPIRE** 4 credits

Study of historical literature, sources of materials and major interpretations, of English and British imperial history.

**3400:652 SEMINAR IN THE HISTORY OF ENGLAND AND THE EMPIRE** 4 credits

Prerequisite: 651. Research and writing in selected topics of English and British imperial history.

**3400:666 PROSEMINAR IN AMERICAN HISTORY TO 1865** 4 credits

Study of historical literature, sources of materials, and major interpretations of American colonial and U. S. history to the civil war.

**3400:667 SEMINAR IN AMERICAN HISTORY TO 1865** 4 credits

Prerequisite: 666. Research and writing in selected topics of American history from the colonial period to the civil war.

**3400:669 PROSEMINAR IN AMERICAN HISTORY SINCE 1865** 4 credits

Study of historical literature, sources of materials, and major interpretations of U. S. history since the civil war.

**3400:670 SEMINAR IN AMERICAN HISTORY SINCE 1865** 4 credits

Prerequisite: 669. Research and writing in selected topics of U. S. history since the civil war.

**3400:677 PROSEMINAR IN LATIN AMERICAN HISTORY** 4 credits

Prerequisite: two courses in Latin American studies, or permission of the instructor. Study of historical literature, sources of materials, and major interpretations of Latin American history.

**3400:678 SEMINAR IN LATIN AMERICAN HISTORY** 4 credits

Prerequisite: 677. Research and writing in selected topics in social, cultural, diplomatic, intellectual and political history of Latin America.

**3400:689 HISTORIOGRAPHY** 3 credits

A study of historians, historical writings and interpretations through the ages. Required for master's degree if candidate has not had equivalent undergraduate or graduate course elsewhere.

**3400:694 THESIS RESEARCH** 3 credits

Research for Master of Arts degree thesis.

**3400:697-698 INDIVIDUAL READING FOR M.A. STUDENTS** 1-3 credits each

Directed reading to fit individual student programs. May be repeated for a maximum of 6 credits total. Written permission of the instructor required.

**3400:699 THESIS WRITING** 3 credits

Prerequisite: 694. Writing of Master of Arts degree thesis.

**3400:797-798 INDIVIDUAL READING FOR PH.D. STUDENTS** 1-4 credits each

Directed reading to fit individual student programs. May be repeated for a maximum of 12 credits total. Written permission of the instructor required.

**3400:898 DISSERTATION RESEARCH 1-12 credits**  
Research for the Doctor of Philosophy degree dissertation.

**3400:899 DISSERTATION WRITING 1-12 credits**  
Prerequisite: 898. Writing of the Doctor of Philosophy degree dissertation.

## 3450: MATHEMATICS

**3450:101 ELEMENTARY ALGEBRA 1 credit**  
Prerequisites: permission of instructor. Real numbers, review of arithmetic operations, symbolism, word problems, linear and quadratic equations.

**3450:111 ALGEBRA 1 credit**  
Prerequisites: one year of high school algebra or equivalent. Sets, signed numbers, algebraic expressions, factoring, exponents, radicals, binomial theorem.

**3450:112 ALGEBRAIC FUNCTIONS & GRAPHING 1 credit**  
Prerequisites: 111. Linear and quadratic functions and equations, complex numbers, inequalities, absolute value, ratio and proportions, graphing functions and inequalities.

**3450:113 COMBINATORICS AND PROBABILITY 1 credit**  
Prerequisites: 112. Permutations, combinations, sample spaces, events; simple, compound, and conditional probability; Bernoulli trials, expectation and odds.

**3450:114 MATRICES 1 credit**  
Prerequisites: 112. Nomenclature, operations, inverse, solution of linear equations in variables using elementary row operations.

**3450:115 LINEAR PROGRAMMING 1 credit**  
Prerequisites: 114. Minimizing and/or maximizing a linear function subject to a system of linear inequalities (geometrically) and simplex method; introduction to game theory.

**3450:117 INTRODUCTION TO TRIGONOMETRY 1 credit**  
Prerequisites: 112. Definitions of the trigonometric functions, identities, solving right triangles, applications.

**3450:118 TRIGONOMETRIC FUNCTIONS & GRAPHING 1 credit**  
Prerequisites: 117. Graphing, identities, solving triangles, applications.

**3450:121 ANALYTIC GEOMETRY 1 credit**  
Prerequisites: 112. Cartesian coordinate system; rational, logarithmic and exponential functions; sequences and series, limits and definition of series.

**3450:122 DIFFERENTIAL CALCULUS 1 credit**  
Prerequisites: 121. Differentiation of algebraic, logarithmic and exponential functions, higher derivatives, partial derivatives, applications.

**3450:123 INTEGRAL CALCULUS 1 credit**  
Prerequisites: 122. Indefinite and definite integral, differentials, change of variable, numerical integration, improper integrals, double integral.

**3450:124 CALCULUS WITH TRIGONOMETRY 1 credit**  
Prerequisites: 118, 123. Differentiation and integration of trigonometric functions, trigonometric substitution, applications.

**3450:131 NUMBER SYSTEMS 1 credit**  
Prerequisites: 112. Ancient number systems, number bases, Euclidean algorithm, modular arithmetic.

**3450:132 ELEMENTARY GEOMETRY 1 credit**  
Prerequisites: 112. Definitions and measure of line segments, angles and triangles in Euclidean plane geometry; Hilbert's axioms.

**3450:136 SYSTEMS OF MEASUREMENT 1 credit**  
Prerequisites: none. English and metric systems of weights and measures. Troy, avoirdupois and apothecaries' systems.

**3450:138 MATHEMATICS OF FINANCE 1 credit**  
Prerequisites: 112. Simple and compound interest; bank discount, ordinary annuities (present value, amount & rate), amortization, annuities, perpetuities.

**3450:147 ELEMENTARY FUNCTIONS I 2 credits**  
Prerequisites: High school algebra and trigonometry. Real numbers, equations and inequalities, radicals, absolute value, relations and functions, linear and quadratic functions, system of equations, matrices and determinants, complex numbers.

**3450:148 ELEMENTARY FUNCTIONS II 2 credits**  
Prerequisites: High school algebra and trigonometry. Exponential and logarithmic functions, exponential and logarithmic equations, trigonometric functions, reduction formulas; trigonometric identities, arithmetic and geometric sequences and series, mathematical induction.

**3450:149 PRE-CALCULUS MATHEMATICS 3 credits**  
Prerequisites: 3 years of high school mathematics. Sets, number systems, absolute value, relations, functions, polynomial functions, determinants, systems of equations and inequalities, trigonometric functions, trigonometric identities, exponential and logarithmic functions, complex numbers, infinite sequences, binomial theorem, mathematical induction.

**3450:221 ANALYTIC GEOMETRY-CALCULUS I 4 credits**  
Prerequisites: 148 or 149. Real numbers, analytic geometry, limits, continuity, derivatives of algebraic functions, tangent and normal lines, extrema of functions, Rolle's theorem, mean value theorem, related rates, antiderivatives, definite integrals, areas, volumes, arc length.

**3450:222 ANALYTIC GEOMETRY-CALCULUS II 4 credits**  
Prerequisites: 221. Derivatives of exponential, logarithmic trigonometric, inverse trigonometric, hyperbolic and inverse hyperbolic functions; methods of integration, moments, centroids, indeterminate forms, polar coordinates, vector algebra, cylindrical and spherical coordinates, vector valued functions, curvature.

**3450:223 ANALYTIC GEOMETRY-CALCULUS III 4 credits**  
Prerequisites: 222. Sequences, series, power series, Taylor and Maclaurin series, binomial series, functions of several variables, limit, continuity, partial derivatives, differentials, directional derivatives, maxima and minima, double and triple integrals, surface area.

**3450:235 DIFFERENTIAL EQUATIONS 3 credits**  
Prerequisites: 223. Methods of forming and solving important types of differential equations. The analysis of models involving differential equations of the first order and simple equations of the second order.

**3450:301 HISTORY OF MATHEMATICS 2 credits**  
Prerequisites: 222. Origin and development of mathematical ideas.

**3450:311 ABSTRACT ALGEBRA 3 credits**

Prerequisites: 221. Introduction to groups, rings, integral domains; axiomatic foundation of the natural, integer, rational, real, and complex number systems.

**2340:312 LINEAR ALGEBRA 3 credits**

Prerequisites: 222. A study of vector spaces, linear transformations, matrices, determinants, inner products, the eigenvalue problem, quadratic forms, and canonical forms.

**3450:413/513 THEORY OF NUMBERS 3 credits**

Prerequisites: 222 or consent. Euclidean algorithm, unique factorization theorem, congruences, primitive roots, indices, quadratic residues, number-theoretic functions, Gaussian integers, and continued fractions.

**3450:414/514 VECTOR AND TENSOR ANALYSIS**

3 credits

Prerequisites: 223. Vector algebra, calculus of scalar-vector, vector-scalar, and vector-vector functions; integral theorems; coordinate transformations; cartesian, contravariant, covariant vectors and tensors; fundamental operations with tensors; differentiation of tensors; applications.

**3450:415/515 COMBINATORICS AND GRAPH**

**THEORY 3 credits**

Prerequisites: 222 or consent. An introduction to the basic ideas and techniques of mathematical counting; properties of the structure of systems.

**3450:417/517 COMPUTATIONAL LINEAR ALGEBRA**

3 credits

Prerequisites: 312 or equivalent. Computational techniques related to linear algebra. Topics include direct and iterative methods for solving eigenvalue problems and consideration of questions concerning stability of solutions.

**3450:421-422/521-522 ADVANCED CALCULUS I, II**

3 credits each

Prerequisites: 235. Sequential. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals.

**3450:425/525 COMPLEX VARIABLES 3 credits**

Prerequisites: 235. Complex variables; elementary functions, differentiation and analytic functions; integration and Cauchy's Theorem; power series and Laurent series; the residue theorem; applications such as conformal mappings, inversion of integral transform.

**3450:427-428/527-528 NUMERICAL ANALYSIS I, II**

3 credits each

Prerequisites: 235. Mathematical analysis of numerical methods for interpolation, approximation, integration; solution of algebraic equations, linear systems, ordinary differential equations and boundary value problems.

**3450:431/531 SPECIAL FUNCTIONS AND OPERATIONAL CALCULUS 3 credits**

Prerequisites: 235. Series solutions to differential equations; Bessel functions; orthogonal polynomials; self-adjoint boundary value problems and Fourier Series; Laplace transforms; Fourier Transforms.

**3450:432/532 PARTIAL DIFFERENTIAL EQUATIONS**

3 credits

Prerequisites: 235. First order linear and quasi-linear equations; the classical problems of mathematical physics; the uniqueness of solutions; methods of solution using Fourier series and integral transforms.

**3450:435/535 INTERMEDIATE DIFFERENTIAL EQUATIONS 3 credits**

Prerequisites: 235. The analysis and solution of systems of equations, both linear and nonlinear. Topics include stability theory, perturbation methods, asymptotic methods and applications from the physical and social sciences.

**3450:436/536 MATHEMATICAL MODELS 3 credits**

Prerequisites: 235. Formulation and analysis of mathematical models in the social and physical sciences. Analysis of deterministic and stochastic models. Topics may include stochastic processes, linear programming, graph theory, theory of measurement.

**3450:441/541 CONCEPTS IN GEOMETRY 4 credits**

Prerequisites: 222 or consent of instructor. An axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions, and inversions.

**3450:442/542 PROJECTIVE GEOMETRY 3 credits**

Prerequisites: 222 or consent. Complex projective planes, duality, homogeneous coordinates, 1-1 correspondence, cross ratios, harmonic ranges, conics, quadrilaterals, quadrangles, applications to Euclidean geometry, quadratic surfaces.

**3450:445/545 INTRODUCTION TO TOPOLOGY**

3 credits

Prerequisites: 312 or permission. Introduction to topological spaces and topologies, mappings, cardinality, homeomorphisms, connected spaces, metric spaces.

**3450:481/581 NUMERICAL METHODS FOR**

**SCIENTIFIC COMPUTATION 3 credits**

Prerequisites: 235, 4450:206. Mathematical techniques for representing functions, approximating integrals, and solving ordinary differential equations are presented and implemented for the computer.

**3450:498/589 TOPICS IN MATHEMATICS 3 credits**

Prerequisites: permission of instructor. May be repeated for a total of six credits. Selected topics in mathematics and applied mathematics at an advanced level.

**3450:491/591 WORKSHOP IN MATHEMATICS**

1-3 credits

Group studies of special topics in Mathematics and Statistics. May not be used to meet undergraduate or graduate major requirements in Mathematics and Statistics. May be used for elective credit only. May be repeated.

**3450:497 INDIVIDUAL READING 1-2 credits**

Prerequisite, Senior standing and permission. Mathematics majors only. Directed studies designed as an introduction to research problems, under the guidance of a selected faculty member.

**GRADUATE COURSES****3450:610 MATRIX ALGEBRA 3 credits**

Prerequisites: 235. Study of matrix theory and techniques concerning inverses, linear systems of equations, vector spaces, transformations, quadratic forms, the problem, and canonical forms.

**3450:611-612 ALGEBRAIC THEORIES I, II**

3 credits each

Prerequisites: 311, 312 or 610. Sequential. An in-depth analysis of algebraic theory—monoids, groups, rings, modules, vector spaces, lattices, and algebras.

**3450:621-622 FUNCTIONS OF A REAL VARIABLE I, II 3 credits each**

Prerequisites: 422/522. Sequential. Real number sys-

tem, sets, limit theorems, continuous and semi-continuous functions, derivatives of functions, Borel sets and Baire functions, measure; measurable sets, measurable functions. Riemann and Lebesgue integration, multiple integration.

**3450:625 ANALYTIC FUNCTION THEORY 3 credits**  
Prerequisites: 422/522. The complex number system, holomorphic functions, continuity, differentiability, power series complex integration, residue theory, singularities, analytic continuation, asymptotic expansion.

**3450:627-628 ADVANCED NUMERICAL ANALYSIS I, II 3 credits each**  
Prerequisites: 422/522. Sequential. Theoretical analysis of numerical methods in linear algebra, polynomial interpolation and approximation, integration, and ordinary differential equations.

**3450:631 CALCULUS OF VARIATIONS 3 credits**  
Prerequisites: 235. Problems with fixed and moveable end points, problems with constraints, generalization to several variables, the maximality principle, linear time-optional problems, the connective between classical theory and the maximality principle.

**3450:632 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS 3 credits**  
Prerequisites: 432/532 or permission. Existence, uniqueness, and stability of solutions to general classes of partial differential equations. Methods for solving these classes are introduced, emphasizing both analytical and numerical techniques.

**3450:633-634 CONTINUOUS SYSTEMS I, II 3 credits each**  
Prerequisite: 422/522 or permission of instructor. Sequential. Boundary value problems formulated as ordinary differential equations, partial differential equations, and integral equations are analyzed as linear operator equations on function spaces using the tools of generalized functions, Green's functions, and spectral theory. Particular attention is paid to Evolution and Potential equations as well as variational methods.

**3450:635-636 DISCRETE SYSTEMS I, II 3 credits each**  
Prerequisite: 422/522 or permission of instructor. Mathematical programming, combinatorics, and stochastic processes are presented and applied to problems in the social and management sciences.

**3450:642 DIFFERENTIAL GEOMETRY 3 credits**  
Prerequisites: 422/522. Analytic representation of space curves and surfaces, intrinsic geometry of a surface and geometry of surfaces in the large.

**3450:645 TOPOLOGY 3 credits**  
Prerequisites: 422/522. Set theory, ordinal and cardinal numbers, topological spaces, filters and nets, separation, coverings, metric spaces, homotopy, related topics.

**3450:690 ADVANCED TOPICS IN MATHEMATICS 3 credits**  
Prerequisites: permission of instructor. May be repeated for six credits. Topics within the research interest of faculty members in Mathematics and Applied Mathematics.

**3450:692 MATHEMATICS & STATISTICS SEMINAR 2 credits**  
For properly qualified candidates for the Master's degree in mathematics and statistics. Seminar type discussions involving special problems dealing with mathematics and statistics. A supervised research project will be included in this course.

**3450:699 RESEARCH & THESIS 2 credits**

Prerequisites: permission. May be repeated for 4 credits. Properly qualified candidates for the Master's degree may obtain 4 credits for research experience which culminates in the presentation of a faculty-supervised thesis.

## 3470: STATISTICS

**3470:251-257 INTRODUCTION TO STATISTICS**  
An introduction to the fundamental ideas of statistics at a pre-calculus level which includes topics from the following:

- **3470:251 DESCRIPTIVE STATISTICS AND PROBABILITY 1 credit**  
Prerequisites: one semester of college algebra or equivalent.

- **3470:252 DISTRIBUTIONS 1 credit**  
Prerequisites: 251

**3570:253 HYPOTHESIS TESTING (PARAMETRIC) 1 credit**  
Prerequisites: 252

**3470:254 HYPOTHESIS TESTING (NON-PARAMETRIC) 1 credit**  
Prerequisites: 253

**3470:255 REGRESSION AND CORRELATION 1 credit**  
Prerequisites: 253

**3470:256 EXPERIMENTAL DESIGN 1 credit**  
Prerequisites: 253

**3470:257 TIME SERIES AND INDEX NUMBERS 1 credit**  
Prerequisites: 255

**3470:450/550 PROBABILITY 3 credits**  
Prerequisites: 221 An introduction to probability, random variables and probability distributions, expected values, sums of random variables, Markov processes.

**3470:451-452/551-552 THEORETICAL STATISTICS I, II 3 credits each**  
Prerequisites: 3450:223. Sequential. Elementary combinatorial probability theory, probability distributions, mathematical expectation, functions of random variables, sampling distributions, point and interval estimation, tests of hypotheses, regression and correlation, introduction to experimental designs.

**3470:461/561 APPLIED STATISTICS 4 credits**  
Prerequisites: 345:223. Applications of statistical theory to the natural and physical sciences and engineering, including hypotheses tests, regression, correlation, analysis of variance, non-parametric statistics, sampling, quality control, and other selected topics.

**3470:463/563 EXPERIMENTAL DESIGN I 3 credits**  
Prerequisites: 451 or 461. Fundamental principles of analysis of variance, crossed and nested designs, multiple comparisons, power considerations, randomized blocks, repeated measure designs, applications.

**3470:464/564 EXPERIMENTAL DESIGN II 2 credits**  
Prerequisites: 463/563. Principles of confounding, latin squares, fractional designs, analysis of covariance, split plot designs, applications to problems in applied fields.

**3470:480/580 STATISTICAL COMPUTER APPLICATIONS 3 credits**  
Prerequisites: 3450:223 and one semester course in statistics or permission. Translation of statistical operations into computer languages, iterative procedures, generating data, Monte Carlo techniques, use of statistical packages.

**3470:489/589 TOPICS IN STATISTICS 3 credits**

Prerequisites: permission. May be repeated for a total of six credits. Selected topics in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others.

**GRADUATE COURSES****3470:650 ADVANCED PROBABILITY 3 credits**

Prerequisite: 652. Random walk, distributions, unlimited sequence of trials, laws of large numbers, convolutions, branching processes, renewal theory, Markov chains, time-dependent stochastic processes.

**3470:651-652 MATHEMATICAL STATISTICS, I, II**

3 credits each

Prerequisites: 3450:422/522. Sequential. Probability theory, random variables, probability distributions, expectation, limit theorems, large and small sample theory, theory of tests of hypothesis, point and interval estimation, non-parametric, statistics theory, regression and correlation.

**3470:655 LINEAR MODELS 3 credits**

Prerequisite: 652. The general linear model in matrix notation, general linear hypothesis, regression models, experimental design models, analysis of variance and covariance, variance components.

**3470:661-662 ADVANCED BEHAVIORAL STATISTICS**

I, II 3 credits each

Prerequisites: college level algebra or equivalent. Sequential. Descriptive statistics, probability, distributions, hypothesis testing, estimation, non-parametric statistics, correlation, simple and multiple regression, experimental designs, factorial experiments, comparisons, nested designs, repeat-measure designs, randomized blocks, analysis of covariance, applications.

**3470:665 REGRESSION AND CORRELATION 3 credits**

Prerequisites: four semester hours of sequential statistics courses or equivalent. Analytical theory of least squares using matrix notation and methodology, multiple regression, orthogonal polynomials, correlation, partial correlation, stepwise regression, model building, response surfaces.

**3470:666 NON-PARAMETRIC STATISTICS-METHODS**

2 credits

Prerequisites: 256, 662, or permission. Theoretical bases and relationships among various non-parametric techniques compared with parametric ones.

**3470:667 FACTOR ANALYSIS 2 credits**

Prerequisites: 661 or permission. Theory and techniques in identifying variables through the use of factor analysis.

**3470:668 MULTIVARIATE STATISTICAL METHODS**

3 credits

Prerequisites: 662, 463/563. Multivariate techniques including distance concept, Hotelling  $T^2$ , multivariate ANOVA, regression and correlation, linear contrasts, factorial experiments, nested and repeat measure designs Bonferroni  $X^2$  tests, linear discrimination analysis, canonical correlation, application.

**3470:689 ADVANCED TOPICS IN STATISTICS**

3 credits

Prerequisite: 652. May be repeated for a total of six credits. Selected topics in statistics including concepts in order, statistics, advanced inference, sequential analysis, stochastic processes, reliability theory, Bayesian statistics, and regression.

**3500: MODERN LANGUAGE****PLACEMENT PROCEDURES FOR NEW STUDENTS**

Students who have taken one year or less of a foreign language in high school should enroll in 101. Those who have taken more than one year of a foreign language in high school should take the placement test (Testing & Counseling, Ayer Hall 305). For placement in third year courses or higher, department permission is required.

**3500:101-102 BEGINNING MODERN LANGUAGE, I, II**

4 credits each

Sequential. Reading, speaking, writing and listening comprehension: intensive drill in pronunciation, short stories, outside reading and supplementary work in the Language Laboratory. May be repeated for a different language.

**3500:201-202 INTERMEDIATE MODERN LANGUAGE, I, II 3 credits each**

Sequential. Prerequisite: 102 (or equivalent). Grammar review, practice in reading, writing, speaking and listening comprehension; short stories, plays, novels on intermediate level. May be repeated for a different language.

**3500:490/590 WORKSHOP 2 credits**

Group studies of special topics in Modern Languages. May be repeated.

**3500:498 SENIOR HONORS PROJECT IN MODERN LANGUAGES 1-3 credits (May be repeated for a total of 6 credits.)**

Prerequisite, senior standing in the University Honors Program and approval of Honors Preceptor. Open only to language majors who are enrolled in the University Honors Program. Independent study leading to the completion of a Senior Honors Thesis or other original work meeting high standards of research and scholarship.

**3520: FRENCH****3520:101-102 BEGINNING FRENCH I, II**

4 credits each

Sequential. A thorough study of the sound system and basic structural patterns of the French language, including oral practice and the reading of simple prose. A placement test is required.

**3520:201-202 INTERMEDIATE FRENCH I, II**

3 credits each

Audio-oral sections. Sequential; prerequisite, 102 or equivalent. Practice in reading, writing, speaking and listening comprehension. Grammar review, short stories, plays and novels on an intermediate level. A placement test is required.

**3520:207-208 INTERMEDIATE FRENCH I, II**

READING OPTION 3 credits each

Sequential; prerequisite, 102 or equivalent. Reading and translation of texts dealing with contrasting French and American customs, values, and attitudes.

**3520:301-302 FRENCH COMPOSITION AND CONVERSATION 3 credits each**

Prerequisite, 202 or equivalent. Free composition, special attention to vocabulary and idioms, development of oral expression and conversational ability.

**3520:305-306 INTRODUCTION TO FRENCH**

LITERATURE 3 credits each

Prerequisite, 202 or equivalent. Survey of French literature from its origins to the present, with lectures, readings and class discussion of representative works.

**3520:309-310 FRENCH CULTURE AND CIVILIZATION 3 credits each**

Prerequisite, 302 or 306 or permission. An audio-visual presentation with class discussions of the French cultural heritage from its origins to the present. Conducted in French.

**3520:312 INDIVIDUAL SUMMER STUDY ABROAD 2 credits**

Prerequisite, 202 or equivalent and consent of Instructor.

**3520:313 FRENCH CIVILIZATION AS SEEN IN THE MOVIES 3 credits**

Study and discussion of various aspects of French culture and civilization as characterized in movies.

**3520:351-352 TRANSLATION—FRENCH 3 credits each****3520:401 FRENCH PHONETICS 3 credits**

Prerequisite, 202 or equivalent. Intensive drill in pronunciation with correction and improvement of student's accent, emphasis on articulation, intonation and rhythm.

**3520:403-404 ADVANCED FRENCH COMPOSITION AND CONVERSATION 3 credits each**

Prerequisite: 302 or equivalent. A thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

**3520:407/507 FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE 4 credits**

Prerequisite: 302 or 306 or permission. Reading and discussion of selected Medieval and Renaissance literary works. Conducted in French.

**3520:411/511 17TH CENTURY FRENCH LITERATURE 4 credits**

Prerequisite: 302 or 306 or permission. Reading and discussion of selected works in poetry, drama and novels. Conducted in French.

**3520:415/515 18TH CENTURY FRENCH LITERATURE 4 credits**

Prerequisite: 302 or 306 or permission. Reading and discussion of selected authors with special emphasis on the *Philosophies*. Conducted in French.

**3520:419/519 19TH CENTURY FRENCH LITERATURE 4 credits**

Prerequisite: 302 or 306 or permission. Reading and discussion of selected works pertaining to the Romantic, Realistic and Naturalistic movements. Conducted in French.

**3520:427/527 20TH CENTURY FRENCH LITERATURE 4 credits**

Prerequisite: 302 or 306 or permission. Reading and discussion of the most representative works of the period. Conducted in French.

**3520:450 EXPLICATION DE TEXTES 2 credits**

Prerequisite: 302 or 306 or permission. Study of the traditional French method of literary analysis based on passages of representative authors from selected periods of French literary history.

**3520:471/571 FRENCH LANGUAGE READING PROFICIENCY 4 credits**

Course is designed to develop proficiency in reading comprehension.

**3520:497-498 INDIVIDUAL READING IN FRENCH 1-3 credits each****GRADUATE COURSES****3520:601 ADVANCED FRENCH GRAMMAR 4 credits**

Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure and phonetic principles.

**3520:603-604 ROMANCE AND APPLIED LINGUISTICS 4 credits each**

History of the French language from 842 to the present. Second semester deals with the application of linguistic research to the teaching of French.

**3520:607-708 SELECTED TOPICS IN THE MOVEMENT OF IDEAS IN FRENCH LITERATURE 4 credits each**

Study of ideas instrumental in shaping French thought and culture.

**3520:619-620 FRENCH CULTURE EXPRESSED IN LITERATURE 4 credits each**

An anthropological approach to French culture emphasizing social and civic institutions, education, music and arts, value systems and national characteristics.

**3520:641 SEMINAR: FRANCOPHONE LITERATURE, CULTURE, AND CIVILIZATION 2 credits**

Study of various aspects of culture, civilization and literature of French expression outside of France.

**3520:642 SEMINAR: THE IMAGE OF THE WOMAN IN FRENCH LITERATURE 2 credits**

Study of the woman as characterized in French literature from the Middle Ages to the present.

**3520:661 FRENCH TEACHING PRACTICUM 2 credits**

Prerequisite: teaching assistantship or permission. Orientation and practice of particular aspects of teaching language and culture. Periodical review and evaluation. Credits may not be applied toward degree requirement.

**3520:697-698 INDIVIDUAL READING AND RESEARCH SEMINAR 1-4 credits each**

Permission. Independent study and research in specific areas. Considerable reading and writing required.

**3520:699 THESIS WRITING 4 credits****3530: GERMAN****3530:101-102 BEGINNING GERMAN I, II.**

4 credits each.

Sequential. Reading, speaking, writing and listening comprehension, intensive drill in pronunciation, short stories, outside reading and supplementary work in the Language Laboratory.

**3530:201-202 INTERMEDIATE GERMAN I, II.**

3 credits each.

Sequential; prerequisite, 102 or equivalent. Grammar review, reading, writing, speaking, listening comprehension; short stories, plays, novels on intermediate level, outside reading and supplementary work in the Language Laboratory.

**3530:207-208 INTERMEDIATE GERMAN I, II, READING OPTIONS. 3 credits each.**

Sequential. Prerequisite, 102 or equivalent and permission. Reading of German texts in culture and civilization, discussion in English, translation and grammatical analysis where appropriate. Not open to majors.

**3530:250 20TH CENTURY GERMAN LITERATURE IN TRANSLATION. 2 credits.**

Readings and discussion of the works of Mann, Rilke, Hesse, Kafka, Benn, Brecht, Frisch, Durrenmatt, Borchert and Grass. May not be taken for credit toward the major in German.

**3530:251 19TH CENTURY GERMAN LITERATURE IN TRANSLATION. 2 credits.**

Readings and discussion of the works of Kleist, Heine, Hebbel, Keller, Storm, Meyer, and Hauptmann. May not be taken for credit toward the German major.

**3530:252 AGE OF GOETHE IN TRANSLATION. 2 credits.**

Readings and discussions of representative drama, prose and poetry of Lessing, Goethe and Schiller. May not be taken for credit toward the German major.

**3530:301-302 GERMAN CONVERSATION AND COMPOSITION. 3 credits each.**

Prerequisite, 202 or equivalent. Advanced composition using German models, special attention to words and idioms, development of oral expression and conversational ability.

**3530:305-306 INTRODUCTION TO GERMAN LITERATURE. 3 credits each.**

Prerequisite, 202 or equivalent. Introduction to the study of German literature. Readings and class discussions in German of representative works. Conducted in German.

**3530:351-352 TRANSLATION GERMAN. 3 credits each.**

**3530:403-404 ADVANCED GERMAN CONVERSATION AND COMPOSITION. 3 credits each.**

Prerequisite, 302 or equivalent. A thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

**3530:406-407 GERMAN CULTURE AND CIVILIZATION 3 credits each**

Prerequisite: 302 or 306 or equivalent. Particular emphasis on the customs, traditions, literary trends, and artistic tendencies that constitute Germany's contribution to Western Civilization.

**3530:419/519 THE AGE OF GOETHE I 3 credits**

Prerequisite: 302 or 306 or permission. Enlightenment and the generation of Sturm und Drang, including the works of Wieland, Lessing, Klopstock, Herder the young Goethe, and others. Conducted in German.

**3530:420/520 THE AGE OF GOETHE II 3 credits**

Prerequisite: 302, 306 or permission. Faust, selections from parts I and II. Ballads of Goethe and Schiller. Conducted in German.

**3530:431/531 200 YEARS OF GERMAN DRAMA 3 credits**

Prerequisite: 302 or 306 or permission. Representative works of the major classical dramatics including Lessing, Goethe, Schiller, Kleist, Grillparzer. Conducted in German.

**3530:432/532 200 YEARS OF GERMAN DRAMA 3 credits**

Prerequisite: 302 or 306 or permission. Representative works of the major dramatists, Buchner, Hebbel, Hauptmann and Wedekind. Conducted in German.

**3530:435/535 GERMAN SHORT STORY 3 credits**

Prerequisite: 302 or 306 or permission. Reading and discussion of representative works of German Romanticism, including those of Tieck, Kleist, E.T.A. Hoffman, Brentano, Eichendorff. Conducted in German.

**3530:436/536 GERMAN SHORT STORY 3 credits**

Prerequisite: 302 or 306 or permission. Reading and discussion of works representative of the period, in-

cluding those of Droste-Hulshoff, Stifter, Keller, Meyer, Storm. Conducted in German.

**3530:439/539 20th CENTURY GERMAN LITERATURE I 3 credits**

Prerequisite: 302 or 306 or permission. The clash of the old and the new at the turn of the century. The works of T. Mann, Hauptmann, Kaiser, Hofmannsthal, Rilke, Wedekind, and others. Conducted in German.

**3530:440/540 20th CENTURY GERMAN LITERATURE II. 3 credits**

Prerequisite: 302 or 306 or permission. The impact of modernity. Readings and discussions of the writings of Hesse, Kafka, Doblin, Werfel, and others. Conducted in German.

**3530:471/571 GERMAN LANGUAGE READING PROFICIENCY 4 credits**

The course is designed to develop proficiency in reading comprehension.

**3530:497-498 INDIVIDUAL READING IN GERMAN 1-3 credits each**

Prerequisite: permission.

## 3550: ITALIAN

**3550:101-102 BEGINNING ITALIAN I, II 4 credits each**

Sequential. Reading, speaking, writing and listening comprehension; intensive drill in pronunciation, short stories, outside reading and supplementary work in the language Laboratory.

**3550:201-202 INTERMEDIATE ITALIAN I, II 3 credits each**

Sequential. Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing speaking and listening comprehension; short stories, plays, novels on intermediate level, outside reading and supplementary work in the Language Laboratory.

**3550:207-208 INTERMEDIATE ITALIAN I, II, READING OPTION 3 credits each**

Sequential. Prerequisite: 102 or equivalent. The readings will cover various aspects of Italian culture through the centuries, with particular emphasis on history, literature, art and the contemporary Italian way of life as compared with the American one.

**3550:250 GENIUS OF ITALIAN LITERATURE IN TRANSLATION 2 credits**

Reading and discussion of works of Dante, Petrarca, Boccaccio, Ariosto, Macchiavelli, Cellini, Tasso, Bruno, Pirandello De Filippo.

**3550:301-302 ITALIAN COMPOSITION AND CONVERSATION 3 credits each**

Prerequisite: 202 or equivalent. Italian composition using Italian models, special attention to words and idioms, and development of oral expression and conversational ability.

**3550:305-306 INTRODUCTION TO LITERATURE 3 credits each**

Prerequisite: 202 or equivalent. Introduction to the study of Italian literature. Readings and class discussions in Italian of representative works.

## 3570: RUSSIAN

**3570:101-102 BEGINNING RUSSIAN I, II 4 credits each**

Reading, speaking, writing, and understanding; intensive drill in pronunciation and supplementary work in the Language Laboratory

**3570:201-202 INTERMEDIATE RUSSIAN I, II**  
3 credits each

Prerequisites: 102 or equivalent. Grammar review, practice in reading, writing, speaking; short stories, novels on intermediate level, outside reading and supplementary work in the Language Laboratory.

**3570:207-208 INTERMEDIATE RUSSIAN I, II, READING OPTION** 3 credits each

Sequential. Prerequisite: 102 (or equivalent). Reading of texts in Russian dealing with the culture of Russian-speaking people. Discussion of the content of these texts in English along with a review of grammar to the extent necessary for an accurate understanding of the texts. Not open to majors.

**3570:301-302 RUSSIAN COMPOSITION AND CONVERSATION** 3 credits each

Prerequisite: 202 or equivalent. Advanced composition using Russian models, special attention to words and idioms; development of oral expression and conversation ability.

**3570:305-306 INTRODUCTION TO RUSSIAN LITERATURE** 3 credits each

Prerequisite: 202 or equivalent. Readings and class discussions in Russian of representative works.

**3570:309-310 RUSSIAN CIVILIZATION AND CULTURE** 3 credits each

Prerequisite: 202 or equivalent. Readings and discussion of Russian texts relating to important developments in Russian civilization and culture.

**3570:351-352 TRANSLATION—RUSSIAN**  
3 credits each**3570:403-404 ADVANCED RUSSIAN COMPOSITION AND CONVERSATION** 3 credits each

Prerequisite: 302 or equivalent. A thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

**3570:411-412 SCIENTIFIC RUSSIAN** 3 credits each

Prerequisite: 202 or equivalent. Intensive reading of scientific articles in chemistry, physics, mathematics, biology and medicine.

**3570:420-421 RUSSIAN LITERATURE OF THE NINETEENTH CENTURY: ROMANTICISM AND REALISM** 3 credits each

Prerequisites: 301 or 302 or permission. Readings from representative authors such as Pushkin, Lermontov, Gogol, Turgenev, Dostoyevsky, Tolstoy, Goncharov, and others.

**3570:427-428 RUSSIAN LITERATURE OF THE TWENTIETH CENTURY** 3 credits each

Prerequisite: 202 or equivalent. Reading and discussion of selected literary works from Gorky to Solzhenitsyn.

**3570:439 ADVANCED RUSSIAN SYNTAX, GRAMMAR AND CONVERSATION** 3 credits

Prerequisite: 404 (or equivalent). Advanced work in composition, translation into Russian, and idiomatic use of the spoken language.

**3570:487-498 INDIVIDUAL READING IN RUSSIAN**  
1-3 credits each

Prerequisite: permission.

**3580: SPANISH****3580:101-102 BEGINNING SPANISH I, II**  
4 credits each

Sequential. Reading, speaking, writing and listening comprehension: Intensive drill in pronunciation, short

stories, outside reading and supplementary work in the Language Laboratory.

**3580:201-202 INTERMEDIATE SPANISH I, II**  
3 credits each

Sequential. Prerequisite: 102 (or equivalent). Grammar review, practice in reading, writing, speaking and listening comprehension; short stories, plays novels on intermediate level, outside reading and supplementary work in the Language Laboratory.

**3580:207-208 INTERMEDIATE SPANISH I, II, READING OPTION** 3 credits each

Sequential. Prerequisite: 102 (or equivalent). By permission only. Reading of texts in Spanish dealing with the culture of Spanish-speaking people. Not open to majors.

**3580:251 CONTEMPORARY SPANISH LITERATURE IN TRANSLATION** 3 credits

Reading and discussion of representative works from Spain and Spanish America's leading novelists, dramatists and thinkers. May not be taken for credit toward the Spanish major.

**2580:301-302 SPANISH COMPOSITION AND CONVERSATION** 3 credits each

Prerequisite: 202 (or equivalent). Advanced composition using Spanish models, special attention to words and idioms, development of oral expression and conversational ability.

**3580:305-306 INTRODUCTION TO SPANISH AND SPANISH-AMERICAN LITERATURE** 3 credits each

Prerequisite: 202 (or equivalent). Direct reading and discussion, in Spanish, of novels, short stories and drama in the modern idiom of Spain, Puerto Rico and the 17 Spanish-American republics.

**3580:311 SPANISH-SPANISH AMERICAN CULTURAL EXPERIENCE** 1-2 credits

Prerequisite: permission. A student's residence and/or independent study in a Spanish speaking country which results in demonstrable assimilation of the country's culture may earn a maximum of two hours credit.

**3580:351-352 TRANSLATION—SPANISH**  
3 credits each**3580:403-404 ADVANCED GRAMMAR AND COMPOSITION** 3 credits each

Prerequisite: 302 or equivalent. A thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

**3580:407/507 MEDIEVAL AND RENAISSANCE SPANISH LITERATURE** 4 credits

Prerequisites: 302 or 306 or permission. Reading and discussion of representative works that mark the beginnings of Spanish literature in poetry, prose, and drama, with emphasis given to the major works: *Cantar de Mio Cid*, *El Libro de Buen Amor*, *La Celestina*, and the ballads. Conducted in Spanish.

**3580:409-410 LINGUISTICS** 3 credits each

Prerequisite: 302 or permission. Introduction to linguistics focusing on Spanish; includes phonetics; comparative and historical linguistics; traditional, structuralist and transformationalist theories of grammar, together with practical applications for Spanish majors.

**3580:411/511 SPANISH LITERATURE OF THE GOLDEN AGE** 4 credits

Prerequisite: 302 or permission. Reading and discussion of representative novels and short stories with special emphasis on the works of Miguel de Cervantes. Drama, poetry and essays of the sixteenth and seventeenth centuries will be studied. Conducted in Spanish.

**3580:415/515 XVIII AND XIX CENTURIES SPANISH LITERATURE 4 credits**

Prerequisites: 302 or 306 or permission. Reading, discussion and lectures. Study of Neoclasicismo, Romanticismo, Realismo, Naturalismo, le generacion of 1898. Conducted in Spanish.

**3580:419/519 XX CENTURY SPANISH LITERATURE 4 credits**

Prerequisites: 302 or 306 or permission. Reading and discussion of the most representative writers of twentieth century Spain. Representative poetry, drama, novels and short stories will be studied. Conducted in Spanish.

**3580:422/522 SPECIAL TOPICS IN HISPANIC CULTURE 4 credits**

Reading and discussion of significant works in literature or culture in Spain and Latin America that are not studied in other courses. May be repeated.

**3580:423/523 SPANISH-AMERICAN LITERATURE 4 credits**

Prerequisites: 302 or 306 or permission. Reading and discussion of representative Spanish-American Literature from discovery to the present time. Oral and written reports. Conducted in Spanish.

**3580:427-428/527-528 SPANISH AND SPANISH-AMERICAN CULTURE & CIVILIZATION 3 credits each**

Prerequisites: 302 or 306 or permission. Emphasis on the customs, traditions, literary trends, and artistic tendencies that constitute Spain's specific contribution to Western Civilization. Study of the Spanish-speaking world. Conducted in Spanish.

**3580:471/571 SPANISH LANGUAGE READING PROFICIENCY 4 credits**

Course is designed to develop proficiency in reading comprehension.

**3580:497 INDIVIDUAL READING IN SPANISH 1-3 credits**

Prerequisite: permission.

**GRADUATE COURSES****3580:601 SEMINAR ON MEDIEVAL SPANISH LITERATURE. 4 credits.**

Reading and discussion of the monumental medieval literary works of Spain such as *Poema de Mio Cid*, *El Conde Lucanor*, *El Libro de Buen Amor*. Conducted in Spanish.

**3580:605-606 SEMINAR IN HISPANIC LINGUISTICS. 4 credits each.**

Advanced topics in comparative, historical and descriptive Hispanic linguistics studied from contemporary theoretical perspectives; includes practical applications.

**3580:609-610 SEMINAR ON SPANISH LITERATURE OF THE GOLDEN AGE; SEMINAR ON XVIII AND XIX CENTURIES SPANISH LIT. 4 credits each.**

Reading and discussion of representative writers from the Renaissance to the late Baroque period. Studies in the essay, the novel, the theater, the poetry and the philosophic writings. Conducted in Spanish.

**3580:613 SEMINAR ON SPANISH-AMERICAN LITERATURE. 4 credits.**

Studies in representative writers preceding the "Boom." Reading and discussion of various genres and authors representing significant literary developments. Conducted in Spanish.

**3580:617 SEMINAR ON XX CENTURY SPANISH-AMERICAN LITERATURE. 4 credits.**

Reading and discussion of contemporary writers with

emphasis on the theater, the novel and the short story. Conducted in Spanish.

**3580:621 SEMINAR ON XX CENTURY SPANISH LITERATURE. 4 credits.**

Studies in representative present-day writers with analyses and discussions of the novel, the theater, poetry and short stories. Conducted in Spanish.

**3580:661 SPANISH TEACHING PRACTICUM. 2 credits.**

Prerequisite, Teaching Assistantship or permission. Orientation and practice of particular aspects of teaching Spanish language and culture. Student teaching experiences are periodically reviewed and evaluated. These credits may not be applied toward degree requirements.

**3580:697-698 INDIVIDUAL READINGS IN SPANISH. 1-4 credits each.**

The content of given individual Reading program would be taken from course contents approved for graduate work in Spanish.

**3580:699 THESIS WRITING. 4 credits.****3600: PHILOSOPHY**

**3600:101 INTRODUCTION TO PHILOSOPHY 3 credits**  
An introduction to philosophic problems and attitudes through acquaintance with the thought of some of the leading thinkers of the Western tradition.

**3600:120 INTRODUCTION TO ETHICS 3 credits**  
Prerequisite, 101. An introduction to the problems of moral conduct through readings from the tradition and class discussions; Nature of "good," "right," "ought," and "freedom."

**3600:131 COMPARATIVE RELIGIONS I: EASTERN 3 credits**

An introduction to Hinduism, Buddhism, Jainism, Confucianism, Taoism and Shinto.

**3600:132 COMPARATIVE RELIGIONS II: MAJOR WESTERN RELIGIONS 3 credits**

An introduction to Zoroastrianism, Judaism, Christianity and Islam.

**3600:170 INTRODUCTION TO LOGIC 3 credits**

An introduction to logic and critical thinking. Includes such topics as meaning, informal fallacies, propositional logic, predicate and syllogistic logic, and the nature of induction.

**3600:211 HISTORY OF ANCIENT PHILOSOPHY 3 credits**

The history and development of ancient Greek philosophy from Pre-Socratics to Aristotle. Readings of primary sources in translation.

**3600:212 HISTORY OF MEDIEVAL PHILOSOPHY 3 credits**

History of Western philosophy from end of Roman Empire to Renaissance. Major philosophers studied include St. Augustine, St. Anselm, Peter Abelard, St. Thomas Aquinas, Duns Scotus, and William of Ockham. Readings from primary sources.

**3600:216 AMERICAN PHILOSOPHY 3 credits**

Prerequisite, one course in philosophy or permission of instructor. The movement of ideas in America from Royce to the present.

**3600:223 VALUE THEORY 3 credits**

An inquiry into man as an evaluator. A study of some principles and theories of value and their implications.

**3600:224 SOCIAL AND POLITICAL PHILOSOPHY**

3 credits

Prerequisite, one course in philosophy or permission of instructor. An examination of the images of man implied in the major social and political philosophies in Western History. Special attention is devoted to the epistemological, methodological, ontological and axiological assumptions and consequences of these theories.

**3600:232 PHILOSOPHY OF RELIGION 3 credits**

Prerequisite, two courses in philosophy. Discussion and analysis of the problems of theology and the nature of the religious experience; God's nature and existence, immortality, sin, faith, and reason, the holy revelation and redemption.

**3600:250 PHILOSOPHY OF ART 3 credits**

Prerequisite, 101 or permission. An introduction to the major theories of the nature of art and the art object with readings and discussions of examples. Such thinkers as Plato, Aristotle, Schopenhauer, Lessing, Pater and Freud are examined.

**3600:313 HISTORY OF MODERN PHILOSOPHY**

3 credits

An analysis of the major philosophical issues of the 17th and 18th centuries from Descartes through Kant. Readings of primary sources in translation.

**3600:314 19TH CENTURY PHILOSOPHY 3 credits**

Prerequisite, one course in philosophy or permission of instructor. An inquiry into the philosophically significant ideas of Hegel, Marx, Schopenhauer, Mill, Kierkegaard, and Nietzsche.

**3600:332 DIALECTICAL MATERIALISM 3 credits**

Prerequisite, 224 or permission of instructor. Includes attention to Hegelian and other origins as well as its development in the writings of Marx, Engels, Lenin, and contemporary writers. Focus on metaphysics, social philosophy, philosophy of history, the nature of man, ethics, and aesthetics.

**3600:374 SYMBOLIC LOGIC 3 credits**

Prerequisite, 170 or permission of instructor. A detailed consideration of propositional and first-order predicate logic. An introduction to class logic, modal logics, and axiomatics.

**3600:411/511 LATER DIALOGUES OF PLATO 3 credits**

Prerequisites, one introductory course and 211 or permission of instructor. Readings of Platonic dialogues in translation, commencing with Theatetus and including Parmenides, Sophist, Statesman, Philebus.

**3600:418/518 ANALYTIC PHILOSOPHY. 3 credits**

Prerequisites, 211, 312, and 313, or permission of instructor. Study of ideal and ordinary language movements in 20th century British and American philosophy. Deals with such figures as Russell, Carnap, Ayer, Moore, Wittgenstein, Ryle, and Austen.

**3600:419/519 BRITISH EMPIRICISM. 3 credits**

Prerequisites, one introductory course and 213 or permission of instructor. An intensive analysis of selected major writings of Locke, Berkeley, and Hume.

**3600:421/521 PHILOSOPHY OF LAW. 3 credits**

Prerequisite, one course in philosophy or permission of instructor. A philosophical inquiry into the nature of law and legal institutions.

**3600:422/522 CONTINENTAL RATIONALISM. 3 credits**

Prerequisites, one introductory course and 213 or permission of instructor. An intensive analysis of selected major writings of Descartes, Spinoza, and Leibniz.

**3600:424/524 EXISTENTIALISM. 3 credits**

Prerequisite, one introductory course in philosophy, 314, or permission of instructor. An in-depth inquiry into the thought of Kierkegaard, Jaspers, Heidegger, Sartre, Tillich, and other existentialists with their concern for man and his human condition.

**3600:426/526 PHENOMENOLOGY. 3 credits**

Prerequisites, one introductory course, 314, or permission of instructor. An inquiry into the methodology of Husserl and Heidegger and their influence upon Western European and American thought.

**3600:432/532 ARISTOTLE. 3 credits**

Prerequisites, 211, 212 and 213, or permission of instructor. A detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of man, and ethics. Taught in alternate years.

**3600:434/534 KANT. 3 credits**

Prerequisite, 213 or permission of instructor. A study of Kantian system of thought and its relation to the history of philosophy. Includes a thorough investigation of one or more of Kant's philosophic works.

**3600:444/544 PROBLEMS IN PHILOSOPHY. 3 credits**

Prerequisites, two courses in philosophy or permission of instructor. A thorough, critical examination of one major philosophical problem.

**3600:462/562 THEORY OF KNOWLEDGE. 3 credits**

Prerequisite, three courses in philosophy. An examination of the nature of knowledge; theories of perception, conception and truth, the problem of induction, and the relation of language to knowledge.

**3600:464/564 PHILOSOPHY OF SCIENCE. 3 credits**

Prerequisites, 101, 170, or permission of instructor. The nature of scientific inquiry, types of explanation, laws and causality, theoretical concepts and reality. Also considers critics of the hypothetical-deductive view of science, e.g., Hanson and Kuhn.

**3600:471/571 METAPHYSICS. 3 credits**

Prerequisites, 211, 212, and 213, or permission of instructor. Theories about the ultimate nature and ultimate explanation of reality. Uses readings from classical and contemporary sources.

**3600:480/580 SEMINAR. 3 credits**

Prerequisite, permission of instructor. May be repeated.

**3600:481/581 PHILOSOPHY OF LANGUAGE. 3 credits**

Prerequisites, 101 and 170, or permission of instructor. Contemporary philosophies about the nature of language and its relation to reality and human thinking. Includes discussion of the views of linguists such as Chomsky.

**3600:497/597 INDIVIDUAL STUDY. 1-3 credits**

(May be repeated for no more than 6 credits.) Prerequisite, completion of required courses for philosophy major or permission of instructor and department head. Directed independent study of a philosopher, a philosophy or a philosophical problem under the guidance of a selected faculty member. Subject matter will be determined by the selected faculty member in consultation with the student. Graduate credit will require significant additional work which may include an additional research paper.

**GRADUATE COURSES****3600:615 SEMINAR: HISTORY OF PHILOSOPHY**

3 credits

(May be repeated for a total of 12 credits.)

A study in the philosophical works of one major philosopher. Open only with consent of instructor.

**3600:626 ETHICAL THEORY. 3 credits**

An examination of the problems related to human conduct and decision-making in the light of the Western tradition as well as the contemporary insights of positivism, phenomenology, existentialism, logical analysis, naturalism and pragmatism.

**3600:676 LOGICAL THEORY. 3 credits**

Advanced topics in logic such as modal logics and axiomatics. Recommended for law students, as the logic of normative systems is treated. It is suggested that graduate students be familiar with the material covered in a course like 374 before taking this course.

**3600:680 SEMINAR. 3 credits**

(May be repeated for a total of 9 credits.)

**3600:699 SEMINAR: THESIS SUPERVISION I**

2 credits

May be repeated.

**3650: PHYSICS****3650:130 DESCRIPTIVE ASTRONOMY 3 credits**

A qualitative and non-mathematical introduction to the subjects of astronomy and astrophysics, intended primarily as a first science course for students not majoring in physical science.

**3650:133 MUSIC, SOUND & PHYSICS 2 credits**

A qualitative introduction to sound production and perception, with emphasis on music.

**3650:137 LIGHT: COLORS, CAMERAS & PERCEPTION 3 credits**

An introductory, qualitative course dealing with the nature of light, and the interaction of light with material objects to produce common visual effects.

**3650:138 PROPERTIES OF LIGHT LABORATORY**

1 credit

Prerequisite or corequisite: 137 or permission. An introductory laboratory, which deals qualitatively and quantitatively with the properties of light and the interaction of light with material objects.

**3650:141 PHYSICS, ENERGY & MAN 3 credits**

An introductory, qualitative course dealing with the nature of energy, including its availability, conservation and utilization by man. Energy resources; conversion efficiencies; environmental effects of energy production; recent developments.

**3650:231 CONCEPTS OF PHYSICS I 4 credits**

Prerequisites: High-school algebra and trigonometry, or 3450:149 as corequisite. General Physics; emphasizing unifying concepts of physics such as conservation laws and symmetry principles. Newtonian mechanics, oscillations, waves.

**3650:232 CONCEPTS OF PHYSICS II 4 credits**

Prerequisite: 231 (continuation) Electricity and magnetism; interference and diffraction of waves; the nature of heat; space and time in the theory of relativity; quantum mechanics of atomic phenomena; recent developments in the study of elementary particles.

**3650:261 PHYSICS FOR THE LIFE SCIENCES I**

4 credits

Prerequisite: high-school algebra and trigonometry or 3450:149 as corequisite, or permission. Introductory course to prepare for professional work in biology and the health professions and services. Emphasizes life science applications. Mechanics: laws of motion, force, torque, work, energy, power; properties of matter: gases, liquids, solids, fluid mechanics.

**3650:262 PHYSICS FOR THE LIFE SCIENCES II**

4 credits

Prerequisite: 261 (continuation). Laws of thermodynamics, kinetic theory. Wave phenomena: sound, light, optics; electricity and magnetism; atomic and nuclear physics; radioactivity.

**3650:267-268 LIFE SCIENCE PHYSICS**

COMPUTATIONS I, II 1 each

Corequisites: 261 (with 267); 262 (with 268). Optional companion courses to 261-262 to provide additional computational experience in applications of physics to the life sciences, emphasizing use of algebra and trigonometry. Particularly recommended for students with modest mathematical preparation.

**3650:291 ELEMENTARY CLASSICAL PHYSICS I**

4 credits

Corequisite: 3450:221. Introductory physics for students of science and engineering. Classical statics, kinematics and dynamics, as they relate to contemporary physics. Oscillations, waves; fluid mechanics. Vectors and some calculus are introduced as needed.

**3650:292 ELEMENTARY CLASSICAL PHYSICS II**

4 credits

Prerequisite: 291 (continuation). Thermodynamics from the atomic point of view; basic laws of electromagnetism; mechanical and electromagnetic waves. Interference and diffraction; coherence; geometrical and physical optics.

**3650:293-294 PHYSICS COMPUTATIONS I, II**

1 credit each

Corequisites: 291 (with 297); 292 (with 298). Optional companion courses to 291-292 intended to provide experience in problem-solving, and to elaborate the application of calculus to simple physical phenomena. Particularly recommended for freshmen, and for students with modest preparation in mathematics or physical sciences.

**3650:301 ELEMENTARY MODERN PHYSICS 3 credits**

Prerequisite: 292 or permission of instructor. Special relativity, introduction to quantum physics, hydrogen atom and complex atoms, atomic spectra, topics in nuclear and solid state physics.

**3650:321 PHYSICS LABORATORY TECHNIQUES**

2 credits

Prerequisite: Permission of instructor. Design and fabrication of simple mechanical systems, photography in data collection, electronic chassis construction, printed circuit techniques optical measuring instruments.

**3650:331-332 ASTROPHYSICS I, II 3 credits each**

Prerequisite: 232, 262 or 292. A one-year comprehensive, qualitative course recommended for students majoring in physics or natural science, and for secondary school teachers and others desiring a comprehensive survey of astronomy and astrophysics at the intermediate level.

**3650:399 UNDERGRADUATE RESEARCH 1-6 credits**

Prerequisite: Permission of instructor. Participation in a current research project in the department under the supervision of a faculty member. May be repeated.

**3650:400/500 HISTORY OF PHYSICS 3 credits**

Prerequisite: 232, 262 or 292. A study of the origin and evolution of the major principles and concepts that characterize contemporary physics.

**3650:404/504 ENERGY AND THE ENVIRONMENT**

3 credits

Prerequisite: 232, 262 or 292. The physics of macroscopic energy sources and the techniques of their use, with emphasis on their thermodynamic efficiencies, storage, transport, side effects, and prospective availability.

**3650:406/506 WAVES 3 credits**

Prerequisite: 232, 262 or 292. Analysis of phenomena common to all waves, including free oscillations, forced oscillations, traveling waves, reflection, polarization, interference and diffraction. Water, sound, electromagnetic, seismic and deBroglie waves will be examined.

**3650:407/507 QUANTUM PHYSICS 3 credits**

Prerequisite: 232, 262 or 292. Quantum physics at the intermediate level. Energy levels, photons, material particles, the Uncertainty Principle, Schrodinger wave mechanics, theory of stationary states and elementary particles.

**3650:410/510 ELECTRONICS 3 credits**

Prerequisite: 232, 262 or 292. Electron tubes, semiconductors, and their utilization in circuits. Introduction to the mathematical analysis of these circuits.

**3650:411-412/511-512 INTERMEDIATE LABORATORY I, II 2 credits each**

Corequisite: 410. Experiments involving measurements of physical properties of various systems which are most readily made with electronic instruments and circuits. Amplifiers, oscillators, bridges, special circuits. Detection and counting of nuclear radiations. Thermal and electrical properties of metals, semi-conductors and other materials. Photoelectric effect. Charge on the electron.

**3650:420/520 OPTICS 3 credits**

Prerequisite: 232, 262 or 392 and 3450:223. Reflection, refraction; prisms, thin lenses, thick lenses, mirrors; waves and their propagation; interference and diffraction; diffraction gratings; polarization; emission of light; velocity of light; photometry; lasers.

**3650:421/521 APPLIED PHYSICS LABORATORY 2 credits**

Prerequisite: 411 or consent of instructor. A laboratory course stressing measurement and evaluation techniques as performed in industry and research. Mechanical, optical, thermal, electric and electronic measurements are done, experimental design, calibration, and reporting are emphasized.

**3650:430/530 STATISTICAL PHYSICS 3 credits**

Prerequisite: 232, 262 or 292. Kinetic theory of gases, temperature; thermodynamic systems; work; ideal gases; real gases; laws of thermodynamics; entropy, reversibility and irreversibility; Carnot cycle; Kelvin temperature scale; change of phase.

**3650:431/531 MECHANICS 3 credits**

Prerequisite: 292. Newtonian mechanics, conservation laws, planar statics and dynamics, motion of a particle or rigid body, universal gravitation, planetary orbits, Kepler's laws, orbit perturbations, vibrational motions, moving frames of reference.

**3650:436/536 ELECTRICITY AND MAGNETISM 3 credits**

Prerequisite: 292 or permission of instructor. Electricity and magnetism at the intermediate level. Electric and magnetic fields, electric potential, vector potential. Gauss's Law, divergence theorem, Stoke's theorem, introductory vector analysis. Development of Maxwell's Equations.

**3650:438/538 METHODS OF APPLIED PHYSICS 3 credits**

Prerequisite or corequisite: 421. Topics in the design, performance, interpretation and reporting of physical measurements: the scientific method, measurements and their uncertainties, principles of experimentation, measurement devices, data resolution and analysis, inference.

**3650:445/545 THEORETICAL MECHANICS 4 credits**

Prerequisite: 431. Introductory vector analysis, motion

of a system of particles, mechanics of continuous media, Lagrange's equations, Hamilton's equations, inertia and stress tensors, rigid body rotation, Euler's equations, small vibration theory.

**3650:446/546 ELECTROMAGNETIC THEORY 4 credits**

Prerequisite: 436. Electromagnetic theory at the advanced level, including; electrostatic fields, dielectrics, magnetic fields of steady currents, induction, magnetic energy, Maxwell's equations, electromagnetic waves, electromagnetic fields of moving charges, radiation.

**3650:451-452/551-552 ADVANCED LABORATORY I, II 2 credits each**

Prerequisite: 412 or permission of instructor. Applications of electronic and solid state devices and techniques to research-type projects in contemporary physics. Introduction to resonance techniques; nuclear magnetic resonance, electron spin resonance, nuclear quadrupole resonance. Scintillation spectroscopy. Alpha and beta ray spectroscopy.

**3650:470/570 INTRODUCTION TO SOLID STATE PHYSICS 3 credits**

Prerequisite: 407 or permission of instructor. An account of the basic physical processes which occur in solids, with emphasis on the fundamental relation between these processes and the periodicity of the crystalline lattice.

**3650:471-472/571-572 NMR SPECTROSCOPY I, II 2 credits each**

Prerequisite: 292 or permission of instructor. The theoretical basis and experimental techniques of Nuclear Magnetic Resonance (NMR) spectroscopy. Classical concepts and quantum mechanical treatments of NMR. The Bloch equations; spin-spin and spin-lattice relaxation times. Steady state and transient phenomena. General features of broadline and high-resolution NMR spectra. NMR instrumentation and operating principles. The theory and analysis of high resolution NMR spectra. Discussion of the quantitative applications of broadline and high-resolution NMR spectra and the determination of physical and chemical structures.

**3650:481-482/581-582 METHODS OF MATHEMATICAL PHYSICS I, II 3 credits each**

Prerequisite: 292; 3450:236 and senior or graduate standing in a physical science or engineering. A consideration of many mathematical methods useful in science and engineering. Elliptic integrals, perturbation theory, conformal mapping, variational methods, potential equation; diffusion equation, wave equation, Fourier transform, eigenfunctions and eigenvalues, solution of boundary value problems using Green's function, inertia tensor. Emphasis on applications to physics and engineering.

**3650:487/587 LABORATORY PROJECTS 1-3 credits**

Prerequisite: permission. Design of laboratory apparatus experiments, techniques or demonstrations. May be repeated.

**3650:488/588 SELECTED TOPICS 1-4 credits**

Prerequisite: permission. Consideration of selected topics, procedures, techniques, materials or apparatus of current interest in physics. May be repeated.

**3650:490/590 WORKSHOP 1-4 credits**

Group studies of special topics in Physics. May not be used to meet undergraduate or graduate major requirements in Physics. May be used for elective credit only. May be repeated.

**3650:497/597 INDEPENDENT STUDY 1-4 credits**

Prerequisite: permission. Further investigations of various selected topics in physics, under the guidance of a faculty member. May be repeated.

## GRADUATE COURSES

**3650:601 ATOMIC AND NUCLEAR PHYSICS I**

3 credits

Prerequisite: 301 or 407 and 3450:235, or permission of instructor. An expository and analytical treatment of the fundamental principles which operate to yield and observed complex behavior of matter. Introductory quantum mechanics, free particle quantum mechanics, the one-electron atom.

**3650:602 ATOMIC AND NUCLEAR PHYSICS II**

3 credits

Prerequisite: 601 or permission. Special theory of relativity, radiation and radiative transitions. Pauli principle and exchange symmetry. Atomic Spectroscopy, quantum statistics. Band theory of solids. Basic properties of nuclei. Particle scattering and nuclear forces.

**3650:605 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICAL PROBLEMS I**

2 credits

Prerequisite: 4450:660 or permission. Review of fortran and properties of digital computers. Computer solutions to physical problems, including Newton's, Schrodinger's and LaPlace's equations; Data reduction, curve fitting, plotting.

**3650:606 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICAL PROBLEMS II**

2 credits

Prerequisite: 4450:660 or permission. Numerical methods are elaborated along with applications; problems are solved on the central computer. The second semester may accomodate scientific problems of individual interest.

**3650:611 PHYSICAL PROPERTIES OF MATTER I**

3 credits

Prerequisite: 293. Experimental stress-strain relations of real materials, simple stress-strain analysis, brittle and ductile fracture, phenomenological theories for fracture, discussion of mechanical properties in terms of atomic and molecular structure.

**3650:612 PHYSICAL PROPERTIES OF MATTER II**

3 credits

Prerequisite: 611 or permission. Measurement and analysis of the friction and adhesion of real materials, surface tension of liquids and solids, thermodynamics of spreading and wetting, viscosity.

**3650:621 ATOMIC AND MOLECULAR SPECTRA I**

3 credits

Prerequisites: 301, 3450:235 or permission of instructor. Elements of atomic theory; line spectra; electron spin and multiplet structure; the building-up principle and the periodic system of the elements; special intensities; hyperfine structure; isotope effect, nuclear spin.

**3650:622 ATOMIC AND MOLECULAR SPECTRA II**

3 credits

Prerequisite: 621 or permission of instructor. 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.

**3650:631 PHYSICS OF POLYMERS I**

2 credits

Prerequisite: 3450:235 or permission of instructor. Polymeric states of matter, crystallinity, rubber elasticity, viscoelasticity, transport and electrical properties, the glassy state, fracture processes. Elasticity at large strains, phenomenological visco-elasticity, dielectric properties, diffusion.

**3650:632 PHYSICS OF POLYMERS II**

2 credits

Prerequisite: 631 or permission. Phase transitions, temperature dependence of mechanical and electrical properties, crystalline polymers, kinetics of crystallization, fracture, adhesion, wear.

**3650:635-636 PHYSICS OF POLYMERS LABORATORY I, II**

2 credits each

Prerequisite: 291, corequisite: 631-632. Selected laboratory experiments to illustrate the principles and methods discussed in courses 631-632.

**3650:651 THEORETICAL CLASSICAL PHYSICS I**

3 credits

Prerequisite: 445 and 446 or permission. Inertial reference frames, generalized coordinates, Lagrange's equations, theory of small vibrations, Hamilton-Jacobi method and the theory of relativity.

**3650:652 THEORETICAL CLASSICAL PHYSICS II**

3 credits

Prerequisite: 651. Maxwell's equations, space-time symmetry of the field equations, field vectors in moving systems, field energy and momentum, electrodynamics, electromagnetic forces on charges and currents.

**3650:661 THERMODYNAMICS AND STATISTICAL MECHANICS I**

3 credits

Prerequisites: 430 and 3450:235. Introduction to basic statistical concepts. Application of statistical ideas to systems of particles in equilibrium to develop the basic notions of statistical mechanics.

**3650:662 THERMODYNAMICS AND STATISTICAL MECHANICS II**

3 credits

Prerequisite: 661. Illustration and discussion of macroscopic aspects followed by the same for the microscopic aspects of the theory. Phase transitions and quantum gases. Nonequilibrium situations and transport theory.

**3650:681. QUANTUM MECHANICS I**

3 credits

Prerequisites: 445, 446, 3450:235 or permission of instructor. Courses 602 and 490 are also recommended but not required. A thorough development of ordinary wave mechanics; matrix formulation and unification in the more abstract Dirac formulation.

**3650:682 QUANTUM MECHANICS II**

3 credits

Prerequisites: 681. Angular momentum, spin, Pauli matrices, Clebsch-Gordon coefficients, spin-orbit interaction, scattering theory, Born approximation, perturbation theory; time independent and time dependent, sudden and adiabatic approximations.

**3650:684 ADVANCED NUCLEAR PHYSICS**

3 credits

Prerequisites: 602, 682. Quantum mechanics applied to the nucleus. Interaction of radiation with the nucleus, nuclear scattering, nuclear reactions; energy levels of nuclei.

**3650:685 SOLID STATE PHYSICS I**

3 credits

Prerequisites: 470, 681 or permission of instructor. Theory of the physics of crystalline solids. Properties of the reciprocal lattice and Bloch's theorem. Lattice dynamics and specific heat. Electron states; cellular method, tight-binding method, Green's function method.

**3650:686 SOLID STATE PHYSICS II**

3 credits

Prerequisite: 685. Orthogonalized plane and pseudo potentials. Electron-electron interaction; screening by impurities, Friedel sum rule, and plasma oscillations. Dynamics of electrons, transport properties and the Fermi surface.

**3650:689 SPECIAL PROBLEMS IN THEORETICAL PHYSICS**

1-4 credits

Prerequisite: permission. Intended to facilitate the expansion of particular areas of interest in theoretical physics, by consultation with a faculty member and independent study beyond available course work. May be repeated.

**3650:690 SPECIAL PROBLEMS IN EXPERIMENTAL PHYSICS. 1-4 credits**

Prerequisite: permission. Intended to encourage the development of experimental techniques in selected areas, under the supervision of a faculty member. May be repeated.

**3650:691 SEMINAR IN THEORETICAL PHYSICS 1-3 credits**

Prerequisite: permission. May be repeated.

**3650:692 SEMINAR IN NMR SPECTROSCOPY 1-3 credits**

Prerequisite: permission. May be repeated.

**3650:693 SEMINAR IN SOLID STATE PHYSICS 1-3 credits**

Prerequisite: permission. May be repeated.

**3650:697 GRADUATE RESEARCH 1-5 credits**

Prerequisite: permission. Candidates for the M.S. degree may obtain up to 5 credits for faculty supervised research projects. Grades and credit will be received at the completion of such projects.

**3650:698 SPECIAL TOPICS IN PHYSICS 1-4 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.

**3650:699 MASTER'S THESIS RESEARCH 1 credit**

Prerequisite: permission. With the approval of the department, one credit may be earned by candidates for the M.S. degree upon the satisfactory completion of a Master's Thesis.

**3700: POLITICAL SCIENCE****3700:100 GOVERNMENT AND POLITICS IN THE U.S. 3 credits**

An examination of the American political system with emphasis on the fundamental principles, ideas, institutions and processes of modern government. Lecture and discussion sections (day classes only).

**3700:110 CIVIL LIBERTIES IN AMERICA. 2 credits**

Not open to Political Science majors and cannot be used for credit toward a major in Political Science. A study of civil liberties issues in the U.S.

**3700:120 CURRENT POLICY ISSUES. 2 credits**

Cannot be used for credit toward major in Political Science. Survey of major political issues and problems confronting the nation; the environment in which public policies are formed and executed.

**3700:200 COMPARATIVE POLITICS. 4 credits**

An introduction to comparative political analysis; description of the political systems of Great Britain, France, Germany and the Soviet Union; the contrast between democracy and totalitarianism.

**3700:201 INTRODUCTION TO POLITICAL SCIENCE. 3 credits**

Introduction to the use of contemporary approaches and techniques employed in political analysis. Required of Political Science majors and recommended for others with good social science backgrounds.

**3700:210 STATE AND LOCAL GOVERNMENT AND POLITICS 3 credits**

An examination of institutions, processes and intergovernmental relations at the state and local level.

**3700:220 AMERICAN FOREIGN POLICY 3 credits**

An examination of American foreign policy-making process; public opinion and other limitations on policy; specific contemporary problems in selected areas.

**3700:302 AMERICAN POLITICAL IDEAS. 3 credits**

A study of the major thinkers and writers of American political thought.

**3700:303 INTRODUCTION TO POLITICAL THOUGHT. 3 credits**

A survey of major ideas and concepts of Western political theory from the pre-Socratics through the period of the Enlightenment.

**3700:304 MODERN POLITICAL THOUGHT. 3 credits**

An examination of central concepts of political thought from the nineteenth century to the present. Modern liberalism, communism, fascism and totalitarianism emphasized.

**3700:310 INTERNATIONAL POLITICS AND INSTITUTIONS 4 credits**

Relations among nations examined in the political context.

**3700:320 BRITAIN AND THE COMMONWEALTH. 3 credits**

Description and analysis of the government and politics of Great Britain and the leading nations of the Commonwealth.

**3700:321 WESTERN EUROPEAN POLITICS. 3 credits**

Description and analysis of the government and politics of France, Germany, Italy and Switzerland, with appropriate references to Scandinavia and the Low Countries.

**3700:322 SOVIET AND EAST EUROPEAN POLITICS. 3 credits**

Theory and practice of government and politics in the Soviet Union; comparison with selected Communist systems of Eastern Europe.

**3700:323 POLITICS OF CHINA AND JAPAN. 3 credits**

An examination of the governmental structures and political processes of China and Japan.

**3700:326 POLITICS OF DEVELOPING NATIONS 3 credits**

A general introduction to the concepts and theories of political development and political institutions, elite-recruitment and political processes of selected emerging nations.

**3700:327 AFRICAN POLITIC. 3 credits**

An examination of the patterns of government and politics of the nations south of the Sahara.

**3700:340 AMERICAN POLITICAL PARTIES AND INTEREST GROUPS. 3 credits**

Role of the political parties and interest groups in the political process. Development, structure and function of parties; patterns of party allegiance and voting behavior; interest groups and their effect on government.

**3700:341 THE AMERICAN CONGRESS. 4 credits**

An examination of the structure and function of Congress, with comparative materials on the legislative process on all levels. Presidential and congressional conflict is examined.

**3700:342 MINORITY GROUP POLITICS 3 credits**

An examination of the political behavior of racial, religious and ethnic minority groups in the United States.

**3700:350 THE AMERICAN PRESIDENCY 3 credits**

The Presidency as the focal point of politics, policy, and leadership in the American political system.

**3700:360 THE JUDICIAL PROCESS 3 credits**

Role of police, lawyers, courts, and judges in the context of the American political process. The structure and process of judicial policy-making and limitations on judicial power.

**3700:370 THE AMERICAN BUREAUCRACY 4 credits**  
An examination of the implementation of public policy. Administrative organization and principles will be stressed.

**3700:380 METROPOLITAN POLITICS 4 credits**  
An examination of the problems emerging from urban and regional complexes in the United States. The structure and processes of political decision-making at this level will be analyzed.

**3700:381 STATE POLITICS 3 credits**  
Analysis of the state political process in terms of its capacity to deal with a wide range of socio-economic problems. Special emphasis on legislators, administrators, parties, and interest groups.

**3700:391 HONORS IN POLITICAL SCIENCE 3 credits**  
Prerequisite: At least 17 credits and a 3.25 average in Political Science and adviser's permission.

**3700:392 SELECTED TOPICS IN POLITICAL SCIENCE 1-3 credits**  
(May be repeated, but no more than 3 credits can be applied to major in Political Science.) Topics of substantial current importance, specialized topics within Political Science, or experimental courses.

**3700:394 PROSEMINAR FOR POLITICAL SCIENCE MAJORS 3 credits**  
Prerequisite: 10 credits in Political Science. Group study and research; discussion of recent trends and developments in Political Science.

**3700:395 INTERNSHIP IN GOVERNMENT AND POLITICS 2-3 credits**  
(May be repeated for total of 6 credits. No more than 4 credits may be applied toward major in Political Science.) Prerequisite: two courses in Political Science or the permission of the instructor. Individual placement with political officeholders, party groups, governmental agencies and interest groups for supervised field experience.

**3700:397 INDEPENDENT STUDY 1-4 credits**  
(May be repeated for a total of 4 credits) Prerequisite: Senior standing, 3.0 grade point average, and adviser's permission.

**3700:415/515 COMPARATIVE FOREIGN POLICY 3 credits**  
Prerequisite: 310 or 220, or permission. A study of the foreign policies of selected nations, with special attention to the processes and instruments of decision-making of the major powers.

**3700:420/520 PROBLEMS IN COMPARATIVE POLITICS 3 credits**  
Prerequisite: 200. Comparative studies in depth of various aspects of foreign political systems.

**3700:425/525 LATIN AMERICAN POLITICS 3 credits**  
Prerequisite: 200 or permission of instructor. An examination of the patterns of government and politics in the Latin American area.

**3700:440/540 PUBLIC OPINION AND POLITICAL BEHAVIOR 4 credits**  
Prerequisite: 100 or 201 or permission. The nature and role of public opinion in the political process; historical development, current methods of measurement. The political behavior of the American electorate.

**3700:441/541 THE POLICY PROCESS 3 credits**  
Prerequisite: 8 credits in Political Science. Intensive study of the policy-making process, emphasizing the roles of the various participants in the executive and legislative branches as well as private individuals and groups.

**3700:461/561 THE SUPREME COURT AND CONSTITUTIONAL LAW 4 credits**  
Prerequisite: 100 or 201 or permission. Interpretation of U.S. Constitution by Supreme Court; judicial review in the democratic political process. Special emphasis on judicial policy-making in areas of civil rights and liberties.

**3700:480/580 URBAN POLICY PROBLEMS 3 credits**  
Prerequisite: 380 or permission. An intensive study of selected problems in urban policy.

**3700:490/590 WORKSHOP 1-3 credits**  
Group studies of special topics in Political Science. May not be used to meet undergraduate or graduate requirements in Political Science. Elective credit only. May be repeated.

**3700:497 SENIOR HONORS PROJECT IN POLITICAL SCIENCE 1-3 credits**  
(May be repeated for a total of 6 credits.) Prerequisite, senior standing in the University Honors Program and approval of Honors Preceptor. Open only to Political Science majors who are also enrolled in the University Honors Program. Independent study leading to the completion of a Senior Honors Thesis or other original work meeting high standards of scholarship.

## GRADUATE COURSES

**3700:600 SEMINAR IN POLITICAL THEORY. 3 credits**  
Prerequisite: 6 credits of Political Science or permission. Selected topics in Political Theory will be investigated in depth.

**3700:610 SEMINAR IN INTERNATIONAL POLITICS. 3 credits**  
Prerequisite: 6 credits of Political Science, or permission. Analysis of current problems in the theory and practice of international politics and organization.

**3700:620 SEMINAR IN COMPARATIVE POLITICS. 3 credits**  
Prerequisite: 6 credits of Political Science, or permission. Research on selected topics in Comparative Politics. The comparative method in Political Science.

**3700:626 SEMINAR IN POLITICS OF DEVELOPING NATIONS. 3 credits**  
Prerequisite: 6 credits of Political Science, or permission. Selected topics will be investigated in depth. Emphasis on theories of political development.

**3700:630 SEMINAR IN NATIONAL POLITICS. 3 credits**  
Prerequisite: 6 credits of Political Science, or permission. Readings and research on the formulation, development and implementation of national policy in one or more areas of contemporary significance.

**3700:640 SEMINAR IN POLITICAL BEHAVIOR. 3 credits**  
Prerequisite: 6 credits of Political Science, including 440, or permission. Techniques of quantitative research in Political Science; utility of and limitations of quantitative analysis.

**3700:641 SEMINAR IN INTERGOVERNMENTAL RELATIONS. 3 credits**  
Prerequisite: 6 credits of Political Science, or permission. A graduate level examination of problems resulting from changing relations between levels of government in the U.S.; comparisons with other federal systems.

**3700:660 SEMINAR IN CIVIL LIBERTIES AND THE JUDICIAL PROCESS. 3 credits**  
Prerequisite: 6 credits of Political Science, or permission. Civil liberties and the judicial process are viewed

in the political context. Readings and research on selected topics.

**3700:670 SEMINAR IN THE ADMINISTRATIVE PROCESS. 3 credits**

Prerequisite: 6 credits of Political Science, or permission. An intensive examination of the administrative implementation of public policies. Readings and research on selected topics.

**3700:680 SEMINAR IN URBAN AND REGIONAL POLITICS. 3 credits**

Prerequisite: 6 credits of Political Science, or permission. Focuses on the processes of policy formulation and execution in the modern metropolitan community, with emphasis on a structural functional context.

**3700:695 INTERNSHIP IN POLITICAL SCIENCE. 3 credits**

Prerequisite: Permission of graduate adviser. Field experience in which student will be placed with officeholders, government agencies, or political groups for research or practical experience of relevance to student's program.

**3700:697 INDEPENDENT RESEARCH AND READINGS. 1-4 credits.**

(May be taken repeatedly, but no more than 6 credits can be applied toward the Master's degree in Political Science.) Prerequisite: Permission.

**3700:699 THESIS. 2-6 credits**

## 3750: PSYCHOLOGY

**3750:100 INTRODUCTION TO PSYCHOLOGY 3 credits**

Introduction to the scientific study of behavior, survey of physiological basis of behavior, sensation and perception, development, learning and cognition, personality, social interaction and other selected topics.

**3750:110 QUANTITATIVE METHODS IN PSYCHOLOGY 3 credits**

Prerequisite: 100 (may be taken concurrently). Presentation of data, descriptive statistics, correlation, hypothesis testing and introduction to quantitative methodologies in psychology.

**3750:120 INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY 4 credits**

Prerequisites: 100 and 110. Lectures plus laboratory experience concerning problems in the scientific bases of psychology such as experimental design, methods and apparatus, collection and analysis of data, and interpretation of results.

**3750:130 DEVELOPMENTAL PSYCHOLOGY 4 credits**

Prerequisite: 100. The determinates and nature of behavioral changes from conception to death.

**3750:140 INTRODUCTION TO INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY 4 credits**

Prerequisite: 100. A survey of the applications of psychology in industry, business and government. Emphasis will be on understanding employees and the evaluation of their behavior.

**3750:300 ADVANCED EXPERIMENTAL PSYCHOLOGY 4 credits**

Prerequisite: 120. Scientific methods and design in the experimental investigation of human and animal behavior. Emphasis is on exposure to and performance on all aspects of a single, in-depth research project in which students apply the lecture information.

**3750:310 SENSORY AND PERCEPTUAL EXPERIENCE 4 credits**

Prerequisites: 100. A survey of basic sensory and perceptual phenomena covering the physical and psychological bases of each. An overview of the major theoretical treatments and empirical findings will be included, plus discussion of the implications for behavior.

**3750:320 PHYSIOLOGICAL PSYCHOLOGY 4 credits**

Prerequisite: 100. The relationship between the behavior of organisms and physiological processes mediating the behavior. Brain structure and function, motivation, etc. Biology 3100:191 is desirable as a background.

**3750:330 MOTIVATION AND THE DYNAMICS OF BEHAVIOR 3 credits**

Prerequisite: 100. A survey of behavioristic, psychoanalytic, cognitive and consistency theories to explain the arousal, direction, and persistence of behavior including empirical evidence for achievement, motivation, aggression, and other behaviors.

**3750:340 SOCIAL PSYCHOLOGY 4 credits**

Prerequisite: 100. An examination of the individual's response to his social environment and the social interaction process. Social perception, attitude formation and change, affiliation and attraction, altruism, group processes, and nonverbal behavior.

**3750:350 THE PSYCHOLOGY OF SMALL GROUP BEHAVIOR 3 credits**

Prerequisite: 100. Intensive investigation of factors affecting behavior in groups. Course covers joint effects of personality, social structures, task, and situational variables in effecting group behavior.

**3750:360 CROSS-CULTURAL PSYCHOLOGY 3 credits**

Prerequisite: 100. The influence of culture upon the development of individual psychological processes including functioning, social motives, sex roles and values.

**3750:370 RESEARCH DESIGN AND ANALYSIS IN PSYCHOLOGY 3 credits**

Prerequisites: 100 and 110 or 3470:251-257 as alternate prerequisite for 110. A review of research design and methodology for psychology covering basic concepts, empirical research designs, internal and external validity and specific analytical techniques as applied to psychology.

**3750:400/500 PERSONALITY 3 credits**

Prerequisite: 100. Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement, experimental findings, and research techniques.

**3750:410/510 PSYCHOLOGICAL TESTS AND MEASUREMENTS 4 credits**

Prerequisites: 100, 110 or permission. Consideration of the nature, construction, and use of tests and measurements in industry, government and education. The course will include aptitude and achievement tests, rating scales, attitude and opinion analysis.

**3750:420/520 ABNORMAL PSYCHOLOGY 3 credits**

Prerequisites: 100 plus 3 credits in psychology. Syndromes, etiology, diagnosis and treatment of the major psychological conditions ranging from transient maladjustments to the psychoses.

**3750:430/530 PSYCHOLOGICAL DISORDERS OF CHILDREN 4 credits**

Prerequisites: 100 and 130 or permission. A survey of the syndromes, etiologies and treatments of behavioral disorders in children from the standpoint of the developmental psychologist. Behavioral data and treatment approaches will be emphasized.

**3750:440/540 INTRODUCTION TO CLINICAL METHOD 3 credits**

Prerequisites: 100 and 420. A review of tests, interviews and personal data in human assessment.

**3750:450/550 LEARNING AND COGNITION 4 credits**

Prerequisite: 120. Topics include basic conditioning and learning processes, verbal learning, memory, and transfer of training, as well as a review of the higher-order mental processes such as human conceptual behavior, problem solving, and thinking.

**3750:460/560 HISTORY OF PSYCHOLOGY 3 credits**

Prerequisite: 100. Psychology in the pre-scientific period and the details of the development of systematic viewpoints in the 19th and 20th centuries.

**3750:470 ADVANCED INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY 4 credits**

Prerequisite: 140 or permission. Application of psychology to organizational theory, leadership, management, personnel selection, engineering psychology, man-machine systems, and consumer behavior.

**3750:480 SPECIAL TOPICS IN PSYCHOLOGY**

1-4 credits

Prerequisite: 100 or permission. Comprehensive survey of the contemporary status of specialized topics and issues in psychology. Emphasis will be placed upon original source materials, critical analysis, and synthesis of empirical and theoretical aspects. May be repeated.

**3750:488-489 HONOROS SEMINAR IN PSYCHOLOGY 3 credits each**

Prerequisites: Senior standing, Psychology major, and permission. 498-Selection of a research topic, review of relevant literature, research design, and data collection. 499-Analysis and write up of the research project in journal or thesis style.

**3750:490/590 WORKSHOP IN PSYCHOLOGY**

1-3 credits

Group studies of special topics in Psychology. May not be used to meet undergraduate or graduate major requirements in Psychology. May be repeated.

**3750:497 INDEPENDENT READING, RESEARCH AND/OR PRACTICUM IN PSYCHOLOGY 1-3 credits**

Prerequisite: Departmental permission. Independent reading, research, and/or practicum in an area of psychology under the supervision and evaluation of a selected faculty member. May be repeated.

**GRADUATE COURSES****3750:600 ADVANCED GENERAL PSYCHOLOGY 4 credits**

Selective review of contemporary status in various specialty areas in psychology. Emphasis on current problems, new developments, and changing concepts.

**3750:610 INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY 4 credits**

The application of Industrial/Organizational Psychology to industry, business, and government including organizational theory, differential psychology, personnel selection and training, consumer behavior, and engineering psychology.

**3750:620 METHODS AND THEORIES OF HUMAN DEVELOPMENT 4 credits**

A survey of current research methodology and theoretical approaches to human development with a life-span emphasis. Reviews of major theoretical perspectives will include, stimulus-response behavior theory, cognitive-organismic, information processing and psychoanalytic approaches.

**3750:630 CLINICAL PSYCHOLOGY 4 credits**

Clinical techniques and approaches to the study, evaluation and treatment of abnormal behavior.

**3750:695 PRACTICUM IN PSYCHOLOGICAL ASSESSMENT AND INTERPRETATION 1-4 credits**

Prerequisites: 14 credits of graduate psychology and permission. Supervised work-experience in the application of psychological techniques to human assessments and interpretations. May be repeated.

**3750:699 THESIS RESEARCH 1-4 credits**

Prerequisites: Departmental permission. Research analysis of data and preparation of thesis for the master's degree. May be repeated.

**3750:700 SURVEY OF PROJECTIVE TECHNIQUES 2 credits**

Prerequisites: 420 required or permission. 400, 410, 630 recommended. Introduction to the rationale assumptions and ethics of projective testing. Elementary administration, scoring and interpretation of the Rorschach and survey of other important contemporary projective instruments.

**3750:701 ADVANCED PROJECTIVE**

**TECHNIQUES 2 credits**

Prerequisite: 700. Application of projective testing to problems of diagnosis and evaluation. Practical experience in administration, scoring and interpretation. Integration of projective data with other assessment techniques in a variety of settings.

**3750:702 PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING 4 credits**

Prerequisite: Instructor's permission required. History, principles and methodology of Intelligence Testing, practice in the administration, scoring and interpretation of individual intelligence tests for children and adults.

**3750:703 THEORIES OF PSYCHOTHERAPY 3 credits**

Prerequisite: 630 recommended. Contemporary theories of psychotherapy including Freudian, Jungian, Adlerian, Rogerian, and other major systems. Consideration is also given to research evaluation and ancillary therapeutic techniques.

**3750:704 THEORIES OF PERSONALITY 3 credits**

Prerequisite: 630 recommended. Historical consideration of personality. Psychoanalysis and deviations from it. Contemporary theoretical formulations; personality dynamics, structure and organization.

**3750:725 DEVELOPMENTAL PSYCHOLOGY: PRENATAL, INFANCY AND EARLY EXPERIENCE 4 credits**

Prerequisites: 620 or permission. A survey of the psychological aspects of the prenatal period, infancy and early experience. Emphasis will be on an understanding of the general problem of how early experience structures adult behavior.

**3750:726 EXPERIMENTAL CHILD PSYCHOLOGY 4 credits**

Prerequisite: 620 or permission. Current research in child psychology will be covered with some emphasis on cognitive development. Topics include language, memory, intelligence, hyperactivity, and selected aspects of social development.

**3750:727 PSYCHOLOGY OF ADULTHOOD AND AGING 4 credits**

Prerequisite: 620 or permission. Psychological aspects of development and aging with emphasis on life span methodology and research design including age-related changes in intelligence, personality, sensation, perception, learning, memory and socialization, and intervention approaches.

**3750:728 SOCIAL DEVELOPMENTAL PSYCHOLOGY**

4 credits

Prerequisite: 620 or permission. An examination of selected theoretical and methodological issues in the study of social psychology from a developmental perspective. Topics will include: attitude formation, sex roles, moral development, altruism, aggression, attraction, attribution processes, nonverbal behavior and cultural effects.

**3750:729 FUNCTIONAL ANALYSIS OF BEHAVIOR**

4 credits

Prerequisite: 620 or permission. Behavioral approaches to the treatment of maladaptive behavior. Emphasis is on the application of learning theory to specific topics such as the development of self control, enuresis, and self destructive behavior.

**3750:730 THEORIES OF LEARNING 4 credits**

Prerequisite: 600 or permission. Topics include a comparative discussion of the major traditional theories of learning, as well as analysis of contemporary issues and developments as reflected in a review of selected areas of recent research.

**3750:731 COGNITIVE DEVELOPMENT 4 credits**

Prerequisite: 730 or permission. Theory and research concerning the development of cognitive activities including concept formation, problem solving, and thinking. Topics include the major theories, the research paradigms and methods of investigation, and a review of empirical findings.

**3750:732 HUMAN MEMORY AND LANGUAGE 4 credits**

Prerequisite: 600 or permission. A contemporary review of research and theory in language and memory. A process oriented approach is adopted with an emphasis on developmental issues.

**3750:735 DEVELOPMENTAL BIOPSYCHOLOGY**

4 credits

Prerequisite: 600, 620 recommended. A survey of behavioral changes over the life span with emphasis on the physical, biological, and physiological correlates of such changes. Topics will include central nervous system, skeletal, and circulatory changes; metabolic and nutritional processes, and endocrine mechanisms.

**3750:734 ENVIRONMENTAL PSYCHOLOGY 4 credits**

Prerequisite: 600, 620 recommended. A study of major questions concerned with environmental management and control and the relationship of these areas to developmental psychology, motivation, learning, and animal behavior.

**3750:735 PERCEPTUAL DEVELOPMENT 4 credits**

Prerequisite: 600 or permission. Analysis of the developmental characteristics of perceptual and sensory processes. Topics include the major theories of perception, the methods of investigation used, and a review of the empirical findings.

**3750:750 ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS 4 credits**

Prerequisite: 610. An analysis of test construction techniques and statistical analyses of tests with a review of published tests and measurement used in industrial/organizational psychology. Students will administer and evaluate actual tests.

**3750:751 ORGANIZATIONAL PSYCHOLOGY 4 credits**

Prerequisite: 610. The study of the relationships between organizational characteristics and human behavior.

**3750:752 PERSONNEL SELECTION AND PERFORMANCE EVALUATION 4 credits**

Prerequisites: 610. Review of strategies employed by industrial/organizational psychologists for personnel

selection, placement and promotion. In addition, the course will survey objective and subjective criteria used in performance appraisal including test validation and training effectiveness.

**3750:753 TRAINING AND ORGANIZATIONAL DEVELOPMENT 4 credits**

Prerequisite: 610. A review of industrial training methods and techniques in terms of learning theory, with a consideration of techniques to evaluate these training and organizational development programs.

**3750:754 RESEARCH METHODS IN PSYCHOLOGY**

4 credits

Prerequisites: 610, 620. The scientific method and its specific application to psychology. Topics include data collection, validity, reliability, the use of the general linear model and its alternatives and power analysis.

**3750:755 COMPUTER APPLICATIONS IN PSYCHOLOGICAL RESEARCH 4 credits**

Prerequisite: 610. Particum in the application of computers to psychological research including data collection, analysis, and interpretation. The course will also cover computer simulation of decision making including the use of different models.

**3750:756 ROLE OF ATTITUDES AND VALUES IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY 4 credits**

Prerequisite: 610. A consideration of the role of attitudes and values on cross cultural issues of comparative management, selection, training, work motivation and consumer behavior.

**3750:757 ORGANIZATIONAL MOTIVATION AND LEADERSHIP 4 credits**

Prerequisite: 610. Identification, description, analysis and techniques for implementation of intrinsic and extrinsic incentives during work activity. The leadership process and its relation to motivation and group performance are also analyzed.

**3750:758 ENGINEERING PSYCHOLOGY AND JOB DESIGN 4 credits**

Prerequisites: 610. A survey of the field of engineering psychology. This course covers such topics as job design, task analysis, man-machine systems analysis, working conditions and accidents.

**3750:780 GRADUATE SEMINAR IN PSYCHOLOGY 1-4 credits**

Prerequisite: Permission. Special topics in psychology. May be repeated.

**3750:797 INDEPENDENT READING AND/OR RESEARCH 1-3 credits**

Prerequisite: Permission. Individual readings and/or research on a topic under the supervision of a member of the faculty with whom specific arrangements have been made. May be repeated.

**3750:899 DISSERTATION RESEARCH 1-12 credits**

Prerequisite: Open to properly qualified students. Required minimum 12 credits. Maximum subject to departmental approval — open to properly qualified students. Supervised research on a topic deemed suitable by the dissertation committee.

**3850: SOCIOLOGY**

- **3850:100 INTRODUCTION TO SOCIOLOGY 4 credits**  
Basic terminology, concepts, and approaches in Sociology, including an introduction to the analysis of social groups, and the application of sociological concepts to the understanding of social systems. Required of majors. Lecture-discussion.

**3850:104 SOCIAL PROBLEMS 3 credits**

Prerequisite: 100 or permission. Analysis of selected contemporary problems in society; application of sociological concepts and research as tools for understanding sources of such problems. Lecture.

**3850:220 SOCIAL ORGANIZATION 3 credits**

Prerequisite: 100 or permission. The nature of social organization and social control; organizational typologies; theories of organizational structure and functions; analysis of complex organizations in a social system. Lecture.

**3850:301 METHODS OF SOCIAL RESEARCH I 3 credits**

Prerequisites: 100 and 3450:140, 145, 150, 155 or permission. A combination lecture and laboratory course requiring at least five laboratory hours per week. Research design, data gathering techniques and statistical procedures. Required of majors. Lecture—lab.

**3850:302 METHODS OF SOCIAL RESEARCH II 3 credits**

Prerequisite: 301. Continuation of 301. Required of majors. Lecture—lab.

**3850:320 SOCIAL STRATIFICATION 3 credits**

Prerequisite, 100 or permission. A study of the way social rankings occur in societies and how particular rankings affect individual behavior, group relations and social structures. Lecture.

**3850:321 POPULATION 3 credits**

Prerequisite: 100 or permission. Introduction to theory, methods and trends in birth, death, illness, migration, and selected social characteristics. Also, population growth and distribution in relation to societal and environmental problems. Lecture.

**3850:323 SOCIAL CHANGE 3 credits**

Prerequisites: 100 or permission. Introduction to theories and processes of social change, dimensions of change in contemporary, traditional and urban-industrial societies; projection and prediction of selected trends and forms. Lecture.

**3850:324 SOCIAL MOVEMENTS 3 credits**

Prerequisite: 100 or permission. Social movements as distinguished from other forms of collective behavior; analysis of social situations which produce social movements; focus upon development of social movements and their role in social change. Lecture.

**3850:330 CRIMINOLOGY 3 credits**

Prerequisite, 100. The major focus of this course deals with the interrelationships and the analysis of crimes, criminals, criminal justice systems and society. Lecture.

- **3850:340 THE FAMILY 3 credits**

Prerequisite: 100 or permission. Analysis of the Family as a social system; historical, comparative, and contemporary sociological approaches examined in relation to a family structure and functions. Lecture.

**3850:341 POLITICAL SOCIOLOGY 3 credits**

Prerequisite: 100 or permission. A survey of theory and empirical research dealing with the relationship between political phenomena and the larger network of social processes in human societies. Lecture.

**3850:342 SOCIOLOGY OF HEALTH AND ILLNESS 3 credits**

Prerequisite: 100 or permission. General survey of sociological perspectives, concepts, and research on health, illness, and health care delivery systems. Lecture.

**3850:343 THE SOCIOLOGY OF AGING 3 credits**

Prerequisite: 100 or permission. An examination of the

process of aging from the perspective of behavioral and sociological aspects. Lecture.

**3850:365 SPECIAL TOPICS IN SOCIOLOGY**

1-3 credits

Prerequisite: Permission.

**3850:397 SOCIOLOGICAL READINGS 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.

**3850:403/503 HISTORY OF SOCIOLOGICAL THOUGHT 3 credits**

Prerequisites: 100 or permission. Examination of major scholars in the "classical" sociological tradition. Lecture.

**3850:404/504 CONTEMPORARY SOCIOLOGICAL THEORIES 3 credits**

Prerequisite: 403 or permission. An examination and critical evaluation of the works of modern sociological theorists, emphasizing current theoretical approaches to the issues of social order and social change. Lecture.

**3850:410/510 SOCIAL STRUCTURES AND PERSONALITY 3 credits**

Prerequisite: 100 or permission. Examination of the interrelationships between position in society and personality characteristics. Personality will be treated as both a result and a determinant of social structure and process. Lecture.

**3850:411/511 SOCIAL INTERACTION 3 credits**

Prerequisite: 100 or permission. An intensive study of advanced theory and research in social psychology, particularly how social interaction and self-conception affect one another. Lecture.

**3850:412/512 SOCIALIZATION: CHILD TO ADULT 3 credits**

Prerequisite: 100 or permission. Theoretical and empirical analyses of the process by which the infant, child, adolescent and adult learn the social and cultural requirements necessary to function in new roles, changing roles and society in general.

**3850:421/521 RACIAL AND CULTURAL INTERGROUP RELATIONS 3 credits**

Prerequisite: 100 or permission. Analysis of social forces which created and sustain modern "race relations." Macro level: emphasis on Marxian analysis of colonialism and imperialism. Micro level: analysis of social psychological processes of dominance/subordination and struggle/liberation. Lecture.

**3850:425/525 SOCIOLOGY OF URBANIZATION 3 credits**

Prerequisite: 100 or permission. A study of the implications of growing density and nucleation of population on attitudes, social structures and social change. Lecture.

**3850:430/530 JUVENILE DELINQUENCY 3 credits**

Prerequisite: 100 or permission. Analysis of the social structure and process from which delinquency develops. Emphasis on current and past research. Lecture—discussion.

**3850:431/531 CORRECTIONS 3 credits**

Prerequisite: 330 or 430. Theories, belief systems, correctional practices and effectiveness as related to offender groups. Lecture.

**3850:432/532 PROBATION AND PAROLE 3 credits**

Prerequisites: 330 or 430 or permission. Analysis of how probationers and parolees are selected, supervised, and then released into private life. Emphasis on current and past social research. Lecture—discussion.

**3850:433/533 SOCIOLOGY OF DEVIANT BEHAVIOR**  
3 credits

Prerequisites: 100 and at least 6 additional hours of Sociology courses or permission. A survey of theories of deviant behavior and relevant empirical research. Special emphasis will be given to interaction processes and social control. Lecture.

**3850:440/540 SOCIOLOGY OF RELIGION** 3 credits

Prerequisite: 100 or permission. A study of forms of religion and their social functions with an emphasis on Religion in American Society. Lecture.

**3850:441/541 SOCIOLOGY OF LAW** 3 credits

Prerequisites: 100 and at least 6 additional hours of Sociology courses, or permission. The social origins and consequences of law and legal processes. Emphasis upon uses of law, social change, and aspects of the legal professions. Lecture.

**3850:442/542 SOCIOLOGY OF EDUCATION** 3 credits

Prerequisite: 100 or permission. Analysis of education from an organizational and social psychological perspective. Some topics covered include: desegregation; busing; neighborhood schools; impact of family, peers and teachers on learning; school organization. Lecture.

**3850:443/543 INDUSTRIAL SOCIOLOGY** 3 credits

Prerequisite: 6 hours of Sociology or Industrial Management. Comparison of formal and informal structures in industrial organizations; analysis of work roles and status systems; communication processes; relation of work plant to community and society. Lecture.

**3850:494/594 WORKSHOP IN SOCIOLOGY** 1-3 credits

Group studies of special topics in sociology. May not be used to meet departmental under-graduate or graduate major requirements. May be used for elective credit only. May be repeated.

**3850:495 RESEARCH INTERNSHIP** 2-4 credits

Prerequisites: 302, 321; 3.0 average in Sociology and overall; or permission. Placement in selected community organization for supervised experience in all phases of a social research project. Student must receive permission from instructor during the quarter prior to enrollment. May be repeated for credit.

## GRADUATE COURSES

**3850:600 FUNDAMENTALS OF SOCIOLOGY** 3 credits

An accelerated introduction to Sociology for graduate students deficient in sociological background or from other disciplines who intend to take further graduate courses in Sociology. Lecture.

**3850:603 SOCIOLOGICAL RESEARCH METHODS** 3 credits

Advanced research methods including advanced statistical techniques. (Same as KSU 72211) Lecture—lab.

**3850:604 SOCIAL RESEARCH DESIGN** 3 credits

An intensive analysis of problems in a research design similar to those which will be encountered in the preparation of a thesis. (Same as KSU 72212) Seminar or dissertation.

**3850:605 THEORY AND MEASUREMENT OF SOCIAL ATTITUDES** 3 credits

Prerequisites: 603 and 604, or permission. Seminar in theories of social attitudes and techniques for their measurement. (Same as KSU 72213) Seminar.

**3850:606 QUANTITATIVE TECHNIQUES** 3 credits

Prerequisite: permission. Advanced research methods including advanced statistical techniques. (Same as KSU 72210) Seminar.

**3850:607 COMPUTER APPLICATIONS IN SOCIAL SCIENCES** 3 credits

Prerequisite: Elementary statistics course or permission of instructor. An introduction to computers and their applications in the social sciences. (Same as KSU 72214) Seminar.

**3850:608 ADVANCED TECHNIQUES IN RESEARCH** 1-3 credits

Prerequisite: permission. Selected topics in advanced, multivariate statistical analysis and in strategies of sociological research. Emphasis on current trends and innovations in research techniques. (Same as KSU 82119) Seminar.

**3850:617 SOCIOLOGICAL THEORY** 3 credits

An examination of major theoretical frameworks and concepts that form the foundation of sociological thought. Emphasis placed on contemporary sociological theory and its debt to the classic works. (Same as KSU 72106) Seminar.

**3850:618 THEORY CONSTRUCTION** 3 credits

Study of rules and methods for constructing scientific theory. Emphasis upon the writings of scientists and philosophers of science and application of these ideas to the development of sociological theories. (Same as KSU 72107) Seminar.

**3850:619 ADVANCED CONCEPTUAL ANALYSIS** 3 credits

A critical examination of concepts held fundamental in sociological diagnoses. Evaluation of them from logical, semantical and operational perspectives. Assessment of their utility to the development of sociological theories. (Same as KSU 82106) Seminar.

**3850:620 GENERAL SYSTEMS THEORY** 3 credits

Prerequisite: 618. An analysis of general systems theory as the basis for a model of society and as a heuristic framework for theory and research. (Same as KSU 82107) Seminar.

**3850:621 SPECIAL TOPICS IN SOCIOLOGICAL THEORY** 1-3 credits

An open course to cover a content area not readily subsumable under other headings. Content of the course to be determined by the instructor. (Same as KSU 82109) Seminar.

**3850:631 SOCIAL PSYCHOLOGY** 3 credits

An intensive examination of social psychological theory and research, both classic and contemporary. Provides students with a background and working knowledge of the social psychological aspects of social phenomena. (Same as KSU 72430) Seminar.

**3850:632 SMALL GROUP THEORY** 3 credits

Prerequisite: permission. Theoretical and applied aspects of Small Group Dynamics. Topics: leadership emergence, effective group development and functioning, power, norms, individual behavior, among others. (Same as KSU 72432) Seminar.

**3850:633 SMALL GROUP RESEARCH TECHNIQUES** 3 credits

Prerequisite: 632. Application and implications of research in small groups. Focus on both laboratory and field studies. Seminar—lab.

**3850:634 PERSONALITY AND SOCIAL SYSTEMS** 3 credits

Examination of contemporary theory and research on linkages between personality and society. Some applications in studies of modernization, social class and occupations and sex roles. (Same as KSU 72433) Seminar.

**3850:635 SOCIOLOGY OF COMMUNICATION****3 credits**

Examination of communication media, content, audiences, and impact within a sociological context. (Same as KSU 72434) Seminar.

**3850:636 CRITIQUE OF MASS COMMUNICATIONS****RESEARCH 3 credits**

Prerequisite: permission. The systematic evaluation of theoretical, methodological and empirical aspects of significant studies of mass communication. (Same as KSU 72876) Seminar.

**3850:637 CONTEMPORARY TRENDS IN SOCIAL****PSYCHOLOGY 1-3 credits**

Selected topics on significant contemporary issues, theories and methodological developments in social psychology. (Same as KSU 82439) Seminar.

**3850:638 RESEARCH IN SOCIAL PSYCHOLOGY****1 credit**

Prerequisite: 631. The design and development of a research project oriented to empirically examining selected concepts in social psychology or to testing selected propositions in social psychology. (Same as KSU 72431) Research.

**3850:645 SOCIAL ORGANIZATION 3 credits**

A general survey of major theories, concepts, and problems pertaining to the creation, alteration, and dissolution of social organization at various levels of size and complexity. (Same as KSU 72540) Seminar.

**3850:646 SOCIAL STRATIFICATION 3 credits**

Prerequisite: permission. Seminar dealing with social class and castes with special reference to the American social structure. (Same as KSU 72546) Seminar.

**3850:647 URBAN SOCIOLOGY 3 credits**

An analysis of the theories of urban process and review of the major contributions to the empirical analysis of urban life. (Same as KSU 72652) Seminar.

**3850:648 COMPLEX ORGANIZATIONS 3 credits**

Prerequisite: permission. Organizations as social systems; their effect on individuals. Problems of professionals in bureaucracies. (Same as KSU 72545) Seminar.

**3850:649 SOCIOLOGY OF WORK 3 credits**

An examination of work as a behavioral phenomenon in human societies; contrasts with nonwork and leisure; significance of occupations, professions, and work types in organization of work. (Same as KSU 72542) Seminar.

**3850:650 RESEARCH IN COMMUNITY AND AREA****PROBLEMS 3 credits**

Prerequisite: permission. Special investigation of community, area, or regional problems; design and execution of small projects. (Same as KSU 72655) Seminar.

**3850:651 RACE RELATIONS 3 credits**

Prerequisite: permission. Analysis of social forces which created and sustain modern "race relations." Macro level: emphasis on Marxian analysis of colonialism and imperialism. Micro level: analysis of social psychological processes of dominance/subordination and struggle/liberation. (Same as KSU 72870) Seminar.

**3850:652 CONFLICT 3 credits**

Prerequisite: permission. Current conceptions of human conflict. Discussion of vital concepts and principles for understanding conflict phenomena. Power, values, ideology, riots, revolution and war. (Same as KSU 72875) Seminar.

**3850:653 SPECIAL TOPICS IN SOCIAL****ORGANIZATION 1-3 credits**

An open course to cover a content area not readily subsumable under other headings. Content of the

course to be determined by the instructor. (Same as KSU 82549) Seminar.

**3850:654 ISSUES IN URBAN ANALYSIS 1-3 credits**

A special topics seminar dealing with current and special topics in the urban process and its analysis. (Same as KSU 82659) Seminar.

**3850:655 RESEARCH IN SOCIAL ORGANIZATION****1 credit**

Prerequisite: 645. The design and development of a research project oriented to empirically examining selected concepts in social organization or to testing selected propositions in social organization. (Same as KSU 72541) Research.

**3850:663 DIVIANCE AND DISORGANIZATION****3 credits**

Prerequisite: permission. Examination of the nature and types of deviance. Problems and issues in theory and research. (Same as KSU 72760) Seminar.

**3850:664 SOCIOLOGY OF CRIMINAL BEHAVIOR****3 credits**

Analysis of the relations of crime and delinquency to social structure and social processes. Responses by criminal justice agencies. (Same as KSU 72763) Seminar.

**3850:664 JUVENILE DELINQUENCY: THEORY AND****RESEARCH 3 credits**

Prerequisite: Permission. An analysis of theories of delinquency; ecological, class structural, substructural, etc. A review of relevant research also presented. (Same as KSU 72762) Seminar.

**3850:666 SOCIOLOGY OF CORRECTIONS 3 credits**

Prerequisite: Permission. An analysis of the correctional institution as a social system; its formal structure and informal dynamics. Analysis of the present state of corrections research. (Same as KSU 72764) Seminar.

**3850:667 SPECIAL TOPICS IN DEVIANCE AND****DISORGANIZATION 1-3 credits**

Designed to meet the needs of students with interests in selected topics in deviance and disorganization. (Same as KSU 82769) Seminar.

**3850:668 RESEARCH IN DEVIANCE AND****DISORGANIZATION 1 credit**

Prerequisite: 663. This course provides for an analysis of research problems in deviance and disorganization and for the development of a research project in the above area. (Same as KSU 72761) Research.

**3850:677 FAMILY ANALYSIS 3 credits**

Analysis and evaluation of sociological theory and research in the family. Concentration upon techniques of theory construction and research design in the sociological study of the family (Same as KSU 72543) Seminar.

**3850:678 SOCIAL GERONTOLOGY 3 credits**

Prerequisite: Permission. The impact of aging upon individuals and the society. The reactions of individuals and society to aging. (Same as KSU 72877) Seminar.

**3850:679 POLITICAL SOCIOLOGY 3 credits**

Description, analysis, and interpretation of political behavior through the application of sociological concepts. (Same as KSU 72544) Seminar.

**3850:680 SOCIOLOGY OF EDUCATION 3 credits**

Selected problems in the sociological analysis of educational systems. Emphasis upon such social determinants of learning as class, race, family and peer subcultures. (Same as KSU 72547) Seminar.

**3850:686 POPULATION 3 credits**

An analysis of basic population theory and methods. Trends and differentials in fertility, mortality, migration and selected social demographic variables are also considered. (Same as KSU 72656) Seminar.

**3850:687 SOCIAL CHANGE 3 credits**

An advanced seminar in the theories of social change. (Same as KSU 72320) Seminar.

**3850:688 HUMAN ECOLOGY 3 credits**

Selected problems in the analysis of social behavior in relation to the physical environment. Overview of the theory, methods and applications of human ecology. (Same as KSU 72650) Seminar.

**3850:689 URBAN ECOLOGY 3 credits**

Seminar in the theory and measurement of the social ecology of urban areas. Emphasis on trends and differentials in the distribution of social and organizational behavior in urban America. Seminar.

**3850:690 CONTEMPORARY ISSUES IN SOCIAL CHANGE 1-3 credits**

Prerequisite: 687 or permission. Varying topics focusing on current research and theory in the field of social change. Advanced notice on specific content will be provided by the instructor. (Same as KSU 82329) Seminar.

**3850:691 RESEARCH IN SOCIAL CHANGE 1 credit**

Prerequisite: 687. A continuation of 687. The student will prepare a major research paper based on the theoretical material covered in 3850:690 and present it for discussion to the seminar. (Same as KSU 72321) Research.

**3850:692 RESEARCH IN HUMAN ECOLOGY 1 credit**

Prerequisite: 688. Intensive research on a selected aspect of human ecology by individual students with previous training in this area. Topic to be arranged between student and instructor. (Same as KSU 72651) Research.

**3850:697 READINGS IN CONTEMPORARY SOCIOLOGICAL LITERATURE 1-3 credits**

Prerequisites: 7 hours of Sociology and permission of advisor, instructor, and chairperson of department. Intensive reading and interpretation of written material in the student's chosen field of interest. Regular conferences with instructor.

**3850:699 THESIS 2-6 credits**

Prerequisite: permission. Supervised thesis writing. (May be repeated for a total of 6 credits.)

**2850:700 COLLEGE TEACHING OF SOCIOLOGY**

2 credits

Prerequisite: Teaching Assistant or permission. Training and experience in the college teaching of sociology. Not approved as credit toward a degree. Seminar.

**3850:797-798 INDIVIDUAL INVESTIGATION**

1-3 credits each

Prerequisites: one quarter of graduate work, permission of the instructor, advisor, and chairperson of the department. Readings and/or research supervised by a member of the graduate faculty. (Same as KSU 72896).

**3850:899 DISSERTATION 1-10 credits**

Dissertation. (Must be repeated for a minimum of 30 credits.) (Same as KSU 82899).

**3870: ANTHROPOLOGY****3850:150 CULTURAL ANTHROPOLOGY 4 credits**

Introduction to the anthropological study of culture; a cross-cultural view of human adaptation through technology, social organization, and ideology. Lecture.

**3870:151 PHYSICAL ANTHROPOLOGY 3 credits**

The biological and cultural evolution of *Homo sapiens*; comparative study of the Primates; human variation; Old World archeology. Lecture.

**3870:256 NEW WORLD PREHISTORY 3 credits**

Prerequisite: 150 or 3850:100, or permission. A survey of the historic cultures of North, Middle, and South America; beginning with the peopling of the Western Hemisphere and ending with European contact. Lecture.

**3870:257 INDIANS OF SOUTH AMERICA 3 credits**

Prerequisites: 150 or 3850:100, or permission. A survey of the aboriginal peoples of South America, with emphasis on culture areas and continuity of culture patterns. Lecture.

**3870:258 INDIANS OF NORTH AMERICA 3 credits**

Prerequisites: 150 or permission. An ethnographic survey of the native cultures of North America, with emphasis on variations in ecological adaptations, social organization and modern American Indians in anthropological perspective. Lecture.

**3870:357 MAGIC, MYTH AND RELIGION 3 credits**

Prerequisites: 150 or 3850:100. Evolutionary transformations of magic and ritual into science and technology. Examination of animism, totemism, and other forms of preliterate religions. Mana, taboo, and other religious and social symbols. Lecture.

**3870:455/555 CULTURE AND PERSONALITY 3 credits**

Prerequisites: 150 or permission. An examination of the functional and casual relationships between culture and individual cognition and behavior. Lecture.

**3870:461/561 LANGUAGE AND CULTURE 3 credits**

Prerequisites: 150 or permission. An examination of language structure and the interaction of language, cognition and culture. Lecture.

**3870:463/563 TYPES OF KINSHIP AND SOCIAL ORGANIZATION 3 credits**

Prerequisites: 150 or permission. A comparative structural analysis of non-western systems of kinship and social organization in terms of status, role, reciprocal expectation, nomenclature, nuclear and extended households, and other kinship groupings. Lecture.

**3870:494/594 WORKSHOP IN ANTHROPOLOGY 1-3 credits**

Group studies of special topics in anthropology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only. May be repeated.

**GRADUATE COURSES****3870:651 SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS 3 credits**

Major theoretical viewpoints in cultural anthropology. Nature and scope of research problems in anthropology. Survey of methods in field work. Seminar.

**3940: POLYMER SCIENCE****3940:401 INTRODUCTION TO ELASTOMERS 2 credits**

Prerequisites: One year of Organic Chemistry or

permission. History and preparation of natural rubber. Methods utilized for the production of Synthetic Rubbers are outlined. Laboratory experiments include compounding, processing, vulcanization and testing of rubber products.

**3940:402 INTRODUCTION TO PLASTICS 2 credits**  
Prerequisites: 401 or permission. The plastics industry and its manufacturing methods are discussed. Plastics compounding for both thermoplastic and thermosetting materials are discussed with emphasis on processing and testing as illustrated by laboratory experiments.

**3940:407 POLYMER SCIENCE 4 credits**  
Prerequisites: 3150:314 or 3650:301, or permission. Principles of polymerization processes and relationships between molecular structures and physical behavior of polymers. Molecular weight distributions of macromolecules are discussed and methods of determining molecular weights are utilized.

**3940:411/511 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS I 2 credits**  
Prerequisites: 401 or 402 or permission. An interdisciplinary course involving the principles of chemistry and physics are brought to bear on the relationships between the molecular structure and chemical composition of macromolecules and their physical properties.

**3940:412/512 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS II 2 credits**  
Prerequisite: 411/511 or permission. Mechanical characterization of polymeric materials, the Boltzmann superposition principle and fracture. Experimental techniques involving stress-strain behavior, stress relaxation, creep, forced and free vibrations are discussed.

**3940:413/513 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS III 2 credits**  
Prerequisite: 412/413 or permission. Deformation of bonded rubber units, the correspondence principle, time-dependent failure, mechanical properties of polymeric foams and design considerations are discussed.

**3940:414 SEMINAR IN POLYMER SCIENCE 1 credit**  
New and unsolved problems of polymer science will be discussed from the interdisciplinary view of material science. Students will prepare at least one formal technical presentation related to the chemical aspects of the field.

**3940:415 SEMINAR IN POLYMER SCIENCE 1 credit**  
Prerequisite: 416 or permission. Continuation of additional topics not covered in 414.

## GRADUATE COURSES

**3940:604 SPECIAL PROJECTS IN POLYMER SCIENCE 1-3 credits**  
Prerequisite: permission. Research projects of a limited nature assigned to students entering the Polymer Science program. These are intended to familiarize the student with typical problems and techniques in this field.

**3940:610 INORGANIC POLYMERS 2 credits**  
Prerequisites: 3150:472/572 or 601 or permission. A survey course that is designed to broaden the outlook of the typical graduate student beyond the chemistry and physics of carbon-chains.

**3940:613 POLYMER SCIENCE LABORATORY 2 credits**  
Prerequisite or co-requisite: 3150:601, 701 or permission of the instructor. Laboratory experiment in the

synthesis, characterization, physical properties and processing and testing of polymers.

**3940:699 MASTERS RESEARCH 1-6 credits**  
Prerequisite: Permission. For properly qualified candidates for master's degree. Supervised original research in polymer science, under the direction of a faculty member, followed by a submission of a thesis.

**3940:701 POLYMER TECHNOLOGY I 2 credits**  
Principles of compounding and testing, processing principles and types of operation, design principles.

**3940:702 POLYMER TECHNOLOGY II 2 credits**  
Prerequisites: 701 or permission of instructor. Lecture-Laboratory (1-1). Rubber industry, rubber compounding and processing, vulcanization methods, physical testing, plastics preparation and compounding, manufacturing processes.

**3940:703 POLYMER TECHNOLOGY III 2 credits**  
Prerequisite: 702 or permission of instructor. Lecture-Laboratory (1-1). Flow properties, extrusion, calendaring and milling, molding, mixing, bond operations, engineering properties, rubber springs, viscoelastic analysis design consideration.

**3940:708 MACROMOLECULAR CHAIN STRUCTURE 3 credits**  
Prerequisites: Either 3150:314, 3650:301 or 4200:305 or permission. Chain-like structure of large molecules, fundamental theories of chemical-conformation and statistical mechanics developed to a degree that their applications to polymeric problems can be discussed.

**3940:709 MACROMOLECULAR CHAIN STRUCTURE 3 credits**  
Prerequisite: 708 or permission. Continuation of the topics discussed in 708 including the experimental techniques used in the elucidation of chain structures.

**3940:711 SPECIAL TOPICS IN POLYMER SCIENCE 2 credits**  
Prerequisite: Permission. Study of topical subjects of current interest in Polymer Science, encompassing the chemistry, physics or engineering aspects of macromolecular substances and including laboratory work where applicable.

**3940:712 SPECIAL TOPICS IN POLYMER SCIENCE 2 credits**  
Prerequisite: Permission. Topics of current interest in Polymer Science, encompassing the chemistry, physics or engineering aspects of macromolecular science.

**3940:713 CHAIN STRUCTURE LABORATORY 2 credits**  
Prerequisite or corequisite 708 or permission of instructor. This laboratory is intended to apply the principles discussed in 708 to the laboratory determination of polymer structure.

**3940:899 DOCTORAL RESEARCH IN POLYMER SCIENCE 2-16 credits**  
Open to properly qualified students accepted as candidates for the Degree of Doctor of Philosophy in Polymer Science, depending on the availability of staff and facilities.

## 3980: URBAN STUDIES

### GRADUATE COURSES

**3980:550 WORKSHOP 1-3 credits**  
Group studies of special topics in Urban Studies. May not be used to meet graduate major requirements in Urban Studies. May be used for elective credit only. May be repeated.

**3980:600 BASIC ANALYTICAL RESEARCH 3 credits**

Prerequisite, permission. Examines the basic framework of social science research methodologies and the basic complimentary statistical techniques, including probability and sampling, most useful in urban studies.

**3980:601 ADVANCED RESEARCH AND STATISTICAL METHODS 3 credits**

Prerequisite, 600. Extends the study of social science research methods to include more advanced research methods to include more advanced research designs and multivariant statistical techniques.

**3980:602 AMERICAN URBAN DEVELOPMENT 3 credits**

An examination of the major literature on the processes of urbanization in the United States, and selected facets of urban institutional development.

**3980:610 URBAN POLITICS 4 credits**

Prerequisite, permission. An Empirical analysis of urban political structure, and major political problems.

**3980:611 URBAN ADMINISTRATION 4 credits**

Prerequisite, permission. The organization and management characteristics of various types of governmental units will be examined within the framework of organization and management theory.

**3980:612 NATIONAL URBAN POLICY 4 credits**

Prerequisite, permission. Major federal policies that relate to urban problems are examined in regard to policymaking processes, implementation, and impact.

**3980:620 SOCIAL SERVICES PLANNING 3 credits**

Prerequisite, permission. An in-depth analysis of the total social services requirements and the various ways in which the social services planning function is carried out in urban communities.

**3980:621 URBAN SOCIETY AND SERVICE SYSTEMS 4 credits**

Prerequisite, permission. An analysis of the social bases of urban society and heirarchies, social problems and relationships to planning and public services.

**3980:630 PLANNING CONCEPTS AND METHODS 3 credits**

Prerequisite, permission. An examination of the types, forms, approaches and nature of planning at various levels and a critical appraisal of the development and redevelopment process.

**3980:631 URBAN FACILITIES PLANNING 3 credits**

Prerequisite, permission. A study of urban facilities planning—the need, process and limitation.

**3980:640 FISCAL ANALYSIS 3 credits**

Prerequisite, permission. A study of the revenue and expenditure patterns of the city's government.

**3980:641 URBAN ECONOMIC GROWTH AND DEVELOPMENT 4 credits**

Prerequisite, permission. An examination of the urban economic unit and its susceptibility to social, economic, political and physical change.

**3980:650 COMPARATIVE URBAN SYSTEMS 3 credits**

Prerequisite, permission. Conceptual schemes and methodology for comparative urban analysis among a number of major cities selected from each continent.

**3980:670 URBAN RESEARCH DESIGN 3 credits**

Prerequisite, 602 or equivalent or permission. This course will emphasize advanced work in problem of definition, conceptual logic of urban research, sampling, questionnaire design, planning report development and writing, and advanced quantitative procedures.

**3980:680-681 SELECTED TOPICS IN URBAN STUDIES 1-3 credits each**

Prerequisite, permission. Selected topics in specific areas of Urban Planning, in the various developmental processes of cities, or in various urban policy and administrative issues. (A maximum of 27 credits may be earned in 680 and 681.)

**3980:690 URBAN STUDIES SEMINAR 3 credits**

Prerequisite, 16 hours of Urban Studies Core plus quantitative methods. Urban research methods applied to a specific urban research area. A comprehensive paper is required.

**3980:695 INTERNSHIP 1-3 credits**

(May be repeated for a total of 3 credits). Prerequisite, permission. A faculty supervised work experience program in which the student participates in policy planning and administrative operations in selected urban, state and federal governments and urban agencies.

**3980:697 INDIVIDUAL STUDIES 1-3 credits**

(May be repeated for a total of 4 credits). Directed individual readings or research focused on a specific area or topic.

# The College of Engineering

## 4100: GENERAL ENGINEERING

**4100:180 ENGINEERING DESIGN 1 Credit (1-0)**  
Introduction of the freshman engineering student to problem-solving techniques in Engineering design. Required of all entering Engineering freshmen in Evening College.

**4100:201 FUNDAMENTALS OF ENVIRONMENTAL ENGINEERING ANALYSIS 2 credits (2-0)**  
Interactions between energy production, consumption and environment. Case studies. Not for engineering, chemistry or physics majors.

**4100:202 ATMOSPHERIC POLLUTION 2 Credits (2-0)**  
Causes of atmospheric pollution and technical economic and social problems. Technical solutions. Case studies. Not for engineering, chemistry or physics majors.

**4100:301 COOPERATIVE WORK PERIOD I 0 Credit**  
For Cooperative Program students only. Practice in industry and comprehensive written reports of this experience.

**4100:302 COOPERATIVE WORK PERIOD II 0 Credit**  
For Cooperative Program students only. Practice in industry and comprehensive written reports of this experience.

**4100:403 COOPERATIVE WORK PERIOD III 0 Credit**  
For Cooperative Program students only. Practice in industry and comprehensive written reports of this experience.

## 4200: CHEMICAL ENGINEERING

**4200:120 ENGINEERING FUNDAMENTALS 1 credit (1-0)**  
Prerequisite: 3150:132. Introduction to engineering, problem solving and format, computational exercise, dimensions, units, physical measurements.

**4200:200 MATERIAL AND ENERGY BALANCES 4 credits (4-0)**  
Prerequisites: 3450:221 and 3150:134. Introduction to material and energy balance calculations applied to the solution of chemical engineering problems.

**4200:305 MATERIALS SCIENCE 2 credits (2-0)**  
Prerequisites: 3150:133 and 3650:292 and Junior Standing. The structure, processing and properties of metals, ceramics and polymers. Special topics, such as composites, corrosion and wear.

**4200:321 FLUID, THERMAL TRANSFER THEORY 3 credits (3-0)**  
Prerequisite: 200. Constitutive equations for momentum and energy transfer. Development of microscopic and macroscopic momentum and energy equations. Analogy and dimensions correlations. Problems and applications in the unit operations of chemical engineering.

**4200:322 THERMAL, MASS TRANSFER THEORY 3 credits (3-0)**  
Prerequisite: 321. Constitutive equation for mass transfer. Development of microscopic and macroscopic momentum, energy and mass transfer equations for bi-

nary systems. Problems and applications in the unit operations of chemical engineering.

**4200:325 EQUILIBRIUM THERMODYNAMICS 4 credits (4-0)**  
Prerequisite: 200. The second law of thermodynamics, entropy, applications, comprehensive treatment of pure and mixed fluids. Phase and chemical equilibria, flow processes, power production and refrigeration processes are covered.

**4200:351 FLUID AND THERMAL OPERATIONS 3 credits (3-0)**  
Prerequisite: 321. Applications of fluid mechanics including piping, pumping, compression, metering, agitation, and separations. Applications of heat transfer by conduction, convection, and radiation to design of process equipment.

**4200:352 TRANSPORT LABORATORY 2 credits (0-2)**  
Prerequisite: 322. Experiments in fluid, heat, and mass transfer. Data collection, analysis, and reporting in various format. Relationships to theory emphasized.

**4200:353 MASS TRANSFER OPERATIONS 3 credits (3-0)**  
Prerequisites: 322, 325. Theory and design of staged operations including distillation, extraction, absorption. Theory and design of continuous mass transfer devices.

**4200:354 OPERATIONS LABORATORY 1 credit (0-1)**  
Prerequisite: 353. Comprehensive experiments and analysis in combined heat and mass transfer, thermodynamics and reaction kinetics. Comprehensive reports.

**4200:408 POLYMER ENGINEERING 3 credits (3-0)**  
Prerequisite: Permission or Senior Standing. Commercial Polymerization, Materials Selection and Property Modification, Polymer Processing, Applied Rheology, and a Classification of the Polymer Industry.

**4200:430 CHEMICAL REACTION ENGINEERING 3 credits (3-0)**  
Prerequisite: 325. Non-equilibrium processes including chemical reaction mechanisms, rate equations, and ideal reactor design applied to homogeneous and heterogeneous systems.

**4200:435 PROCESS ANALYSIS AND CONTROL 3 credits (2-1)**  
Prerequisites: 353 or 430. Response of simple chemical processes and design of appropriate control systems.

**4200:441 PROCESS ECONOMICS AND DESIGN 4 credits (4-0)**  
Prerequisite: 353. Economic evaluation of chemical plants including justification, profitability, capital investment, and operating costs. Design of chemical process equipment.

**4200:442 PLANT DESIGN 4 credits (3-1)**  
Prerequisite: 441. Integration of process and equipment design for a total plant including justification, site selection, and plant layout. Culminates with a case study or A.I.Ch.E. Student Contest Problem.

**4200:461/561 SOLIDS PROCESSING 3 credits (3-0)**  
Prerequisites: 321 and 353 or permission. Comprehensive problems in sedimentation, fluidization, drying and other operations involving mechanics of particulate solids in liquid and gas continua.

**4200:463/563 POLLUTION CONTROL 3 credits (3-0)**  
Prerequisite: 353. Air and water pollution sources and problems. Engineering aspects and methodology.

**4200:466/566 DIGITIZED DATA AND SIMULATION 3 credits (3-0)**  
Prerequisite: Permission. Data acquisition and analysis by digital devices, digital control applications, designing using digital computers.

**4200:497 HONORS PROJECT 1 to 3 credit hours**  
Prerequisite: Special Permission. An individual creative project pertinent to chemical engineering culminating in an undergraduate thesis, supervised by a faculty member of the Chemical Engineering Department. This course may be repeated for up to a total of 6 credit hours.

**4200:499 RESEARCH PROJECT 1 to 3 credit hours**  
Prerequisite: Permission. Individual research project pertinent to chemical engineering under faculty supervision. Report required. May be repeated up to a total of 6 credit hours.

## GRADUATE COURSES

**4200:600 TRANSPORT PHENOMENA 3 credits (3-0)**  
Systematic presentation of the conservation of momentum, energy and mass at both the microscopic and macroscopic levels in conjunction with illustrative examples and analogies.

**4200:605 CHEMICAL REACTION ENGINEERING 3 credits (3-0)**  
Prerequisite: 430 or permission. Kinetics of homogeneous and heterogeneous systems. Reactor design for both ideal and non-ideal flow systems.

**4200:610 CLASSICAL THERMODYNAMICS 3 credits (3-0)**  
Prerequisite: 325. Discussion of the laws of thermodynamics and their application. Prediction and correlation of thermodynamic data. Phase and reaction equilibria.

**4200:630 CHEMICAL PROCESS DYNAMICS 3 credits (3-0)**  
Prerequisite: 600. Development and solutions of mathematical models for chemical processes including models based on transport phenomena, principles, population, balance methods, and system analysis.

**4200:635 ADVANCED POLYMER ENGINEERING 3 credits (3-0)**  
Prerequisite: 323 or permission. Reactors for polymerization, polymer characterization, polymer processing, polymer rheology.

**4200:640 ADVANCED PLANT DESIGN 3 credits (3-0)**  
Prerequisite: Permission. Topical treatment of process and equipment design, scale-up design, optimization, process syntheses, process economics. Case problems.

**4200:698 SPECIAL PROBLEMS 1-4 credits**  
(May be repeated for a total of 4 credits). Prerequisite: Permission of department head. For qualified candidates for the M.S.Ch.E. degree. This course is designed to allow a student to expand a particular area of interest by consultation with a faculty member and independent study beyond available course work. Credit is dependent upon nature and extent of project as determined by supervisor and department head.

**4200:699 MASTERS RESEARCH 1-6 credits**  
(May be taken more than once). For properly qualified for Master's degree. Supervised original research in a specific area of chemical engineering to be selected on a basis of availability of staff and facilities.

**4200:701 ADVANCED TRANSPORT PHENOMENA 2 credits (2-0)**  
Prerequisite: 600. Advanced theory of transport phenomena such as applied tensor analysis, constitutive equations; multicomponent reactive transport and multi-phase transport. Illustrative practical examples are also presented.

**4200:706 ADVANCED REACTION ENGINEERING 2 credits (2-0)**  
Prerequisite: 605. Kinetics of heterogeneous systems, fluidized reactors immobilized enzymes, etc., with additional topics drawn from current literature.

**4200:711 NON-EQUILIBRIUM THERMODYNAMICS 2 credits (2-0)**  
Prerequisite: 610. The thermodynamic-phenomenological theory of irreversible processes and its applications.

**4200:715 MOMENTUM TRANSPORT 3 credits (3-0)**  
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids.

**4200:716 NON-NEWTONIAN FLOW 2 credits (2-0)**  
Prerequisite: 600. Rheological behavior of non-Newtonian fluids. Development of fluid constitutive equations. Viscometric methods.

**4200:720 ENERGY TRANSPORT 3 credits (3-0)**  
Prerequisite: 600. Conduction natural and forced convection, and radiation heat transfer starting with the equations of continuity, motion and energy.

**4200:721 TOPICS IN ENERGY TRANSPORT 2 credits (2-0)**  
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat transfer problems found in chemical engineering.

**4200:725 MASS TRANSFER 3 credits (3-0)**  
Prerequisite: 600. Theory of mass transfer with applications to absorption, adsorption, distillation, and heterogeneous catalysis.

**4200:731 PROCESS CONTROL 3 credits (3-0)**  
Prerequisite: 630. Introduction to modern control theory of chemical processes including cascade control, multi-variate control and data sampled control.

**4200:736 POLYMER ENGINEERING TOPICS 2 credits (2-0)**  
Prerequisite: Permission. Selected topics of current interest in polymer engineering, such as modelling of reactors or processes, multiphase materials, multiphase flow, artificial fiber engineering, etc.

**4200:750 POLLUTION CONTROL ENGINEERING 2 credits (2-0)**  
Prerequisite: 464 or permission. Advanced waste treatment methods as applied to the chemical process industries.

**4200:794 ADVANCED SEMINAR 1-4 credits**  
Prerequisite: Permission of Department Head. Advanced projects, readings and other studies in various areas of chemical engineering. Intended for students seeking the Ph.D. in Engineering degree. May be repeated up to a maximum of 6 credits.

**4200:898 PRELIMINARY RESEARCH 1-15 credits**  
(May be repeated for a total of 15 credits) Prerequisite: Approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

**4200:899 DOCTORAL DISSERTATION 1-15 credits**  
Prerequisite: completion of preliminary examination and approval of Advisory Committee. Original re-

search by a Ph.D. candidate. May be taken more than once.

## 4300: CIVIL ENGINEERING

### 4300:130 INTRODUCTION TO ENGINEERING

1 credit (1-0)

Prerequisite: None. Introduction to Civil Engineering for the freshman engineering student. Tasks and opportunities of the civil engineer. Introduction to engineering problem-solving techniques. Required of all Civil Engineering freshmen.

### 4300:201 STATICS 3 credits (3-0)

Corequisites: 3450:222 and 3650:291. Forces, resultants, couples. Equilibrium of force systems. Distributed forces. Centers of gravity. Analysis of simple structures. Moments of inertia. Kinematics.

### 4300:202 INTRODUCTION TO MECHANICS OF SOLIDS 3 credits (3-0)

Prerequisite: 201. Axial force, bending moment diagrams, axial stress and deformation; stress-strain diagrams; torsion; flexural stress; flexural shearing stress; compound.

### 4300:230 SURVEYING 4 credits (3-1)

Principles of route, construction and land surveying. Use of tape, level, transit and electronic surveying equipment. Computation of land areas and earthwork quantities.

### 4300:306 THEORY OF STRUCTURES 3 credits (3-0)

Prerequisite: 202. Stability and determinacy; statically determinate trusses and frames; approximate frame analysis influence lines; moving loads; virtual work analysis; moment area theorem; theorem of three moments; moment distribution for continuous beams and frames.

### 4300:311 GEOTECHNICAL ENGINEERING 5 credits (4-1)

Prerequisite: 202 or permission. Physical properties of soils. Soil water and groundwater flow. Stresses, displacements, volume changes, settlements and consolidation within a soil mass. Soil strength and limiting equilibrium. Slope stability. Design of foundation systems, retaining walls and sheet piling. Laboratory study of soil properties and behavior.

### 4300:323 WATER SUPPLY & WASTEWATER DISPOSAL 3 credits (3-0)

Prerequisite: 3150:133, 4600:310. Quality of water supplies. Study of water treatment processes and methods. Characteristics of wastewater, wastewater treatment, wastewater filtration, sludge treatment and disposal. Construction, finance, maintenance and operation of treatment facilities.

### 4300:341 HYDRAULICS & HYDROLOGY 4 credits (4-0)

Prerequisite: 310. Flow in closed conduits and open channels. Design of pipe networks and pumping stations. Groundwater hydraulics. Surface water hydrology. Statistical analysis of rainfalls and floods.

### 4300:361 TRANSPORTATION ENGINEERING 3 credits (3-0)

Prerequisite: Junior standing. Introductory survey of transportation topics including transportation planning requirements and techniques, introduction to design of highways, airports, and railroads, and introduction to traffic engineering.

### 4300:380 ENGINEERING MATERIALS LABORATORY 1 credit (0-1)

Prerequisite: 202. A study of laboratory instrumentation and standard techniques in the testing of engineering materials. Data analysis.

### 4300:401 STEEL DESIGN 2 credits (2-0)

Prerequisite: 306. Tension members. Compression members. Open-web joists. Beams. Bearing plates. Beam-columns. Bolted and welded connections.

### 4300:403 REINFORCED CONCRETE DESIGN 3 credits (3-0)

Prerequisites: 306. Ultimate strength analysis and design. Compression steel. Diagonal tension. Stirrups. Development Length. One-way slab. T-beams. Two-way slabs. Columns. Isolated and combined footings.

### 4300:404 ADVANCED STRUCTURAL DESIGN 3 credits (3-0)

Prerequisites: 401 and 403. Composite design. Plate girders. Plastic design. Cantilever retaining walls. Torsion in R/C members. Deflection of R/C members. Continuous girder bridge design.

### 4300:405/505 ADVANCED MECHANICS OF MATERIALS 3 credits

Prerequisite: 202. Three-dimensional stress states. Theories of failure. Shear centers. Unsymmetrical bending. Curved beams. Beams on elastic foundations. Torsion of non-circular members. Buckling of columns and beam-columns.

### 4300:407 ADVANCED MECHANICS OF SOLIDS 3 credits (3-0)

Prerequisite: 202. Inelastic torsion analysis twisting of noncircular bars and hollow members; bending of unsymmetrical sections; inelastic beam bending; beams of two materials; curved beams; shear center; strain transformation; yield criteria, skew bending; Castigliano's theorem; conjugate beam.

### 4300:414 DESIGN OF EARTH STRUCTURES 3 credits (3-0)

Prerequisite: 311 or permission. Criteria for design of earth structures including dams, highway fills, cofferdams, etc. Embankment construction techniques and quality control. Analysis of embankment and foundation stability. Instrumentation for monitoring soil movement and stability. Stabilization of foundation soils. Seepage analysis and control methods.

### 4300:418/518 SOIL AND ROCK EXPLORATION 3 credits (3-0)

Prerequisite: 311 or permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and radioactive measurements. Air photo interpretation.

### 4300:421 ENVIRONMENTAL ENGINEERING 3 credits (3-0)

Prerequisite: 323. The engineering aspects involved in the control of the environment of the citizen. Includes communicable disease control, air pollution, industrial hygiene, milk and food sanitation, radiological health, solid waste disposal.

### 4300:424 WATER-WASTEWATER LABORATORY 1 credit (0-1)

Prerequisite: 323 or permission. Laboratory analysis of water and wastewater.

### 4300:425 ENVIRONMENTAL ENGINEERING LABORATORY 2 credits (2-0)

Selected physical, chemical, and bacteriological analysis of raw and treated water and waste waters.

**4300:426/526 ENVIRONMENTAL ENGINEERING DESIGN 2 credits (2-0)**

Analysis of various environmental control systems for water and waste water treatment. Economic analysis with the use of computer programming for the evaluation of various regional, metropolitan and urban areas to determine the most economical system for water supply and pollution control.

**4300:441 HYDRAULIC DESIGN 3 credits (3-0)**

Prerequisite: 341. Collection and critical evaluation of hydraulic data related to an actual design problem selected by the instructor. Development and analysis of design alternatives. Preparation of reports.

**4300:443/543 APPLIED HYDRAULICS 3 credits (3-0)**

Prerequisite: 341. Review of design principles related to urban hydraulics, stream channel mechanics, sedimentation and coastal engineering.

**4300:448 HYDRAULICS LABORATORY 1 credit (0-1)**

Introduction to laboratory and field devices for hydraulic measurements. Reduction and presentation of hydraulic data. Individual assignments of model studies of hydraulic structures.

**4300:450 URBAN PLANNING 2 credits (2-0)**

Historical developments in urban planning; urban planning techniques and patterns; comprehensive master planning studies; planning regulations; design problems; class projects; class project presentation.

**4300:451 MATRIX ANALYSIS OF STRUCTURES 3 credits (3-0)**

Elementary concepts of structural analysis. Static and Kinematic indeterminacy. Flexibility and stiffness matrices. Flexibility analysis of structures. Stiffness analysis of structures. Effects of temperature prestrain and support displacements. Computer formulation of stiffness analysis.

**4300:452 STRUCTURAL VIBRATIONS 2 credits (2-0)**

Prerequisite: 306. Vibration and dynamic analysis of structural systems with one, two, or more degrees of freedom; beams, frames, buildings and bridges. Numerical method of analysis. Idealized structural system. Elasto-plastic systems. Model analysis.

**4300:463 TRANSPORTATION PLANNING 2 credits (2-0)**

Prerequisite: 351. Theory and techniques for development, analysis and evaluation of transportation system plans. Emphasis is on understanding and using the tools and professional methods available to solve transportation planning problems, especially in urban areas.

**4300:464 HIGHWAY DESIGN 3 credits (3-0)**

Prerequisite: 351. A step-by-step study of modern highway design techniques and construction practice.

**4300:471 CONSTRUCTION ADMINISTRATION 2 credits (2-0)**

Prerequisite: Senior standing or permission. Organization for construction, construction contracts, bidding, bonds and insurance. Construction management and supervision, including introductions to the critical path method.

**4300:472 CONSTRUCTION ENGINEERING 3 credits (3-0)**

Prerequisite: Senior standing or permission. Construction equipment selection and management. Techniques of various engineering construction operations including blasting, tunnelling, concrete framework and dewatering.

**4300:473 CONSTRUCTION MATERIALS 2 credits (2-0)**

Prerequisites: 380, 305. Composition, structure and

mechanical behavior of structural materials such as concrete, wood, masonry, plastics and composite materials. Discussion of applications and principles of evaluating material properties.

**4300:474/574 UNDERGROUND CONSTRUCTION 2 credits (2-0)**

Prerequisite: 311. Description of practices and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.

**4300:481 CIVIL ENGINEERING SYSTEMS 2 credits (2-0)**

Prerequisite: Senior standing. Systems approach to civil engineering problems. Mathematical programming; project planning, scheduling and cost analysis; basic operations research methods; decision analysis. Management of engineering design of complex civil engineering projects.

**4300:482 SPECIAL PROJECTS 1-2 credits**

Prerequisite: Senior standing and permission. Directed individual or group research or study in the student's field of interest. Topic subject to approval by advisor.

**4300:497 HONORS PROJECT 1-3 credits**

Prerequisite, senior standing in Honors Program. An individual creative project of design relevant to Civil Engineering, supervised by a faculty member of the Civil Engineering Department. May be repeated for up to a total of 6 credit hours.

**GRADUATE COURSES****4300:602 FUNDAMENTALS OF ELASTICITY, PLASTICITY AND VISCOELASTICITY 3 credits (3-0)**

Prerequisite: 202. Analysis of stress and strain. Equilibrium equations. Constitutive equations for isotropic, orthotropic, and anisotropic materials. Formulation of boundary value problems. Plasticity and viscoelasticity concepts of yield, strain-hardening, and flow. Mathematical modeling of plastic and viscoelastic behavior of metals, polymers, concrete, soils and composites. Methods of material characterization.

**4300:603 MATRIX ANALYSIS OF FRAMED STRUCTURES 3 credits (3-0)**

Prerequisite: 306. Matrix algebra and solution of simultaneous equations. Flexibility analysis of structures. Stiffness analysis of structures. Local and global stiffness matrices for space structures. Automatic dead load analyses. Direct computation of member-end-actions. Nonrigid joints. Inclined supports. Nonprismatic members. Computer program implementation.

**4300:604 DYNAMICS OF STRUCTURES 3 credits (3-0)**

Prerequisite: 306. Approximate and rigorous dynamic analysis of one, two multiple and infinite degrees of freedom structural systems. Elasto-plastic and plastic analysis. Equivalent systems and dynamic hinge concept. Modal analysis. Transfer matrices. Fourier and Laplace Transforms.

**4300:605 STRUCTURAL STABILITY 3 credits (3-0)**

Prerequisite: 405/505. Buckling of bars, beam-columns and frames. Lateral buckling of beams. Double and tangent modulus theories. Energy methods. Compressed rings and curved bars. Torsional buckling. Buckling of plates and shells. Inelastic buckling.

**4300:606 ENERGY METHODS AND ELASTICITY 3 credits (3-0)**

Prerequisite: 202. Work and complementary work. Strain energy and complementary strain energy. Virtual work and Castigliano's theorems. Variational methods. Applications. Formulation of boundary value problems in elasticity. Selected topics in energy methods and elasticity.

**4300:607 PRESTRESSED CONCRETE 3 credits (3-0)**

Prerequisite: 404. Basic concepts. Design of double-tee roof girder. Shear. Development length. Columns. Piles. Design of highway bridge girder: prestensioned, post-tensioned. Continuous girders. Corbels. Volume-change forces. Connections.

**4300:608 MULTISTORY BUILDING DESIGN**

3 credits (3-0)

Prerequisite: 401. Floor systems. Staggered truss system. Braced frame design. Unbraced frame design. Drift indices. Monocouque (tube and partial tube) systems. Earthquake design. Fire protection. Analysis by STRUDEL.

**4300:609 FINITE ELEMENT ANALYSIS I**

3 credits (3-0)

Prerequisite: 622. Introductory development of the finite element method as applied to various topics from continuum mechanics. Such areas as: plane, axisymmetric and 3-D stress analysis; condition, fluid mechanics; transient problems and geometric and material nonlinearity will be covered.

**4300:611 FUNDAMENTALS OF SOIL BEHAVIOR**

2 credits (2-0)

Prerequisite: 311. An in-depth examination of the structure and fundamental physico-chemical and mechanical properties of engineering soils viewed as particulate matter.

**4300:612 ADVANCED SOIL MECHANICS**

3 credits (3-0)

Prerequisite: 311. Study of mechanics of behavior of soil as a continuum. Principles of stress, strain, deformation, shear strength, and pore water pressure as applied to mechanical behavior of soil masses.

**4300:614 FOUNDATION ENGINEERING I**

3 credits (3-0)

Prerequisite: 311 or permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundation systems. Pile driving and load test procedures and analysis. Theory and design of earth retaining structures including retaining walls, tie-backs and bulkheads.

**4300:615 FOUNDATION**

**ENGINEERING II 3 credits (3-0)**

Prerequisite: 614 or permission. Soil-structure interaction theory and applications to underground structures including conduits, tunnels and shafts. Advanced foundation construction methods and problems including dewatering, soil stabilization, underpinning and cofferdams. Slope stability analysis.

**4300:618 ROCK MECHANICS 3 credits (3-0)**

Prerequisite: 602 or permission. Mechanical nature of rocks; linear elasticity and application to rock problems; inelastic behavior of rocks, time dependence, and the effects of pore pressure; experimental characterization of rock properties; failure theory and crack propagation.

**4300:620 SANITARY ENGINEERING**

**PROBLEMS 2 credits (2-0)**

Prerequisite: 323. The application of both laboratory methods and theory to the solution of sanitary engineering problems involving water pollution, stream regeneration, special industrial wastes, detergents, and others.

**4300:621 INDUSTRIAL WASTE**

**TREATMENT 2 credits (2-0)**

Prerequisite: permission. Analysis of problems arising from industrial water pollution. Analysis of methods of treatment with specific applications and the study of cost-effectiveness to meet water quality criteria.

**4300:622 WATER TREATMENT**

**PLANT DESIGN 3 credits (3-0)**

Prerequisite: permission. Design of water treatment plants for potable, industrial and commercial uses. Development of water sources, treatment methods and financing will be used to design the best practical methods in terms of cost-benefits.

**4300:623 WASTEWATER TREATMENT PLANT**

**DESIGN 3 credits (3-0)**

Prerequisite: permission. Application of theory and fundamentals to the design of wastewater treatment plants. System design methods will be used for the biological and chemical stabilization of wastewater to meet water quality criteria. Economic analyses will be made to determine best practical designs to be utilized.

**4300:624 ENGINEERING MANAGEMENT OF WATER**

**UTILITIES 2 credits (2-0)**

Prerequisite: Permission. A comprehensive study of the various functions of the water utility and the engineering management operations pertaining to the intricate and complex processes. The fundamentals of responsibility and the duties are offered to students who seek the engineering fundamentals applicable to water utility systems.

**4300:640 ADVANCED FLUID MECHANICS**

3 credits (3-0)

Prerequisite: 310 or permission. Basic equations of fluid mechanics, Navier-Stokes equations. Analysis of potential flow, turbulence, hydraulic transients. Solution of typical fluid mechanics problems. Analysis of water hammer in pipe networks by the method of characteristics.

**4300:644 OPEN CHANNEL HYDRAULICS**

3 credits (3-0)

Application of basic principles of fluid mechanics to flow in open channels. Criteria for analysis of uniform, gradually varied and rapidly varied flows. Study of movement and transportation of sediments. Design problems utilizing numerical techniques.

**4300:645 APPLIED HYDROLOGY 3 credits (3-0)**

Discussion of water cycle such as precipitation, evaporation, stream flows, floods, infiltration. Methods of analysis and their application to studies of water demand, storage, transportation including mathematical modeling of urban runoff and statistical hydrology.

**4300:646 COASTAL ENGINEERING 3 credits (3-0)**

Characteristics of linear and nonlinear wave theories. Interaction of structures and waves and design analysis of shore and offshore structures. Movement and transportation of sediments in lake shore areas.

**4300:681 ADVANCED ENGINEERING MATERIALS**

3 credits (3-0)

**4300:697 SPECIAL PROBLEMS 1-2 credits**

Prerequisite: permission. Supervised research or directed individual study in the student's major field. Topic selected by the student, subject to approval by advisor.

**4300:698 SPECIAL PROBLEMS 1-2 credits**

Prerequisite: 697 and permission. Continuation of 697. Individual research should lead to final report of publishable quality.

**4300:699 MASTERS THESIS 1-6 credits**

Prerequisite: permission. Research and thesis on some suitable topic in civil engineering as approved by the department. Defense of thesis is by final examination.

**4300:701 EARTHQUAKE ENGINEERING 3 credits (3-0)**

Prerequisite: 604. Earthquake fundamentals. Earth-

quake response of single story and multistory buildings, as well as structural components. Modal analysis for earthquake response. Inelastic response of multistory structures. Earthquake codes. Stochastic approach.

**4300:702 PLATES AND SHELLS 3 credits (3-0)**

Prerequisites: 602 and 3450:531. Rectangular and circular plate formulation. Navier and Levy solutions. Nonsymmetric circular plate solutions. Plates of various shapes. Plates on elastic foundation. Forces in middle plane. Large deflections. Plate vibrations. Differential geometry of a surface. Equilibrium, strain-displacement and stress-strain equations for isotropic, orthotropic, and anisotropic shells. Multisegment numerical integration solution of shells of revolution for static and vibration analysis.

**4300:703 APPLICATIONS IN PLASTICITY AND VISCOELASTICITY 3 credits (3-0)**

Prerequisite: 602. Formulation of boundary value. Problems in plasticity and viscoelasticity. Correspondence principle. Solution approaches to practical problems, e.g. problems with cylindrical and spherical symmetry, torsional and two-dimensional problems.

**4300:704 FINITE ELEMENT**

**ANALYSIS II 3 credits (3-0)**

Prerequisite: 609, 702 or permission. Curved, plate, shell brick elements. Quasi-analytical elements. Quadrature formulas. Substructuring for static and dynamic analyses. Solution algorithms for linear and nonlinear static and dynamic analysis. Computer program formulation. Review of large scale production programs.

**4300:705 FINITE ELEMENT ANALYSIS III**

**3 credits (3-0)**

Prerequisite: 704 and 702 or permission. Static and dynamic contact problems. Tire mechanics. Fracture mechanics. Plasticity problems involving small and large deflections. Shake down analysis. General constitutive models for composite media, thermo-viscoelasticity, fluid turbulence. Fluid-solid interaction analysis.

**4300:717 SOIL DYNAMICS 3 credits (3-0)**

Prerequisite: 614 or permission. Vibration and wave propagation theory relating to soils, soil-structures and foundations. Dynamic behavior of soils. Design of foundations for dynamic loading impact, pulsating and blast loads.

**4300:745 SEEPAGE 2 credits (2-0)**

Discussion of parameters determining the permeability of various soils. Analytical, numerical, and experimental methods to determine two or three-dimensional movement of groundwater. Unsteady flows.

**4300:794 ADVANCED SEMINAR IN CIVIL ENGINEERING 1-3 credits**

Prerequisite: permission of department head. Advanced projects, reading and other studies in various areas of civil engineering. Intended for students seeking the Ph.D. in Engineering degree. May be repeated up to a maximum up to 9 credits.

**4300:898 PRELIMINARY RESEARCH 1-15 credits**

May be repeated for a total of 15 credits. Prerequisite: approval of Advisory Committee. Preliminary Investigation of Ph.D. dissertation subject.

**4300:899 DOCTORAL DISSERTATION 1-15 credits**

May be repeated for a total of 15 credits. Prerequisite: completion of Preliminary Examination and approval of Advisory Committee. Original research by a Ph.D. Candidate. May be taken more than once for credit.

## 4400: ELECTRICAL ENGINEERING

**4400:101 ENGINEERING DESIGN 1 credit (1-0)**

Introduction of the freshman engineering student to problem solving techniques. Required of all entering Electrical Engineering Freshmen.

**4400:231 CIRCUITS I 3 credits (3-0)**

Corequisite: 3450:223, prerequisite 3650:291. Fundamentals of circuit analysis including loop and nodal methods, phasor techniques, resonance, polyphase circuits, and magnetic coupling in circuits.

**4400:232 CIRCUITS II 3 credits (3-0)**

Prerequisite 231, 3450:235. Network theorems, Fourier methods, transfer functions. Laplace and Fourier transforms and their use in analyzing the dynamic operation of circuits.

**4400:320 BASIC ELECTRICAL ENGINEERING**

**4 credits (3-1)**

Prerequisite, junior standing in engineering. Corequisite, 3450:235. An introductory course covering fundamental aspects of Electrical Circuits, Electronics, and Electrical Machinery. Not open to electrical engineering majors.

**4400:333 CIRCUITS III 3 credits (3-0)**

Prerequisite: 232, 3450:235, 4450:206. Application of Laplace and State Variable to frequency and time domain expressions for steady state and transient responses. Network topology and computer aided circuit design.

**4400:334 CIRCUITS IV 3 credits (3-0)**

Prerequisite: 333. Network topology; node, mesh, loop cut-set and state variable analysis and solutions; matrix formulations. Transform theory and techniques. Computers in network design and analysis.

**4400:343 ELECTRICAL MEASUREMENTS**

**4 credits (3-1)**

Prerequisite: 231. Study of DC and AC meters and bridges. Evaluation of errors involved in measurements.

**4400:344 INSTRUMENTATION 3 credits (2-1)**

Prerequisite: 343, 362. Analysis and characteristics of transducers, indicating instrument, and recorders used in electrical measurements.

**4400:353 ELECTROMAGNETIC FIELDS I**

**4 credits (4-0)**

Prerequisites: 3450: 223. Static and dynamic fields are treated on the vector basis with Maxwell's equations in point and integral forms. Dynamic electromagnetic fields with applications including particle dynamics and propagation equations.

**4400:359 TRANSMISSION LINES AND NETWORKS**

**3 credits (2-1)**

Prerequisite: 333, 362. Steady state and transient analysis of distributed parameter circuits. Low and high frequency applications. Networks for transmissions.

**4400:361 PHYSICS OF ELECTRONIC DEVICES**

**3 credits (3-0)**

Prerequisite, 353. Physics of semi-conductors. Band theory, energy distribution and electron transport. p-n junctions. BJT and FET devices. Electron emission and ballistics, gaseous discharge, dielectric and magnetic materials. Device modeling.

**4400:362 ELECTRONIC CIRCUITS 4 credits (3-1)**

Prerequisite, 232, 343, 361. Equivalent circuits for electronic devices. Time and frequency domain anal-

ysis. Rectification, voltage and power amplification, feedback, oscillators, linear IC's.

**4400:363 SWITCHING AND LOGIC 4 credits (3-1)**  
Prerequisite, 343, 361. Analysis of computer circuits. Introduction to the use of Boolean Algebra and mapping techniques in analyzing switching circuits. Sequential circuits.

**4400:371 CONTROL SYSTEMS I 3 credits (2-1)**  
Prerequisite: 333, 361; Corequisite, 382. Introduction to servo-mechanisms and feedback. Modeling and response of feedback control systems. Stability of linear systems. Experiments include analog simulation and basic servomechanism.

**4400:380 ILLUMINATION 2 credits (2-0)**  
Fundamentals of illumination and principles underlying specifications and design for adequate electrical lighting.

**4400:381 ENERGY CONVERSION I 3 credits (3-0)**  
Prerequisite, 231, 353. Sources of energy, principles of energy conversion, thermodynamic limitations. Electric energy from fossil fuel, MHD, nuclear energy. Solar energy, hydro, wind and geothermal energy. Transformers.

**4400:382 ENERGY CONVERSION II 4 credits (3-1)**  
Transformers. Induction and synchronous machines. Single phase machines.

**4400:383 APPLICATION OF MOTORS 3 credits (3-0)**  
Prerequisite: 382. Apparatus and circuits for control of electric motors. Calculation of accelerating and decelerating time and duty cycles. Selection of motors for various applications.

**4400:387 ADVANCED MACHINERY 3 credits (2-1)**  
Prerequisite: 382. d-q transformation. Reactance of synchronous machines. Parallel operation of transformers. Synchronous-Induction motors. Machine saturation and harmonics.

**4400:391 PROBLEMS 1-3 credits**  
Prerequisite: permission of department head. Select comprehensive problems, supervised discussions and computation periods. May be taken more than once.

**4400:421/521 ENGINEERING ECONOMY 3 credits (3-0)**  
Prerequisite: 3250:244 and senior standing in Engineering. Presents engineering economics as distinguished from classical economic theory.

**4400:445 COMMUNICATION SYSTEMS 3 credits (3-0)**  
Prerequisites: 333, 353, 362. Communications systems and equipment; noise, modulation; antennas and propagation; electronic communication circuits, frequency standards and generation, communication satellites.

**4400:446 ELECTRONIC SYSTEMS 3 credits (3-0)**  
Prerequisite: 445. The study of specific state-of-the-art electronic systems: primary and secondary radar, telemetry systems, video systems, data communications, navigational systems.

**4400:447 RANDOM SIGNALS 3 credits (3-0)**  
Prerequisite: 333. Applications of set theory, discrete and continuous sample spaces; probability, random variables, distribution functions, density functions, stochastic processes, random signals, system function, power spectrum, and correlation functions.

**4400:448 COMMUNICATION THEORY 3 credits (3-0)**  
Prerequisite: 447. Spectral analysis and Fourier transforms; random variables and processes; amplitude, frequency, and pulse modulation; representations of noise in modulation; threshold in frequency modula-

tion, data transmission; communication system and noise calculations.

**4400:452 INTRODUCTION TO LASERS 3 credits (3-0)**  
Prerequisite: 333, 353. Introduction to the basic concepts of maser (laser) action; emission processes and their roles in laser action; types of lasers; presentation of generalized operating criteria.

**4400:454 ELECTROMAGNETIC FIELDS II 3 credits (3-0)**  
Prerequisite: 353 or permission. Advanced field theory including boundary value problems and non-linear fields. Applications of Maxwell's equations. Antennas.

**4400:455/555 MICROWAVES 4 credits (3-1)**  
Prerequisite, 353, 359. Dynamic fields, Maxwell's equation and the wave equations. Field analysis of wave guides, microwave components, techniques, and systems.

**4400:464 PULSE ELECTRONICS 4 credits (3-1)**  
Prerequisites, 333, 362. Waveshaping circuits, non-sinusoidal waveform generation and relaxation circuits. Pulse transformers. Application of pulse and switching circuits.

**4400:465/565 COMPUTER CIRCUITS 4 credits (3-1)**  
Prerequisite, 363. Electronic circuitry considerations in logic circuits, methods of sequential and threshold logic analysis and synthesis, development of computer arithmetic elements, memory and storage devices.

**4400:467/567 SOLID STATE DEVICES 2 credits (2-0)**  
Prerequisite, 362. Static and dynamic behavior of p-n junction and junction transistors. Theory of avalanche and Zener breakdown. FET npn diode and Gunn effect oscillator.

**4400:469 INDUSTRIAL ELECTRONICS 3 credits (3-0)**  
Prerequisites, 362, 382. Application of electronic devices at power levels. Intended for those specializing in the "power" area of Electrical Engineering rather than "electronic" areas.

**4400:472/572 CONTROL SYSTEMS II 4 credits (3-1)**  
Prerequisite, 371. The state variable analysis and design of control systems. Discrete system and analysis, digital computer control. Experiments include hybrid and AC control system, digital computer control.

**4400:480/580 SYMMETRICAL COMPONENTS 3 credits (3-0)**  
Prerequisite: 382. Per unit method as applied to power system calculations. Fundamental principles of symmetrical components as applied to the analysis of electrical circuits, and machines.

**4400:481 ELECTRICAL POWER SYSTEMS I 3 credits (3-0)**  
Prerequisite: 382. Introduction to electricity utility load flow, fault analysis, stability, surge protection and relaying.

**4400:482 ELECTRICAL POWER SYSTEMS II 3 credits (3-0)**  
Prerequisite: 382. Introduction to industrial power systems. Local generation, power factor correction, conductor selection code requirements, coordination of protective devices.

**4400:497 HONORS PROJECT 1-3 credits**  
Prerequisite, Senior standing in Honors Program. An individual creative project or design relevant to Electrical Engineering, supervised by a faculty member of the Electrical Engineering Department. This course may be repeated for up to a total of 6 credit hours.

**4400:498/598 TOPICS IN ELECTRICAL ENGINEERING 1-2 credits**

Prerequisite: permission of department head. Special topics in Electrical Engineering. May be taken more than once.

**GRADUATE COURSES****4400:631 CIRCUIT ANALYSIS 3 credits (3-0)**

Prerequisite, graduate standing. Operational methods, time domain analysis, state variable methods and matrix techniques applied in circuit analysis. Realizability and synthesis of driving point impedance and transfer functions.

**4400:641 RANDOM SIGNAL ANALYSIS 3 credits (3-0)**

Prerequisite, 447. Analysis, interpretation, and smoothing of engineering data through application of statistical and probability methods.

**4400:642 STATISTICAL COMMUNICATIONS**

3 credits (3-0)

Prerequisite, 448 or 641. Detection and estimation of signals in communication systems; linear and non-linear systems with random inputs; narrow-band systems, mean squared-error filter, modulation and information theory.

**4400:651 ELECTROMAGNETIC FIELDS 3 credits (3-0)**

Prerequisite, graduate standing in electrical engineering. Introduction to advanced electromagnetic concepts at the graduate level.

**4400:652 ADVANCED ELECTROMAGNETICS**

3 credits (3-0)

Prerequisite, 651. Application of Maxwell's equations. Propagation equations and antenna analysis.

**4400:661 DESIGN OF DIGITAL SYSTEMS**

3 credits (3-0)

Prerequisite, 465. Applications of logic circuits in the modern digital electronic computer and in digital communication systems. Computer organization and control, input-output devices and interface standards, advanced topics in computers.

**4400:662 TOPICS IN ELECTRONICS 3 credits (3-0)**

Prerequisite: permission of department head. Discussions of recent advances in electronics.

**4400:671 DISCRETE CONTROL SYSTEMS**

3 credits (3-0)

Prerequisite: 472, 572 or permission. Theory and techniques for the analysis and design of discrete control system. Z-transform technique, stability analysis, frequency response. Optimization. Digital computer control.

**4400:674 CONTROL SYSTEM THEORY 3 credits (3-0)**

Prerequisite: 472, 572. Advanced modern control theory for linear and nonlinear systems. Controllability and observability, state variable feedback, estimation and control nonlinear system analysis and stability problem.

**4400:676 RANDOM PROCESS ANALYSIS**

3 credits (3-0)

Prerequisite: 674. Analysis and design of control systems with stochastically defined input. Introduction to estimation filters.

**4400:681 POWER SYSTEM ANALYSIS 3 credits (3-0)**

Prerequisite: 480. Short circuit and load flow analysis of power systems with emphasis on computer solution. Transient machine analysis.

**4400:682 POWER SYSTEM STABILITY 3 credits (3-0)**

Prerequisite: 681. Steady state and transient stability of power systems with emphasis on computer solution.

**4400:683 ECONOMICS OF POWER SYSTEMS**

3 credits (3-0)

Prerequisite: 681. Analysis and operation of power system for economic dispatching using a computer.

**4400:684 PROTECTIVE RELAYING 3 credits (3-0)**

Prerequisite: 480. The principles and application of relays as applied to the protection of power systems.

**4400:685 SURGE PROTECTION 3 credits (3-0)**

Prerequisite: 480. The phenomena of lightning and switching surges on electrical systems. The protection of systems and apparatus by line design, the application of protective devices and insulation coordination.

**4400:693 SPECIAL PROBLEMS 1-3 credits**

Prerequisite: Permission of department head. For qualified graduate students. Supervised research or investigation in student's major field of training or experience. Credit dependent upon nature and extent of project. May be taken more than once.

**4400:699 MASTER'S THESIS 1-6 credits**

Prerequisite: Permission of department head. Research and thesis on some suitable topic in Electrical Engineering.

**4400:753 TOPICS IN ELECTROMAGNETICS**

3 credits (3-0)

Prerequisite: 651. Introduction to advanced techniques in fields. Topics will include application of Green's functions techniques and related boundary value problems.

**4400:776 OPTIMAL CONTROL I 3 credits (3-0)**

Prerequisite: 674. Formulation of the optimization problem; application of variational calculus, maximum principle and the optimality principle to the control problems. Computational techniques in optimization.

**4400:777 OPTIMAL CONTROL II 3 credits (3-0)**

Prerequisite: 776. Sensitivity problem in optimal control, system identification. The implementation and application of adaptive control.

**4400:779 ADVANCED TOPICS IN CONTROL**

3 credits (3-0)

Prerequisite: 776. Discussions of recent advances in control systems.

**4400:794 ADVANCED SEMINAR 1-3 credits**

Prerequisite: permission of department head. Advanced level coverage of various specialized topics. Intended for students seeking the Ph.D. in Engineering. May be taken more than once.

**4400:898 PRELIMINARY RESEARCH 1-15 credits**

Prerequisite: completion of Qualifying Examination and approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation subject. May be repeated for credit.

**4400:899 DOCTORAL DISSERTATION 1-15 credits**

Prerequisite: completion of Candidacy Examination and approval of Student Advisory Committee. Original research by a Ph.D. candidate. May be repeated for credit.

**4450: COMPUTER SCIENCE****4450:206 FORTRAN (SCI/ENGR) 2 credits (2-0)**

Prerequisites, 3450:221 or 2020:334. Introduction to the use of digital computers in scientific and engineer-

ing applications. For students majoring in engineering or the physical sciences.

**4450:207 USER LANGUAGES 2 credits (2-0)**

Prerequisites: 206 or equivalent. Comparative study of features of high level computer languages from the standpoint of the user.

**4450:306 ASSEMBLER PROGRAMMING 3 credits (3-0)**

Prerequisites: 206 or equivalent. Introduction to computer organization and programming at the machine language level. Assembler syntax, sub-routine linkage conventions, the macro language.

**4450:407 SYSTEMS PROGRAMMING 3 credits (3-0)**

Prerequisite: 306. Introduction to operating systems. Data structures and algorithms in assemblers, macro-processors, loaders and compilers. Process and memory management, procedure and data sharing.

**4450:410 COMPUTER METHODS 3 credits (3-0)**

Prerequisites: 206 or equivalent in Fortran, and 345:236. Numerical methods and techniques in the use of central computer facilities to solve problems in science and engineering. Plotting and other Fortran library routines. Job Control Language. Interactive computing.

**4450:432 SYSTEM SIMULATION 3 credits (3-0)**

Prerequisite: 410. Principles of modeling and simulation of discrete and continuous time models, using Fortran and S/360 CSMP. Discrete event models and GPSS, SIMSCRIPT.

**4450:497/597 TOPICS IN COMPUTER SCIENCE 1-2 credits**

Prerequisite: Permission of department head. Special Topics in Computer Engineering. May be taken more than once.

## GRADUATE COURSES

**4450:610 COMPUTER ALGORITHMS I 3 credits (3-0)**

Prerequisites: 206 and 3450:235. Organization of scientific and engineering problems for computer solutions. Analysis of error and convergence properties of algorithms.

**4450:611 COMPUTER ALGORITHMS II 3 credits (3-0)**

Prerequisites: 610 or permission. Data structures and algorithm design for minimum execution time and memory requirements.

**4450:693 SPECIAL PROBLEMS 1-3 credits**

Prerequisite: Permission of EE department head. For qualified graduate students. Supervised research or investigation in the students' major field. Credit depends upon nature and extent of project. May be taken more than once.

**4450:794 ADVANCED SEMINAR 1-3 credits**

Prerequisite: Permission of EE department head. Advanced level coverage of various topics. Intended for students seeking the Ph.D in Engineering. May be taken more than once.

## 4600: MECHANICAL ENGINEERING

**4600:125 ENGINEERING GRAPHICS 2 credits**

Freehand sketching techniques. Orthographic projection and pictorial representation of typical machine elements.

**4600:160 ENGINEERING DESIGN: MECHANICAL ENGINEERING 1 credit**

Introduction to the engineering profession. Engineering curriculum and programs of study. Basic tools of engineering analysis and design.

**4600:300 THERMODYNAMICS I 4 credits**

Prerequisites: 3450:221 and 3650:291. Basic concepts of thermodynamics. The pure substance, the system, and the first and second laws of thermodynamics. Entropy, availability, power cycles.

**4600:301 THERMODYNAMICS II 3 credits**

Prerequisites: 300 and 310. Thermodynamics of state, gas mixtures and gas-vapor mixtures. Combustion. Thermodynamics of gas flow.

**4600:305 THERMAL SCIENCE 2 credits**

Prerequisites: 3450:222 and 3650:291. Credit not allowed for both 300 and 305. Introduction to the first and second laws of thermodynamics, perfect gas relationships, equations of state, cycle analysis. Introduction to conduction, convection and radiation heat transfer.

**4600:310 FLUID MECHANICS 3 credits**

Co-requisite: 300. 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. Dimensional analysis and similitude.

**4600:315 HEAT TRANSFER 3 credits**

Prerequisites: 300, 310. Fundamentals of heat transfer by conduction, convection and radiation.

**4600:320 DYNAMICS 3 credits**

Prerequisite: 4300:201. Kinematics and kinetics of particles and rigid bodies. Principles of work, energy, momentum and impulse.

**4600:321 KINEMATICS OF MACHINES 3 credits**

Prerequisites: 125, 320. Displacements, velocities, accelerations and introduction to forces in plane motion mechanisms. Introduction to design of gears, gear trains and cams.

**4600:336 ANALYSIS OF MECHANICAL COMPONENTS 3 credits**

Prerequisite: 4300:202. Analysis of stress and strain at a point. Mohr's circles, shear centers, elastic instability. Stresses in thick and thin cylinders.

**4600:337 DESIGN OF MECHANICAL COMPONENTS 3 credits**

Prerequisites: 336, 380. Application of stress analysis to the design of fasteners, welds, springs, ball bearings, and gears. Introduction to journal bearings and lubrication. Component design projects.

**4600:360 ENGINEERING ANALYSIS 3 credits**

Prerequisite: 3450:235. Analytical and numerical methods of solution of mechanical engineering problems.

**4600:380 MECHANICAL METALLURGY 2 credits**

Prerequisite: 336. Structures of common metallic materials and the study of their macroscopic mechanical behavior. Phase changes and heat treatment. Theories of failure.

**4600:393 INTERNAL COMBUSTION ENGINES LABORATORY 1 credit**

Prerequisite: 301. A study of the application and performance of reciprocating and rotary engines.

**4600:396 COMPUTER METHODS LABORATORY 1 credit**

Prerequisite: 3450:235. Application of digital computers to solution of typical problems in heat transfer, fluid dynamics, machine design, kinematics, strength of materials, elasticity and vibrations and dynamics.

**4600:400 THERMAL SYSTEM COMPONENTS 3 credits**  
Prerequisites: 301, 310, 315. Performance analysis and design of basic components of thermal energy exchange and conversion systems. Components studied include heat exchangers, pumps, compressors, turbines, and expansion engines.

**4600:401 DESIGN OF ENERGY SYSTEMS 2 credits**  
Prerequisites: 400, 460. Analysis and design of systems for energy exchange. Emphasis will be placed on performance of energy system components and their integration into complex practical systems. A design project will be required.

**4600:410/510 HEATING AND AIR CONDITIONING 3 credits**  
Prerequisites: 301, 315. Thermodynamics of gas mixtures. Design and selection of air conditioning equipment. Control of gas mixtures, heating, cooling and humidity.

**4600:411/511 COMPRESSIBLE FLUID MECHANICS 3 credits**  
Prerequisites: 301,310. Subsonic and supersonic flow in nozzles, diffusers and ducts. One dimensional reactive gas dynamics. Prandtl-Meyer theory. Applications to design and analysis of compressors, turbines, and propulsion devices.

**4600:415/515 ENERGY CONVERSION 3 credits**  
Prerequisites: 301, 315. Topics from the fields of internal combustion engines, cycle analysis, modern conversion devices.

**4600:416/516 HEAT TRANSFER PROCESSES 3 credits**  
Prerequisite: 315. Continuation of 315. Analysis and design of extended surfaces. Natural convective heat transfer, combined modes of heat transfer, heat transfer with a change of phase. Heat transfer in magnetohydrodynamic systems.

**4600:422/522 EXPERIMENTAL STRESS ANALYSIS I 2 credits**  
Prerequisites: 336 or 4300:202. Experimental methods of determining stress or strain. Use of brittle lacquer, strain gages and photoelasticity.

**4600:425/525 ENGINEERING ACOUSTICS I 3 credits**  
Prerequisites: 431 or permission. Analysis of vibrating systems by complex variable techniques and Fourier's Theorem, phase and impedance concept, propagation, transmission and reflection of plane and spherical waves.

**4600:430/530 MACHINE DYNAMICS 3 credits**  
Prerequisites: 320, 321. Dynamic analysis of components and machines, dynamic forces and reactions. Balancing, rotor dynamics, space kinematics and kinetics of rigid bodies.

**4600:431/531 MECHANICAL VIBRATIONS I 3 credits**  
Prerequisites: 320 and 3450:235. Undamped, damped and forced vibrations of systems having one or two degrees of freedom.

**4600:440 CONTROL SYSTEMS 3 credits**  
Prerequisites: 315, 431. Laplace transforms. Mathematical models of physical systems. Transient response and stability. Error analysis and system accuracy. Root locus methods in design. Frequency analysis and design. Compensation techniques.

**4600:441 CONTROL SYSTEM DESIGN 3 credits**  
Prerequisite: 440. Continuation of Control Systems. Design applications to mechanical engineering control systems.

**4600:442/542 INDUSTRIAL AUTOMATIC CONTROL 2 credits**  
Prerequisite: 440. Theory and operation of basic con-

trol mechanisms. Analysis and design of mechanical, hydraulic, pneumatic and fluidic control systems. Practical techniques for optimizing system performance.

**4600:460 CONCEPTS OF DESIGN 3 credits**  
Prerequisite: 337; Co-requisite: 400. The design process. Creativity and inventiveness. The tools of decision-making, engineering economics, reliability, optimization. Case studies.

**4600:461 DESIGN OF MECHANICAL SYSTEMS 2 credits**  
Prerequisites: 321, 431, 460. Detailed mechanical design project and case studies.

**4600:462/562 PRESSURE VESSEL DESIGN 3 credits**  
Prerequisites: 336 or 4300:202. An introduction to modern pressure vessel technology is presented. Topics covered include basic structural considerations, materials and their environment and design-construction features.

**4600:483 MECHANICAL ENGINEERING MEASUREMENTS LABORATORY 2 credits**  
Prerequisites: 300, 310, 320. Development of methods to measure temperature, pressure, flow rate, viscosity, and motion. The course includes both lecture and laboratory experience and emphasizes the calibration and accuracy of the appropriate instruments.

**4600:484 MECHANICAL ENGINEERING LABORATORY 1 credit**  
Prerequisite: 483. Laboratory experiments in the area of dynamics, vibrations, thermodynamics, fluids, heat transfer, and controls.

**4600:485 MECHANICAL ENGINEERING PROBLEMS 1-2 credits**  
Prerequisite: Permission. Investigation of a project by individual or small student groups. Detailed formal report required.

**4600:486 SPECIAL TOPICS 1-3 credits**  
Prerequisite: Permission. Brief description of current content to be announced in schedule of classes.

**4600:497 HONORS PROJECT 1-2 credits**  
Prerequisite: Senior standing in Honors Program. An individual creative project in thermal science, mechanics or design relevant to mechanical engineering, supervised by a faculty member of the Mechanical Engineering Department.

**4600:498 EXPERIMENTAL INVESTIGATIONS IN MECHANICAL ENGINEERING 1-2 credits**  
Individual independent laboratory investigations in areas relevant to Mechanical Engineering. Students must suggest their own projects and make appropriate arrangements with a Mechanical Engineering faculty member for supervision.

## GRADUATE COURSES

**4600:600 GAS DYNAMICS 3 credits**  
Prerequisite: 411/511. Derivation of equations for multidimensional irrotational flow of a compressible fluid. Method of small perturbations. Method of characteristics. Oblique shocks. Transonic flow. One dimensional unsteady flow.

**4600:608 THERMODYNAMICS 3 credits**  
Prerequisites: 301 or permission. Extension and generalization of the basic concepts of thermodynamics. Thermodynamic systems and states. Criteria for equilibrium. Third law. Statistical approaches to thermodynamics.

**4600:609 FINITE ELEMENT ANALYSIS I**

3 credits (3-0)

Prerequisite: 622. Introductory development of the finite element method as applied to various topics from continuum mechanics, such areas as: plane; axisymmetric and 3-D stress analysis; conduction; fluid mechanics; transient problems and geometric and material nonlinearity will be covered.

**4600:610 DYNAMICS OF VISCOUS FLOW I 3 credits**

Prerequisites: 301, 310, or permission. Derivation and solution of equations governing laminar viscous flow. Applications include unsteady flows, slow viscous flows, parallel flows, lubrication theory, and laminar boundary layers.

**4600:615 CONDUCTION HEAT TRANSFER 3 credits**

Prerequisites: 315 or permission. Study of one-two and three-dimensional heat conduction. Development of analytical techniques for analysis and design.

**4600:616 CONVECTION HEAT TRANSFER 3 credits**

Heat transfer from laminar and turbulent external and internal flows. Convective heat transfer at high velocities. Heat transfer to liquid metals as well as high Prandtl number fluids.

**4600:617 RADIATION HEAT TRANSFER 3 credits**

Prerequisites: 315 or permission. A study of the governing radiation laws. Black and real systems, geometric factors, gray enclosures, non-gray systems, gaseous radiation, radiation equipment.

**4600:620 EXPERIMENTAL STRESS ANALYSIS II**

2 credits

Prerequisite: 422/522. Dynamic strain gage methods, transducer design, Moire fringe techniques and topics in photoelasticity.

**4600:622 CONTINUUM MECHANICS 3 credits**

Prerequisite: Permission. Analysis of stress and deformation at a point. Derivation of the fundamental field equations of fluid and solid mechanics by applying the basic laws of dynamics, conservation of mass, energy and thermodynamics. Development of constitutive laws.

**4600:623 APPLIED STRESS ANALYSIS I. 3 credits**

Prerequisite: 622. Continuation of Continuum Mechanics with specific application to solid mechanics. Development of energy theorems due to Reissner, Washizu and generalized Hamilton's principle. Solutions of static and dynamic problems.

**4600:625 ANALYSIS OF MECHANICAL COMPONENTS 3 credits**

Prerequisite: Permission. Theories of failure. Determination of strength-static loading, fatigue, creep and stress rupture. Torsional stresses, contact stresses and thermoelastic problems.

**4600:629 NON-LINEAR ENGINEERING PROBLEMS**

3 credits

Prerequisites: 622 or permission. Study of non-linear ordinary and partial differential equations governing phenomena of mechanics. Analysis of phase-space trajectories, singularities and stability. Development of approximate analytical methods.

**4600:630 MECHANICAL VIBRATIONS II 3 credits**

Prerequisites: 431/531 or permission. The study of vibrations of multi-degree of freedom systems, including free and forced vibrations, damped and transient response, normal mode vibrations, and matrix iteration techniques. Application to seismic design and shock design.

**4600:634 ENGINEERING ACOUSTICS II 3 credits**

Prerequisite: 425/525. Beam width and directivity of radiation sources, microphones and speakers. Huygen's

principle and diffraction of sound waves, physiology and response criteria of the human ear, Fourier analysis of steady state and transient noise.

**4600:642 SYSTEM ANALYSIS AND CONTROL**

DESIGN 3 credits

Prerequisite: Permission. Uniform methods of modeling and response analysis, controllability and observability, stability theory and analysis of linear and nonlinear engineering processes. Design of feedback controls for optimum performance for multi-variable real-time control application.

**4600:680 POLYMER PROCESSING 2 credits**

Prerequisite: Permission. Study of process engineering in the polymer conversion industry, emphasizing the analytical treatment of heat transfer, mass flow, mixing, shaping, and molding of polymeric materials.

**4600:681 DESIGN OF RUBBER COMPONENTS**

2 credits

Prerequisite: Permission. Study of the principles of the design of elastomeric products, emphasizing analytical treatments of the elastic behavior and mechanisms of failure of resilient mountings, springs, seals, bearings, and tires.

**4600:697 SPECIAL TOPICS 1-4 credits**

Prerequisite: Permission. For qualified candidates for graduate degree. Supervised research in student's major field of training or experience. Credit dependent upon nature and extent of project as determined by supervisor and department head.

**4600:699 MASTER'S THESIS 1-4 credits****4600:704 FINITE ELEMENT ANALYSIS II**

3 credits (3-0)

Prerequisites: 609, 4300:702. Curved, plate, shell, brick elements; quasianalytical elements. Quadrature formulas. Substructuring for static and dynamic analysis. Solution algorithms for linear and nonlinear static and dynamic analysis. Computer program formulation. Review of large scale production programs.

**4600:705 FINITE ELEMENT ANALYSIS III**

3 credits (3-0)

Prerequisites: 704, 4300:602. Static and dynamic contact problems. Tire mechanics. Fracture mechanics. Plasticity problems involving small and large deflections. Shake down analysis. General constitutive models for composite media, thermo-viscoelasticity, fluid turbulence. Fluid-solid interaction analysis.

**4600:710 DYNAMICS OF VISCOUS FLOW II 3 credits**

Prerequisite: 610. Introduction to turbulence. Turbulence modeling and turbulent boundary layers. Practical methods of solution of boundary layer problems. Compressible boundary layer theory.

**4600:719 ADVANCED HEAT TRANSFER 3 credits**

Prerequisites: 615, 616. Topics include nonhomogeneous or nonlinear boundary value problems of heat conduction, heat transfer with melting, solidification and ablation, heat transfer in porous systems and hydrodynamically and thermally unsteady convection.

**4600:723 APPLIED STRESS ANALYSIS II 3 credits**

Prerequisite: 623. Continuation of Applied Stress Analysis I. Development of approximate solution techniques including finite elements, the method of weighted residuals (Rayleigh Ritz, Galerkin, Trefftz, collocation, least square, etc.) and finite differences.

**4600:726 NON-LINEAR CONTINUUM MECHANICS**

3 credits

Prerequisite: 622. Finite deformation and strain, stress, constitutive equations, strain energy functions. The solution of finite deformation problems in hypoelasticity, coupled thermoviscoelasticity and plasticity, electroelasticity and micro-polar theories.

**4600:730 MECHANICAL VIBRATIONS III 3 credits**  
Prerequisite: 630. Continuation of 630. Analysis of continuous vibrating systems, using separation of variables, energy, variational, Rayleigh-Ritz and other approximate techniques. Concepts and solutions of integral equations as applied to continuous systems.

**4600:731 RANDOM VIBRATIONS 3 credits**  
Prerequisites: 630 or permission. Stationary random processes and their transmission through linear time-invariant discrete and continuous vibrating systems. Analysis of random data and interaction between mechanisms of failure.

**4600:741 OPTIMIZATION THEORY AND APPLICATIONS 2 credits**  
Prerequisite: Permission. Theory of optimization in engineering systems, development and method of solution of optimization problems for physical processes and large systems. The use of dynamic programming and operational research methods for system optimization and control.

**4600:763 ADVANCED METHODS IN ENGINEERING ANALYSIS 3 credits**  
Prerequisite: Permission. Applications of finite difference and finite element methods, variational methods, integral methods, and similarity transforms to engineering problems in heat transfers, fluid mechanics, and vibrations.

**4600:790 ADVANCED SEMINAR IN MECHANICAL ENGINEERING 1-4 credits**  
Prerequisite: Permission of Department Head. Advanced projects and studies in various areas of mechanical engineering. Intended for students seeking the Ph.D. in Engineering degree. May be repeated up to a maximum of 9 credits.

**4600:898 PRELIMINARY RESEARCH 1-15 credits**  
Prerequisite: Approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

**4600:899 DOCTORAL DISSERTATION 1-15 credits**  
Prerequisite: Approval of Advisory Committee. Original research by a Ph.D. candidate. May be taken more than once for credit.

## 4980: CONSTRUCTION TECHNOLOGY

**4980:351 CONSTRUCTION QUALITY CONTROL 2 credits (2-0)**

Prerequisites: 335, 236, 239 or permission. This course is designed for those owners, contractors, or consultant personnel directly concerned with quality control in the construction industry.

**4980:352 FIELD MANAGEMENT 2 credits (2-0)**

Prerequisites: 2980: 222, 245, 233 or permission. The emphasis of this course is directed to the planning, scheduling, and controlling of the field work within the time and cost constraints.

**4980:353 LEGAL ASPECTS OF CONSTRUCTION 2 credits (2-0)**

Business relationships, to the business of contracting, liabilities of the parties, in property rights of abutting or adjacent parcels of land incidental to construction.

**4980:354 FOUNDATION CONSTRUCTION METHODS 3 credits (3-0)**

Prerequisites: 2980:234, 235. Soil mechanics and soils exploration as related to construction. Foundation construction methods and practice in the interest of safety and suitable economy.

**4980:461 CONSTRUCTION FORMWORK 3 credits (3-0)**

Prerequisites: 2980:234 or permission. Introduction to the design and construction of field structures. Emphasis on design and construction of formwork and temporary wood structures.

**4980:462 MECHANICAL SERVICE SYSTEMS 3 credits (3-0)**

An introduction to the materials and equipment used in the mechanical heating, ventilating, air conditioning, water and waste systems.

**4980:463 ELECTRICAL SERVICE SYSTEMS 3 credits (3-0)**

An introduction to materials and equipment in the electrical and acoustical systems of buildings. Including illumination, electrical sources, materials and distribution, acoustical problems and materials.

# The College of Education

## 5100: EDUCATIONAL FOUNDATIONS

### 5100:150 INTRODUCTION TO PROFESSIONAL EDUCATION 3 credits

Nature and purpose of education in the United States. Emphasis on the social, historical, and philosophical foundations of public education and on the roles of the professional educator.

### 5100:250 HUMAN DEVELOPMENT AND LEARNING 3 credits

Prerequisite: 150. 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 implications for instructional procedures.

### 5100:258 SMALL GROUP INSTRUCTION 1-3 credits (May be repeated for a total of 3 credits.)

Prerequisites: 250 and 3750:100 or their equivalent and the consent of the instructor. A study of student-centered group leadership skills for facilitating classroom cognitive learning. Students will be exposed to the basic literature related to the student-centered style, trained in appropriate observational techniques and provided practice in leading small instructional groups.

### 5100:320 LEARNING AND INDIVIDUALIZED INSTRUCTION 2 credits

Prerequisite: 250. A behavioral approach to learning and the management of students. Course will emphasize the design of instructional sequences using a behavioral analysis of objectives in both cognitive and psychomotor domains.

### 5100:350 EDUCATIONAL MEASUREMENT AND EVALUATION 2 credits

Prerequisite: 250. Methods of measurement and evaluation applied to learning and instruction. Emphasis on the development and coordination of instructional objectives and measurement techniques with instructional procedures.

### 5100:410 AUDIO VISUAL EDUCATION 2 credits

Acquaints the student with audio-visual equipment and materials and their respective utilization techniques. Course activities include equipment operation, non-print materials evaluation, and media preparation.

### 5100:412/512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS 3 credits

Covers the design, adaptation and preparation of media materials. Students will produce media materials including overhead projection transparencies, audio recordings, slide sequences, and opaque materials. Students are offered project choices.

### 5100:450 PROBLEMS IN EDUCATION 2 credits

Prerequisite: 350 and senior status. Involves students in analytical and critical approach to problems of education as a social undertaking in the light of history and philosophy of education.

### 5100:490-491-492/590-591-592 WORKSHOP 1-3 credits each

Opportunity for individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

### 5100:494/594 EDUCATIONAL INSTITUTES 1-4 credits

Special course designed as in-service upgrading programs, frequently provided with the support of national foundations.

### 5100:497 INDEPENDENT STUDY 1-3 credits

(may be repeated for a maximum of 6 credits)

Prerequisite: Consent of Department Head and Instructor. The specific area of study will be determined in accordance with the student's program and professional goals.

## GRADUATE COURSES

### 5100:600 PHILOSOPHIES OF EDUCATION 3 credits

An examination of basic philosophical problems underlying broad educational questions that confront society. This course provides a foundation for a critical understanding of fundamental questions of modern society and education.

### 5100:602 COMPARATIVE AND INTERNATIONAL EDUCATION 3 credits

The comparative study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in the study of comparative education will also be investigated.

### 5100:604 TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION 3 credits

(May be repeated for a total of 6 credits)

Issues and subjects related to the study of educational institutions, theories and/or ideas. Different topics will be offered from section to section.

### 5100:616 ADULT EDUCATION 2 credits

Survey course for teachers and administrators. Historical background including influences and their relation to developments in the field. Emphasis placed on the background and social value of current programs.

### 5100:620 BEHAVIORAL BASES OF EDUCATION 3 credits

Prerequisite: 250 or equivalent. An introduction to the scientific study of learning and development. Students are required to study current theories and research in the following areas: learning, development, motivation and instruction.

### 5100:624 SEMINAR: EDUCATIONAL PSYCHOLOGY 3 credits

(May be repeated for a total of 6 credits)

Prerequisite: 250 or equivalent. In-depth study of the research in selected areas of learning, development, evaluation and motivation.

### 5100:636 SEMINAR: EDUCATIONAL TECHNOLOGY 3 credits

Practices and trends in educational communications and technology including centers, learning stations, programmed learning, educational television, and computer assisted instruction.

### 5100:640 TECHNIQUES OF RESEARCH 3 credits

Research methods and techniques commonly used in education and the behavioral sciences; preparation of research reports. Includes library, historical, survey, and experimental research and data analysis.

### 5100:695 FIELD EXPERIENCE: MASTER'S 1-3 credits

Prerequisite: Consent of Department Head and Instructor. The specific area will be determined in accordance with the student's program and professional goals.

### 5100:697 INDEPENDENT STUDY 1-3 credits

(May be repeated to a maximum of 6 credits)

Prerequisite: Consent of Department Head and Instructor. The specific area of study will be determined

in accordance with the student's program and professional goals.

**5100:699 RESEARCH IN EDUCATION 1-4 credits**

Prerequisite: Consent of Department Head and Instructor. An in-depth study of a research problem within Humanistic and Behavior Foundations of Education.

**5100:701 HISTORY OF EDUCATION IN AMERICAN SOCIETY 3 credits**

The historical development of education in the American social order, with special emphasis on the social, political, and economic setting.

**5100:703 SEMINAR: HISTORY AND PHILOSOPHY OF HIGHER EDUCATION 3 credits**

Prerequisite: 600. History and philosophy related to the genesis and development of higher education in the Western World, with special emphasis given to higher education's development in the United States.

**5100:705 SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION 3 credits**

(May be repeated to a maximum of 6 credits)  
Prerequisite: 600 or equivalent. Inquiry into selected ideological social, economic and philosophical factors affecting educational development in the United States and other countries.

**5100:721 LEARNING PROCESSES 3 credits**

A study of the principles underlying classroom learning processes with particular emphasis upon teaching as the means of modifying pupil behavior: cognitive, motor, social and affective.

**5100:723 TEACHER BEHAVIOR AND INSTRUCTION 3 credits**

Prerequisite: 600. An intensive survey of theoretical and empirical literature involving teacher and conceptions of instruction. Students report on theory, empirical research, and applications in the areas of their own interests.

**5100:741 STATISTICS IN EDUCATION 3 credits**

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

**5100:743 ADVANCED EDUCATIONAL STATISTICS 3 credits**

Prerequisite: 741. A second course on quantification in the behavioral sciences. Includes testing of statistical hypotheses, experimental design, analysis of variance and non-variance, factor analysis and introduction to non-parametric statistics.

**5100:798 RESEARCH PROJECT IN SPECIAL AREAS 1-3 credits**

Prerequisite: Consent of Department Head and Instructor. A critical and in-depth study of a specific problem in Educational Foundations.

**5100:801 RESEARCH SEMINAR 3 credits**

(May be repeated for a total of 6 credits)  
Prerequisite: 640 and 741; permission of Department Head and instructor. Intensive study of research methods applicable to education. Emphasis on developing a dissertation proposal.

**5100:897 INDEPENDENT STUDY 1-4 credits**

(May be repeated for a maximum of 8 credits)  
Prerequisite: consent of Department Head and instructor. The specific area of inquiry within Humanistic and Behavioral Foundations of Education will be determined in advance by the student and the faculty supervisor.

## 5200: ELEMENTARY EDUCATION

**5200:100 STUDENT PARTICIPATION 1 credit**

Planned field experience emphasizing tutorial settings in reading and other curricular areas.

**5200:141 HANDICRAFTS IN THE ELEMENTARY SCHOOL 2 credits**

Prerequisite: 7100:191. A broad range of experiences through the manipulation of various craft medium which will enrich the curriculum of elementary schools.

**5200:200 STUDENT PARTICIPATION 1 credit**

Prerequisite: 100. Planned field experience emphasizing field settings where students work with small groups in the elementary school classroom.

**5200:286 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.

**5200:300 STUDENT PARTICIPATION 1 credit**

Prerequisite: 200. Planned field experience where students work in both small group and large group settings in the elementary school environment.

**5200:310 INTRODUCTION TO EARLY CHILDHOOD EDUCATION 2 credits**

Prerequisite: 7400:265. A core course for Early Childhood Education. Provides background information, defines roles and goals within the field of Early Childhood Education.

**5200:311 CURRICULUM FOR PRESCHOOL LEARNING CENTERS 2 credits**

Prerequisite: 310. Curricular and instructional techniques in mathematics, science, language arts, social studies, and music are examined with emphasis on early learning as a foundation for later growth.

**5200:321 ART FOR THE GRADES 2 credits**

Prerequisite: 141. Art requirements in elementary grades; laboratory work to give teachers a knowledge of materials and mediums and skills in handling them.

**5200:330 EARLY AMERICAN EDUCATION I 3 credits**

Prerequisite: 5100:157. The first of two sources designed to introduce the student specifically to the primary-aged child and their learning style.

**5200:331 EARLY ELEMENTARY EDUCATION II 3 credits**

Prerequisite: 330. Concentrates on the curriculum needs of the primary-aged child.

**5200:333 SCIENCE FOR THE ELEMENTARY GRADES 3 credits**

Prerequisite: 5100:157. For the prospective teacher of science in the elementary school, development of a point of view toward science teaching and study of methods of presenting science material.

**5200:334 TEACHING ART IN THE ELEMENTARY SCHOOL 2 credits**

Prerequisite: Art education major, junior standing; elementary education majors, 141 and 321. Visual arts in the elementary school. Art education concepts with a studio orientation including history of art education, developmental stages, curriculum and organization, methods, evaluation and research, and practical participation.

**5200:335 TEACHING THE LANGUAGE ARTS 5 credits**

Prerequisites: 286 and 5100:157. A course for the ele-

mentary teacher stressing methods and materials for skills development, and trends in the various language arts.

**5200:336 TEACHING OF ELEMENTARY SCHOOL MATHEMATICS 3 credits**

Prerequisite: 5100:157. Trends in arithmetic instruction in elementary school. Procedures for the development of mathematical concepts and skills.

• **5200:337 TEACHING OF READING 3 credits**

Prerequisites 335 and 5100:157. Reading program for the elementary school, together with modern methods of teaching reading at the various levels.

**5200:338 THE TEACHING OF SOCIAL STUDIES 3 credits**

Prerequisite: 5100:157. Social studies in the elementary school and varied means of implementing the program.

**5200:339 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING 3 credits**

Prerequisite: 337. Nature of reading problems in a classroom setting. Methods and materials employed in a corrective reading program by the classroom teacher.

**5200:360 NURSERY SCHOOL LABORATORY 3 credits**

Prerequisite: 7400:265. Concentrated study and experience in nursery school programming under direction of supervising teachers.

**5200:365 COMPREHENSIVE MUSICIANSHIP FOR THE ELEMENTARY CLASSROOM TEACHER 4 credits**

Designed to afford prospective classroom teachers the opportunity to develop their individual musical skills in creativity, performance and listening as a means of enhancing their teaching through use of music.

**5200:395 FIELD EXPERIENCE 1-3 credits**

Prerequisite: Permission of advisor and Department Head. Independent field work in an area selected by the student's advisor and based on the student's needs.

**5200:403 STUDENT TEACHING SEMINAR 1 credit**

Prerequisite: Senior standing. In conjunction with Student Teaching. Synthesis of contemporary problems encountered during student teaching experience. An exchange of ideas regarding the role of the new teacher entering the profession.

**5200:411/511 CREATIVE TECHNIQUES FOR EXPLORING CHILDREN'S LITERATURE 2 credits**

Prerequisite: 286. An examination of the techniques for interpretation of children's literature including storytelling, creative dramatics, reader's theater and choral speaking.

**5200:435/535 ACTIVITIES TO INDIVIDUALIZE SOCIAL STUDIES 2 credits**

Prerequisite: 338. A development of materials and activities (learning games, simulation games, simulations, learning stations, programmed field trips, and map activities) to provide a teacher with a variety of techniques in order to develop an individualized, student-involved social studies program.

**5200:436/536 GEOMETRY AND MEASUREMENT IN ELEMENTARY SCHOOL MATHEMATICS 3 credits**

Prerequisite: 336. Trends in geometry and measurement instruction in the elementary school. Procedures for the development of important geometric concepts and measurement skills.

**5200:437/537 STRUCTURE OF THE NUMBER SYSTEM IN ELEMENTARY SCHOOL MATHEMATICS 3 credits**

Prerequisite: 336. Applied and advanced topics in mathematics education in the elementary school. A thorough investigation of the number system presently being taught in the elementary school.

**5200:438/538 MATERIALS AND LABORATORY TECHNIQUES IN ELEMENTARY SCHOOL MATHEMATICS 3 credits**

Prerequisite: 336. Applied mathematics in the elementary school. Construction and application of mathematical models. Procedures for the development of important mathematical concepts through the laboratory approach.

**5200:439/539 PROPERTIES OF NUMBERS IN ELEMENTARY SCHOOL MATHEMATICS 3 credits**

Prerequisite: 336. An investigation of those number properties that help explain how the laws of arithmetic work. Procedures for the development of important arithmetic concepts and computational skills.

**5200:440/540 CONTEMPORARY ELEMENTARY SCHOOL SCIENCE PROGRAMS 2 credits**

Prerequisite: 333. Contemporary elementary science programs are critically analyzed and their procedures are developed and implemented in the university classroom.

• **5200:451 ELEMENTARY EDUCATION 3 credits**

Evaluation of recent trends and practices in elementary education. Required for those converting from other certificates.

**5200:490-491-492-493/590-591-592-593 WORKSHOPS**

1-3 credits each

An elective workshop for elementary education majors who would pursue further refinement of their teaching skills. Course emphasizes demonstrations of teaching techniques and development of suitable teaching devices.

**5200:494/594 EDUCATIONAL INSTITUTES 1-4 credits**

Special courses designed as in-service upgrading programs. Frequently provided with the support of national foundations.

**5200:495 STUDENT TEACHING 4-8 credits**

Prerequisite: Senior standing and 300. Planned teaching experience (in the elementary school) selected and supervised by the Educational Field Experience office.

**5200:497 INDEPENDENT STUDY 1-3 credits**

Prerequisite: Permission of advisor and Department Head. Specific area of curriculum investigation pertinent to elementary education as determined by the student's academic needs.

## GRADUATE COURSES

**5200:630 ELEMENTARY SCHOOL CURRICULUM AND INSTRUCTION 2 credits**

Application of the findings of recent research to curriculum building and procedures in teaching.

**5200:631 TRENDS IN ELEMENTARY EDUCATION 2 credits**

Prerequisites: graduate standing and 630. An investigation of innovative programs, organizational patterns, and new curricula currently operational in elementary schools including an analysis of use of these innovations in relation to the teaching/learning process.

**5200:640 THEORY AND PRACTICE IN ELEMENTARY SCHOOL MATHEMATICS 2 credits**

A comparative analysis and evaluation of purposes and procedures of mathematics programs for the elementary schools with application of the findings to instructional methods and materials.

**5200:641 DIAGNOSIS AND TREATMENT OF PERFORMANCE DIFFICULTIES IN ELEMENTARY SCHOOL MATHEMATICS 2 credits**

An examination of the implications of contemporary

mathematics learning theory on the diagnostic-remedial process.

**5200:645 EDUCATION IMPLICATIONS OF ELEMENTARY SCIENCE 2 credits**

An examination of the influence of new curricular designs in elementary science. Emphasis shall be placed on inquiry, investigation and discovery and their impact on the total elementary school curriculum.

**5200:650 EDUCATION AND THE YOUNG CHILD 2 credits**

Content will be centered on the educational settings of young children from birth through five years old.

**5200:695-696-697 FIELD EXPERIENCE: MASTER'S 1-2 credits each**

Prerequisite: Permission of advisor and Department Head. On-the-job experience related to the student's course of study.

**5200:698 INDEPENDENT STUDY 1-3 credits**

Prerequisite: Permission of advisor and Department Head. Selected areas of independent investigation as determined by the advisor and related to the student's academic needs.

**5200:699 RESEARCH IN EDUCATION 1-4 credits**

Prerequisite: 5100:603 and permission of advisor and Department Head. An in-depth research investigation. Student must be able to demonstrate necessary competencies to deal with research problems in elementary education.

**5200:732 SUPERVISION OF INSTRUCTION IN THE ELEMENTARY SCHOOL 2 credits**

A study of the supervisory role of the elementary principal and other supervisory personnel.

**5200:780 SEMINAR IN ELEMENTARY EDUCATION 2 credits**

(May be repeated)  
An intensive examination of the following disciplines: Children's Literature, Curriculum Development, Language Arts, Math, Reading, Science, Social Studies, Early Childhood, Critical Analysis of Children's Literature.

**5200:781 RESIDENCY SEMINAR 2 credits**

A one-hour weekly meeting for those elementary doctoral students in residence.

**5200:799 RESEARCH PROJECTS IN ELEMENTARY EDUCATION 1-2 credits**

Prerequisite: Permission of advisor and Department Head. An in-depth investigation of a specific problem pertinent to elementary education.

**5200:895-986-897 FIELD EXPERIENCE FOR ELEMENTARY DOCTORAL STUDENTS 1-2 credits each**

Prerequisite: Permission of advisor and Department Head. Designed to help students who are preparing to teach methods course at the college level.

**5200:898 INDEPENDENT STUDY 1-3 credits**

(May be repeated up to 6 credit hours)  
Prerequisite: Permission of advisor and Department Head. Selected areas of independent investigation as determined by the advisor and related to the student's academic needs.

**5200:899 DISSERTATION 1-20 credits**

Prerequisite: Permission of advisor and Department Head. Thorough study and in-depth analysis of a research problem in elementary education.

## 5250: READING

**5250:340 DEVELOPMENTAL READING IN THE CONTENT AREAS 3 credits**

Prerequisite: 5200:337 or 5300:425. Nature of reading skills relating to content subjects. Methods and materials needed to promote reading achievement in content subjects by the classroom teacher.

**5250:341 LABORATORY PRACTICUM IN READING 3 credits**

Prerequisite: 340 and 5200:339. Laboratory experience with classroom, small groups and individual situations. Students diagnose, implement procedures and follow prescribed reading improvement practices.

**5250:411/511 MATERIALS AND ORGANIZATIONS FOR READING INSTRUCTION 3 credits**

Prerequisite: 5200:339. Professional problems of selection and evaluation of reading materials and classroom organizations are explored.

## GRADUATE COURSES

**5250:680 TRENDS IN READING INSTRUCTION 2 credits**

Prerequisite: 5200:335 or 5300:425. This is a survey course designed to up-date the reading background of students who have not had a recent course in reading.

**5250:681 DIAGNOSIS AND CORRECTION OF READING PROBLEMS 5 credits**

Prerequisite: 680. Relation of growth to reading development and reasons for retardation. Implementation of diagnostic and corrective techniques by developing case studies in a supervised setting.

**5250:682 CLINICAL PRACTICES IN READING 5 credits**

Prerequisite: 681. The nature and etiology of reading difficulties experienced by selected children. Supervised practices and independent work with children in conjunction with staff from other disciplines.

**5250:692 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION 3 credits**

Survey of research comparison and evaluation of programs, design and development of projects in reading through group individual study.

**5250:693 SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION 2 credits**

Study of reading relative to total curriculum; procedures for developing reading program in all curriculum areas; examination of children's literature and related instructional reading by supervisors and consultants.

## 5300: SECONDARY EDUCATION

**5300:295 EXPLORATORY EXPERIENCES IN SECONDARY SCHOOLS 1-2 credits**

(May be repeated for a maximum of 2 credits)  
Field work with secondary school pupils, teachers and other professional personnel.

**5300:310 PRINCIPLES OF SECONDARY EDUCATION 3 credits**

Designed to familiarize the pre-service teacher with the nature of secondary education and the act of teaching in the secondary schools.

**5300:311 INSTRUCTIONAL TECHNIQUES IN SECONDARY EDUCATION 3 credits**

Prerequisite: 310. Techniques of planning, instruction and evaluation in various secondary teaching fields.

**5300:316 METHODS IN TEACHING ART 2 credits**

Prerequisite: Completion of the required course for art teachers and quality point ratio of 2.00 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.

**5300:321 JUNIOR HIGH AND MIDDLE SCHOOL EDUCATION 2 credits**

Designed to provide students with a knowledge and understanding of junior high and middle school education with ability to interpret it to other educators, to parents, and to pupils.

**5300:374 PRINCIPLES OF SHORTHAND INSTRUCTION 2 credits**

Prerequisite: 2540:173 and a quality point ratio of 2.00 in the field. Methods of presentation in shorthand and transcription. Demonstration and observations required. A theory test in the field must be passed before credit will be given for the course.

**5300:395 FIELD EXPERIENCE 1-3 credits**

Prerequisite: Upper college standing. Supervised work with youngsters, individually and in groups in school and/or community settings.

**5300:403 STUDENT TEACHING SEMINAR 1 credit**

Co-requisite: 495.

**5300:425/525 READING PROGRAMS IN SECONDARY SCHOOLS 2 credits**

Relationship of reading to human development; materials, class organization and procedures for developing reading improvement programs for high school and college students.

**5300:476/576 VOCATIONAL COOPERATIVE OFFICE EDUCATION 2 credits**

Principles of program construction, organization, implementation, evaluation, improvement, and development of program guides in cooperative office education.

**5300:477/577 INTENSIVE VOCATIONAL OFFICE EDUCATION 2 credits**

Principles of program construction, organization, implementation, evaluation and development of program guides.

**5300:495 STUDENT TEACHING 4-8 credits**

Co-requisite: 403. Prerequisite: 311 or equivalent, also permission of advisor. Directed teaching under supervision of directing teacher and University supervisor.

**5300:497 INDEPENDENT STUDY 1-3 credits**

Prerequisite: Permission of advisor and supervisor of independent study. Area of study is determined by student's needs.

**5300:490-491-492-493/590-591-592-593 WORKSHOP**

1-3 credits each

Opportunity for individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

**5300:494/594 EDUCATIONAL INSTITUTES**

1-4 credits

Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

**GRADUATE COURSES****5300:619 SECONDARY SCHOOL CURRICULUM AND INSTRUCTION 2 credits**

Application of the findings of recent research to curriculum building and procedures in teaching.

**5300:695 FIELD EXPERIENCE: MASTER'S 1-6 credits**  
(May be repeated for a maximum of 6 credits.)

Prerequisite: Permission of advisor and supervisor of field experience. On-the-job experience related to the student's program of studies.

**5300:697 INDEPENDENT STUDY 1-3 credits**

(May be repeated to a maximum of 6 credits.)

Prerequisite: Permission of advisor and supervisor of independent study. Area of study is determined by student's needs.

**5300:699 MASTER'S PROBLEM OR THESIS 1-4 credits**

Prerequisite: Permission of advisor. An in-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

**5300:721 SUPERVISION OF INSTRUCTION IN THE SECONDARY SCHOOL 2 credits**

Definition of the supervisory leadership role in improving instruction at the secondary school level and development of a practical theory of secondary school supervision.

**5300:780 SEMINAR IN SECONDARY EDUCATION 2 credits**

(May be repeated)

An intensive examination of a particular area of secondary education.

**5300:781 RESIDENCY SEMINAR 2 credits**

A one-hour weekly meeting for those Secondary doctoral students in residence. Three quarter hours will be earned over a period of three consecutive quarters.

**5300:895 FIELD EXPERIENCE: DOCTORAL 1-6 credits**

(May be repeated for a maximum of 6 credits.)

Prerequisite: Permission of advisor and director of field experience. An intensive job-related experience pertinent to the student's needs. Student must be able to demonstrate skills and leadership abilities in and on the job situation.

**5300:897 INDEPENDENT STUDY 1-3 credits**

(May be repeated to a maximum of 6 credits.)

Prerequisite: Permission of advisor and director of independent study. Area of study is determined by student's needs.

**5300:898 RESEARCH PROJECT IN SPECIAL AREAS 1-2 credits**

Prerequisite: Permission of advisor. A critical and in-depth study of a specific problem in secondary education.

**5300:899 DISSERTATION 1-20 credits**

Prerequisite: Permission of the advisor. A specific research problem that requires the student to apply research skills and techniques pertinent to the problem being studied.

**5400: TECHNICAL AND VOCATIONAL EDUCATION****5400:301 OCCUPATIONAL EMPLOYMENT EXPERIENCE AND SEMINAR 1-4 credits**

Provides the prospective student with knowledge of current industrial or business practice at a level minimally commensurate with that associated with the employment expectations of graduates of technical programs.

**5400:351 CONSUMER HOMEMAKING METHODS**  
3 credits

Organization of home economics in secondary schools. Emphasis on methodology, techniques, development of concepts, utilization of audio-visual materials and comprehensive evaluation procedures.

**5400:395 FIELD EXPERIENCE 1-3 credits**

Prerequisite: Upper college standing. Supervised work with youngsters, individually and in groups in educational institutions, training and/or community settings.

**5400:403 TECHNICAL EDUCATION PRACTICUM SEMINAR 2 credits**  
Corequisite: 495.

**5400:405/505 VOCATIONAL EDUCATION FOR YOUTH AND ADULTS 2 credits**

History and operation of current vocational education for youth and adults. Includes study of the social, economic and political influences that stimulate the growth and expansion of vocational education.

**5400:410/510 THE TWO-YEAR COLLEGE 3 credits**

Designed to introduce the student to the nature, purpose, and philosophy of the two-year college. The course includes an examination of the type of institutions offering two-year programs.

**5400:421/521 INSTRUCTIONAL TECHNIQUES IN TECHNICAL EDUCATION 4 credits**

Selected topics in instructional techniques appropriate to post-secondary technical education. Emphasis is placed on instructional methods and techniques in the classroom and laboratory including tests and measurements.

**5400:430/530 COURSE CONSTRUCTION IN TECHNICAL EDUCATION 2 credits**

The procedure of breaking down an occupation to determine the curriculum for the laboratory and the classroom; and developing this content into an organized sequence of instructional units.

**5400:440 LIFE-SPAN AND COMMUNITY EDUCATION 2 credits**

A course designed for persons engaged in providing educational services in the community. Included are an examination of the community education concept, and the roles of various personnel and agencies.

**5400:451/551 HOME ECONOMICS JOB TRAINING 2 credits**

Prerequisite: 351. Concept development in vocational home economics. Emphasis on job training, program development, operational procedures; skill and knowledge identification, training profiles, job description and analysis.

**5400:490-491-492/590-591-592 WORKSHOP 1-3 credits each**

Opportunity for individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

**5400:494/594 EDUCATIONAL INSTITUTES 1-4 credits**  
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

**5400:495 TECHNICAL EDUCATION PRACTICUM 1-4 credits**

Corequisite: 403. Prerequisite: 410, 421, 430 or equivalent.

Also permission of advisor. Directed teaching under supervision of directing teacher and University supervisor.

**5400:497 INDEPENDENT STUDY 1-3 credits**

Prerequisite: Permission of advisor and supervisor of independent study. Area of study is determined by student's need.

## GRADUATE COURSES

**5400:610 COMMUNICATION WITH BUSINESS AND INDUSTRY 2 credits**

Techniques of establishing better communications between technical education and business and industry. Emphasis is placed on the advisory committee, coordination functions, and working with local professional associations in the community.

**5400:661 CURRENT ISSUES IN HIGHER EDUCATION 2 credits**

An examination of many of the current problems and issues in institutions of higher education; adult education, technical institutes, community colleges, proprietary schools, under-graduate, graduate and professional education. (May be repeated with change in topic.)

**5400:690 INTERNSHIP: TEACHING VOCATIONAL EDUCATION**

**5400:691 INTERNSHIP: TEACHING TECHNICAL EDUCATION**

**5400:692 INTERNSHIP: POST-SECONDARY EDUCATION 2 credits each**

Teaching under supervision from the University and the educational institution. Includes a seminar each week.

**5400:695 FIELD EXPERIENCE: MASTER'S 1-6 credits**

Prerequisite: Permission of advisor and supervisor of field experience. On-the-job experience related to the student's program of studies.

**5400:697 INDEPENDENT STUDY 1-3 credits**

(May be repeated to a maximum of 6 credits)

Prerequisite: Permission of advisor and supervisor of field experience. On-the-job experience related to the student's program of studies.

**5400:699 MASTER'S PROBLEM OR THESIS 1-4 credits**

Prerequisite: Permission of advisor. An in-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in vocational education.

## 5550: PHYSICAL EDUCATION

**5550:101 FUNDAMENTALS OF ARCHERY/BOWLING 1 credit**

The acquisition of performance skills, knowledge of rules and strategy, and appreciation of archery and bowling as a means of physical activity in our culture. Two class periods per week.

**5550:102 FUNDAMENTALS OF BADMINTON/VOLLEYBALL 1 credit**

The acquisition of performance skills, knowledge of rules and strategy, and appreciation of badminton and volleyball as a means of physical activity in our culture. Two class periods per week.

**5550:103 FUNDAMENTALS OF SOCCER/FIELD HOCKEY 1 credit**

The acquisition of performance skills, knowledge of rules and strategy, and appreciation of soccer and field

hockey as a means of physical activity. Two class periods per week.

**5550:104 FUNDAMENTALS OF TRACK AND FIELD** 1 credit

The acquisition of performance skills, knowledge of rules and strategy, and appreciation of track and field as a means of physical activity in our culture. Two class periods per week.

**5550:105 RECREATIONAL ACTIVITIES I** 1 credit

Acquisition of skills, and knowledge of rules for participation in, and organization of, common indoor and outdoor recreational activities. For physical education and outdoor education students.

**5550:106 RECREATIONAL ACTIVITIES FOR THE HANDICAPPED** 1 credit

Acquisition of skills, and knowledge of rules for participation in, and organization of, recreational activities for the handicapped. Includes ways of adapting common activities for participation by the handicapped.

**5550:115 FUNDAMENTALS OF WRESTLING/RUGBY** 1 credit

The acquisition of performance skills, knowledge of rules and strategy, and appreciation of wrestling and rugby as a means of physical activity. Two class periods per week. (For men only.)

**5550:120 FUNDAMENTALS OF BASKETBALL** 1 credit

The acquisition of performance skills, knowledge of rules and strategy, and appreciation of basketball as a means of physical activity. Two class periods per week. Suggested for women only.

**5550:130 PHYSICAL EDUCATION ACTIVITIES FOR ELEMENTARY SCHOOL CHILDREN** 2 credits

For physical education majors only. Participation in play activities commonly used in elementary physical education programs. One lecture and two laboratory periods per week.

**5550:140 PHYSICAL EDUCATION ACTIVITIES I** 3 credits

Acquisition of performance skills and knowledge of rules and techniques of gymnastics and tumbling, team sports and conditioning activities. Six class periods per week.

**5550:141 PHYSICAL EDUCATION ACTIVITIES II** 3 credits

Acquisition of performance skills and knowledge of techniques and development of dance activities, swimming, and individual lifetime sports. Six class periods per week.

**5550:155 ORGANIZATION AND ADMINISTRATION OF RECREATION** 2 credits

General administrative procedures common to recreational programs. Analysis, discussion, and visitations of various types of recreational programs.

**5550:193 METHODS OF TEACHING PHYSICAL EDUCATION** 3 credits

Investigation and application of various methods for teaching elementary and secondary physical education. Preparation of lesson and unit plans, observations made in schools. Two lectures and one laboratory per week.

**5550:194 SPORTS OFFICIATING** 2 credits

Knowledge of rules for interscholastic sports and officiating techniques. Successful completion of course will permit taking of the state examination for officiating. Two lectures and one laboratory per week.

**5550:201 KINESIOLOGY** 2 credits

Prerequisite: 3100:147-148-149. The application of

principles of anatomy to the movement of the human body.

**5550:202 PHYSIOLOGY OF EXERCISE** 3 credits

Prerequisite: 3100:147-148-149. A study of the physiological effects of exercise relative to physical education activities and athletics. Two hours lecture, two hours laboratory.

**5550:211 FIRST AID** 2 credits

Standard American Red Cross course which gives instruction and practice in the immediate and temporary care of injuries and sudden illnesses. In addition to the standard course, C.P.R. is covered.

**5550:235 CONCEPTS OF MOTOR DEVELOPMENT AND LEARNING** 2 credits

Analysis of concepts which are fundamental to learning motor activities.

**5550:245 INSTRUCTIONAL TECHNIQUES IN ELEMENTARY PHYSICAL EDUCATION** 2 credits

Prerequisites: 130, 140, 193. Supervised teaching of elementary physical education activities to peers. Four class periods per week.

**5550:246 INSTRUCTIONAL TECHNIQUES IN SECONDARY PHYSICAL EDUCATION** 2 credits

Prerequisites: 140, 193 and at least one hour of 101 through 120. Supervised teaching of secondary physical education activities to peers. Four class periods per week.

**5550:300 PHYSIOLOGY OF EXERCISE FOR THE ADULT AND ELDERLY** 2 credits

An analysis of physiological effects of exercise on the elderly. Exercise programs which may be adapted for use by persons working with the elderly.

**5550:310 THEORY AND TECHNIQUES OF SOCCER** 1 credit

Theory, techniques, and organizational procedures for the coaching of soccer. Two class periods per week.

**5550:311 THEORY AND TECHNIQUES OF TRACK AND FIELD** 1 credit

Theory, techniques, and organizational procedures for the coaching of track and field. Two class periods per week.

**5550:312 THEORY AND TECHNIQUES OF BASKETBALL** 1 credit

Theory, techniques, and organizational procedures for the coaching of basketball. Two class periods per week.

**5550:313 THEORY AND TECHNIQUES OF BASEBALL/SOFTBALL** 1 credit

Theory, techniques and organizational procedures for the coaching of baseball and softball. Two class periods per week.

**5550:314 THEORY AND TECHNIQUES OF SWIMMING** 2 credits

Theory, techniques and organizational procedures for the coaching of swimming. One hour lecture, two hours laboratory.

**5550:315 THEORY AND TECHNIQUES OF TUMBLING AND GYMNASTICS** 1 credit

Theory, techniques, and organizational procedures for the coaching of tumbling and gymnastics. Two class periods per week.

**5550:320 THEORY AND TECHNIQUES OF VOLLEYBALL** 1 credit

Theory, techniques, and organizational procedures for the coaching of volleyball. Two class periods per week.

**5550:325 THEORY AND TECHNIQUES OF FOOTBALL 1 credit**

Theory, techniques, and organizational procedures for the coaching of football. Two class periods per week.

**5550:326 THEORY AND TECHNIQUES OF WRESTLING 1 credit**

Theory, techniques, and organizational procedures for the coaching of wrestling. Two class periods per week.

**5550:334 GAMES AND RHYTHMS — ELEMENTARY GRADES 2 credits**

Not open to physical education majors. Physical education activities which may be used by classroom teachers. Theory of motor development. One hour lecture, two hours laboratory.

**5550:335 MOVEMENT EXPERIENCES FOR THE ELEMENTARY GRADES 2 credits**

Analysis, theory, and practical application of basic movement experiences for elementary school children. One hour lecture, two hours laboratory.

**5550:336 PHYSICAL EDUCATION ACTIVITIES FOR PRE-SCHOOL CHILDREN 2 credits**

Investigation of play activities for positive growth and development of the pre-school child. Organization of motor activities in the nursery school and kindergarten curriculum. One hour lecture, two hours laboratory.

**5550:340 CARE AND PREVENTION OF ATHLETIC INJURIES 3 credits**

Discussion of prevention, immediate care, and rehabilitation of common athletic injuries. Practical application of wrapping and taping procedures for injury prevention and post-injury support.

**5550:345 ADAPTED PHYSICAL EDUCATION 2 credits**

Prerequisite: 3100:147-148-149. Current theories and practices relating to the needs of physically handicapped children; emphasis is given to underlying philosophy, purposes, and administration.

**5550:350 ORGANIZATION AND ADMINISTRATION OF HEALTH AND PHYSICAL EDUCATION 3 credits**

Investigation of necessary procedures for the conduct of health education and physical education programs in schools. Includes organizational considerations, curricular patterns, and equipment and supplies.

**5550:351 ORGANIZATION AND ADMINISTRATION OF INTRAMURALS AND ATHLETICS 3 credits**

Organizational patterns unique to the conduct of intramurals, sport clubs, and interscholastic athletics. Includes considerations of tournament designs, supplies and equipment, and administration. Two hours lecture, two hours laboratory.

**5550:395 FIELD EXPERIENCE 1-3 credits**

Prerequisite: Permission of the advisor. Practical experience in an area related to physical education under the supervision of a faculty member. Student will work with current physical education programs in the schools.

**5550:403 STUDENT TEACHING SEMINAR 1 credit**

Prerequisite: Senior status. In conjunction with Student Teaching. Synthesis of contemporary problems encountered during the student teaching experience. An exchange of ideas regarding the role of the new teacher entering the profession.

**5550:436/536 ADAPTED PHYSICAL EDUCATION TASKS FOR THE LEARNING DISABLED CHILD 2 credits**

Teaching methods and materials necessary to structure developmental tasks for the learning disabled child; designed for persons preparing to teach elementary school physical education and special education.

**5550:490-491-492-493/590-591-592-593 WORKSHOP**

1-3 credits each

Practical, intensive, and concentrated involvement with current curricular practices in areas related to physical education.

**5550:494/594 EDUCATIONAL INSTITUTIONS AND FOUNDATIONS 1-4 credits**

Practical experience with current research or curricular practices involving expert resource persons in physical education, and usually financed by private or public funding.

**5500:495 STUDENT TEACHING 4-8 credits**

Prerequisite: Senior status, all major courses completed, 2.50 grade point average in major. Supervised teaching experience in a public school for fifteen weeks.

**5550:497 INDEPENDENT STUDY 1-2 credits**

Prerequisite: Permission of the advisor. Analysis of a specific topic related to a current problem in physical education. May include investigative procedures, research, or concentrated practical experience.

## GRADUATE COURSES

**5550:601 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION ATHLETICS AND RECREATION 3 credits**

Techniques of organization, administration, and evaluation of health, physical education and recreation programs. Administrative policies of athletic programs at the elementary, secondary, and collegiate levels.

**5550:603 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.

**5550:605 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE 2 credits**

A study of the functions of body systems and the physiological effects of exercise. Laboratory experiences will accompany lectures and discussions.

**5550:606 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION 3 credits**

A critical analysis of existing testing procedures and a discussion and study of measurement and evaluation in terms of program needs.

**5550:608 SUPERVISION OF PHYSICAL EDUCATION 2 credits**

Principles involved in the supervision of physical education service programs. Procedures and techniques of supervision of service classes at the elementary, junior high, and senior high school levels.

**5550:695 FIELD EXPERIENCE: MASTER'S 1-6 credits**

Prerequisite: Permission of the advisor. Participation in a work experience related to physical education. The experience may not be part of the current position. Documentation of the project is required.

**5550:697 INDEPENDENT STUDY 1-3 credits**

Prerequisite: Permission of the advisor. An in-depth analysis of current practices or problems related to physical education. Documentation of the study is required.

**5550:699 MASTER'S PROBLEM OR THESIS 1-3 credits**

Prerequisite: Permission of the advisor. An in-depth research investigation. Student must be able to demonstrate necessary competencies to deal with a research problem in physical education.

## 5560: OUTDOOR EDUCATION

### 5560:450/550 APPLICATION OF OUTDOOR EDUCATION TO THE SCHOOL CURRICULUM 4 credits.

The course provides knowledge, skills and techniques useful in the application of outdoor education to the school curriculum.

### 5560:452/552 METHODS, MATERIALS AND RESOURCES FOR TEACHING OUTDOOR EDUCATION 3 credits.

Methodologies unique to outdoor education which incorporate a multi-sensory approach to learning. Instructional materials and resources which permit expansion of the curriculum beyond the school building.

### 5560:454 RESIDENT OUTDOOR EDUCATION 2 credits.

The course emphasizes skills, program considerations, and organizational techniques unique to an extended, overnight, resident outdoor education program. On location for at least five days and four nights.

### 5560:460 OUTDOOR EDUCATION PRACTICUM 2 credits.

Prerequisites: 452 & 454. Closely supervised practical experience in conjunction with regularly scheduled classroom meetings. The laboratory experience will consist of active participation with an established outdoor education program.

### 5560:497 INDEPENDENT STUDY 1-3 credits.

Prerequisite: Permission of the advisor and supervisor of independent study. The course provides varied opportunities for students to gain first-hand knowledge and experience with existing outdoor education programs.

## GRADUATE COURSES

### 5560:695 PRACTICUM IN OUTDOOR EDUCATION 3 credits.

Prerequisite: 550 & 552 and permission of the advisor. Supervised practical experience with existing outdoor education programs. In conjunction with practical work the student will meet regularly with a university advisor.

## 5570: HEALTH EDUCATION

### 5570:101 PERSONAL HEALTH 2 credits

The application of current scientific principles and facts pertaining to healthful, effective living. Personal health problems and needs of students.

### 5570:320 COMMUNITY HYGIENE 2 credits

A study of current major public health problems. Organization and administration of official and voluntary agencies and their role in the solution of community health problems.

### 5570:321 ORGANIZATION AND ADMINISTRATION OF SCHOOL HEALTH 2 credits

Organization of the school health program, with special reference to national, state, and local control. Staff, program, budget, health and safety, facilities, and other phases of administration.

### 5570:322 METHODS AND MATERIALS IN TEACHING HEALTH EDUCATION 3 credits

Planning and organizing subject matter for elementary and secondary school health instruction. The development of teaching techniques, utilization of instructional media, and evaluation procedures in health education.

## 5600: EDUCATIONAL GUIDANCE AND COUNSELING

### 5600:410 PERSONNEL SERVICES IN SCHOOLS 2 credits

Prerequisite: Senior standing. Introduction to background, role and function, techniques, community agencies and issues in the personnel field. Helpful for students considering pupil personnel fields or social work.

### 5600:426/526 CAREER EDUCATION 2 credits

Prerequisite: junior, senior or graduate standing. Examination of current career education models and programs with emphasis on infusion of career education activities into elementary and secondary curriculum.

### 5600:490-491-492/590-591-592 WORKSHOP

1-3 credits each

Special instruction designed as inservice and/or upgrading individuals on current issues and practices in counseling.

### 5600:493/593 WORKSHOP 1-4 credits

Special instruction designed as inservice and/or upgrading individuals on current issues and practices in counseling.

### 5600:494/594 COUNSELING INSTITUTE 1-4 credits

Inservice programs to meet the needs of counselors and other helping professionals.

## GRADUATE COURSES

### 5600:600 SEMINAR IN COUNSELING 1 credit

Prerequisite: Counseling majors must elect 600 prior to electing 651 and/or within the first ten hours of 5600 course work. A structured group experience designed to help students assess their selection of counseling as a profession.

### 5600:602 INTRODUCTION TO COUNSELING 2 credits

Understanding guidance and counseling principles including the organization, operation and evaluation of guidance programs (designed for non-counseling majors).

### 5600:631 ELEMENTARY SCHOOL GUIDANCE

3 credits

An introductory course which examines guidance and counseling practices.

### 5600:633 SECONDARY SCHOOL GUIDANCE

3 credits

An introductory course which examines guidance and counseling practices.

### 5600:635 COMMUNITY AND COLLEGE COUNSELING

3 credits

An overview of community and college personnel services; their evaluation, philosophy, organization and administration.

### 5600:643 COUNSELING: THEORY AND PHILOSOPHY

3 credits

Examination of major counseling systems including client centered, behavioral and existential theories. Philosophical and theoretical dimension are stressed.

**5600:645 GROUP TESTING IN COUNSELING**  
3 credits

Study of evaluation and measurement procedures in counseling including instrument development, selection and use of aptitude tests, inventories and rating scales.

**5600:647 CAREER COUNSELING: THEORY & PRACTICE** 3 credits

Prerequisite: 631 or 633 or 635 or permission. Study of career development, career decision making, career options and career counseling program development.

**5600:649 COUNSELING AND PERSONNEL SERVICES IN HIGHER EDUCATION** 2 credits

Prerequisite: 635 or permission of instructor. Study of counseling services as they are related to the psychological needs and problems of college students.

**5600:651 TECHNIQUES OF COUNSELING** 3 credits

Prerequisite: 643 or permission. Study and practice of selected counseling techniques and skills with emphasis upon structuring, listening, leading and establishing a counseling relationship.

**5600:653 GROUP COUNSELING** 3 credits

Prerequisite: 651. Provides the knowledge, understanding and skills necessary for conducting group counseling sessions.

**5600:655 FAMILY COUNSELING** 3 credits

Prerequisite: 653 or permission. Understanding of principles related to family counseling and the development of related skills.

**5600:657 CONSULTANT: COUNSELING** 3 credits

Prerequisite: 631, 651 or permission. An examination of consultation models with a focus on process and product.

**5600:659 ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES** 3 credits

Prerequisite: 631 or 633 or permission. Development of a comprehensive articulated guidance and counseling program.

**5600:661 SEMINAR: ELEMENTARY SCHOOL COUNSELING** 2 credits

Prerequisite: 645, 647, 653 and 657. Examination of primary models for understanding and modifying children's behavior in the classroom including technique development and review of guidance materials and programs.

**5600:663 SEMINAR: SECONDARY SCHOOL COUNSELING** 2 credits

Prerequisite: 633, 643, 645 and 647. Study of specific guidance techniques and materials useful to counselors working with secondary school students, teachers and parents.

**5600:665 SEMINAR: COMMUNITY AND COLLEGE COUNSELING** 3 credits

Prerequisite: 635 or permission. Study of topics of concern to students specializing in community and college counseling. Topics may differ each quarter according to students' needs.

**5600:671 COUNSELING CLINIC** 1-3 credits

Prerequisite: Permission. Closely supervised application and intergration of diagnostic, counseling and consultant skills in a clinical setting.

**5600:675 PRACTICUM IN COUNSELING** 4 credits

Prerequisite: 653. Supervised counseling experience with individuals and small groups.

**5600:695 FIELD EXPERIENCE MASTERS** 1-10 credits

Prerequisite: Permission of advisor and department head. Placement in a selected setting for the purpose of acquiring, experiences and/or demonstrating skills related to the student's counseling program.

**5600:697 INDEPENDENT STUDY** 1-3 credits

(May be repeated to a maximum of 9 credits)  
Prerequisite: Permission of advisor and department head. The specific area of investigation is determined in accordance with student needs.

**5600:699 COUNSELING: THESIS OR PROBLEM**

1-3 credits  
Prerequisite: Consent of Advisor and department head. In-depth study and analysis of a counseling problem.

**5600:702 ADVANCED COUNSELING PRACTICUM**

3 credits  
Prerequisite: doctoral residency or permission. (May be repeated to a maximum of 9 hours). Examination of theories of individual and group counseling along with supervised counseling experience in selected settings.

**5600:703 ADVANCED SEMINAR IN COUNSELING**

3 credits  
Prerequisite: doctoral residency or permission. An examination of major issues in the field such as the counselor as a professional, the counselor as a person, and issues, problems, and trends in counseling.

**5600:704 RESEARCH DESIGN IN COUNSELING I**

3 credits  
Prerequisite: doctoral residency or permission. Study of research designs, evaluation procedures and review of current research in counseling.

**5600:705 RESEARCH DESIGN IN COUNSELING II**

3 credits  
Prerequisite: 704. Computer analysis of data related to a counseling problem. Preliminary development of a dissertation proposal.

**5600:706-707 INTERNSHIP IN COUNSELING SUPERVISION I AND II** 3 credits each

Prerequisite: doctoral residency or permission. Instruction and experience in supervising graduate students in counseling.

**5600:895 FIELD EXPERIENCE - DOCTORAL**

1-6 credits  
Prerequisite: Doctoral candidate status (may be repeated). Placement in a selected setting for the purpose of acquiring experiences and/or developing skills related to the student's doctoral program.

**5600:897 INDEPENDENT STUDY** 1-3 credits

(May be repeated to a maximum of 9 hours)  
Prerequisite: Permission of advisor and department head. The specific area of investigation is determined in accordance with student needs.

**5600:898 RESEARCH PROJECTS IN SPECIAL AREAS**

1-2 credits  
Prerequisite: Permission of advisor and department head (may be repeated). Study, analysis and reporting of a counseling problem.

**5600:899 DISSERTATION** 1-20 credits

Prerequisite: Permission of major doctoral advisor and department head. Study design and analysis of a counseling problem.

## 5610: SPECIAL EDUCATION

### 5610:201 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/LEARNING DISABILITIES

1 credit

Prerequisite: Sophomore standing & permission. A systematic observation and participation in classes for Educable Mentally Retarded and Learning Disabled children for 1/2 semester each. This experience is prerequisite to student teaching in each area.

### 5610:202 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/ORTHOPEDEICALLY HANDICAPPED

1 credit

Prerequisite: Sophomore standing & permission. A systematic observation and participation in classes for Educable Mentally Retarded children and Orthopedically Handicapped children for 1/2 semester each. This experience is prerequisite to student teaching in each area.

### 5610:203 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/TRAINABLE MENTALLY RETARDED

1 credit

Prerequisite: Sophomore standing & permission. A systematic observation and participation in classes for Educable Mentally Retarded and Trainable Mentally Retarded children for 1/2 semester each. Experience is prerequisite to student teaching in each area.

### 5610:395 FIELD EXPERIENCE: SPECIAL EDUCATION

1-3 credits

Prerequisite: Upper college standing. Supervised work with youngsters, individually and in groups in school and/or community settings.

### 5610:403 STUDENT TEACHING SEMINAR: SPECIAL EDUCATION

1 credit

Corequisite: 495. A seminar in support of the student teaching experience.

### 5610:440/540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS

3 credits

Prerequisites: 3750:100 & 5100:157. A survey of the etiology, diagnoses, classification, and developmental characteristics of atypical individuals.

### 5610:441/541 DEVELOPMENTAL CHARACTERISTICS OF MENTALLY RETARDED INDIVIDUALS

4 credits

Prerequisite: 440/540. A study of the etiology, diagnosis, classification and developmental characteristics of educable mentally retarded, trainable mentally retarded, and profoundly retarded individuals.

### 5610:443/543 DEVELOPMENTAL CHARACTERISTICS OF LEARNING DISABLED INDIVIDUALS

3 credits

Prerequisite: 440/540. A survey of the etiology, diagnosis, classification and developmental characteristics of learning disabled individuals.

### 5610:444/544 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS

3 credits

Prerequisite: 440/540. A survey of the etiology, diagnosis, classification, and developmental characteristics of intellectually gifted individuals.

### 5610:445/545 DEVELOPMENTAL CHARACTERISTICS OF ORTHOPEDEICALLY HANDICAPPED INDIVIDUALS

3 credits

Prerequisite: 441/541. A survey of the etiology, diagnosis, classification and developmental characteristics of orthopedically handicapped individuals.

### 5610:446/546 DEVELOPMENTAL CHARACTERISTICS OF BEHAVIORALLY DISORDERED INDIVIDUALS

3 credits

Prerequisite: 443/543. A survey of the etiology, diagnosis,

classification and developmental characteristics of socially and emotionally maladjusted individuals.

### 5610:450/550 EDUCATIONAL ADJUSTMENT FOR PRESCHOOL AND PRIMARY LEVEL EXCEPTIONAL INDIVIDUALS

3 credits

Prerequisites: Plan A & B: 441/541 & 443/543; Plan C: 443/543 & 445/545; certification minors: 443/543 and characteristic course in certification focus area. A study of diagnostic prescriptive service delivery systems designed to accommodate the developmental patterns of preschool and primary level exceptional children.

### 5610:451/551 EDUCATIONAL ADJUSTMENT FOR INTERMEDIATE LEVEL EXCEPTIONAL CHILDREN

3 credits

Prerequisite: 450/550 except for secondary certification minors. A study of diagnostic prescriptive service delivery systems designed to accommodate the developmental patterns of intermediate level exceptional children.

### 5610:452/552 EDUCATIONAL ADJUSTMENT FOR SECONDARY LEVEL EXCEPTIONAL CHILDREN

3 credits

Prerequisite: 451/551. A study of diagnostic prescriptive service delivery systems designed to accommodate the developmental patterns of secondary level exceptional children.

### 5610:453/553 RECREATIONAL PROGRAMS FOR EXCEPTIONAL INDIVIDUALS

1 credit

A study experience which examines crafts and outdoor recreational programming for exceptional individuals in a field setting.

### 5610:454/554 EDUCATIONAL ADJUSTMENT FOR MODERATE, SEVERE AND PROFOUND MENTALLY RETARDED INDIVIDUALS

3 credits

Prerequisite: 441/541. A study of programs, services, and training techniques designed to accommodate the developmental patterns of moderate, severe and profound mentally retarded individuals.

### 5610:455/555 EDUCATIONAL ADJUSTMENT FOR INTELLECTUALLY GIFTED INDIVIDUALS

3 credits

Prerequisite: 444/544. A study of programs, services, and educational experiences designed to accommodate the educational experiences designed to accommodate the developmental patterns of intellectually gifted individuals.

### 5610:456/556 CLASSROOM BEHAVIOR MANAGEMENT FOR EXCEPTIONAL INDIVIDUALS

2 credits

Prerequisite: 451/551 or equivalent. A review and development of behavior management principles and application models for exceptional individuals.

### 5610:457/557 CLINICAL TEACHING PRACTICUM: CHILDREN WITH LEARNING PROBLEMS

3 credits

Prerequisite: 450/550 or 451/551 or 452/552. May be repeated for a total of 6 credits. A supervised clinical teaching experience with individuals or small groups of problem learners. Designed to familiarize and give practice in diagnostic and remedial teaching techniques and pupil personnel resources.

### 5610:459/559 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION

1-2 credits

(May be repeated for a total of 4 credits)

A quarterly topical study with a varied array of disciplinary input. Staffing will be invited members of allied and contributing professions who are active in the management of exceptional children.

**5610:490-491-492-493/590-591-592-593 WORKSHOP**

1-3 credits each

(May be repeated for a total of 4 credits)

Designed to explore special topics in in-service or pre-service education on a needs basis.

**5610:494/594 EDUCATION INSTITUTES: SPECIAL EDUCATION 1-4 credits**

Special courses designed as in-service up-grading programs, frequently provided with the support of national foundations.

**5610:495 STUDENT TEACHING 4-8 credits**

Corequisite: 403. Student Teaching with Educable Mentally Retarded, Learning Disabled, Orthopedically Handicapped, or Speech Handicapped children under the supervision of the directing therapist and University supervisor.

**5610:497 INDEPENDENT STUDY: SPECIAL EDUCATION 1-3 credits**

Prerequisite: Consent of advisor and supervisor of the independent study. The specific area of investigation will be determined in accordance with the student's needs.

**GRADUATE COURSES****5610:600 SEMINAR: SPECIAL EDUCATION 3 credits**

Prerequisite: 12 credits of graduate study in Special Education. A critical examination of practices and pertinent research in special education. Legislation and court decisions effecting special education programs in Ohio and the nation will be examined.

**5610:601 SEMINAR: SPECIAL EDUCATION CURRICULUM PLANNING 3 credits**

Prerequisite: Certification in an area of Special Education. A study of curriculum planning practices unique to special education classes and services. Appropriate curriculum objectives for selected areas of instruction as well as effective organizational programs will be examined.

**5610:602 SUPERVISION OF INSTRUCTION 3 credits**

Prerequisite: Certification in an area of special education. A study of administration and supervisory practices unique to special education classes and services.

**5610:603 ASSESSMENT AND EDUCATIONAL PROGRAMMING 3 credits**

Prerequisite: Certification in an area of special education or permission of the instructor. Overviews the psycho-diagnostic approach in the assessment of handicapped individuals and examines methods for designing individual programming based on formal and informal assessment. Program management is also examined.

**5610:604 EDUCATION AND MANAGEMENT STRATEGIES FOR PARENTS OF EXCEPTIONAL INDIVIDUALS 3 credits**

Prerequisite: Certification in an area of special education and/or permission of the instructor. The course studies methods of working with parents to facilitate effective programs for handicapped individuals. In addition, strategies for providing support and educational services for parents are examined.

**5610:605 PROGRAM DEVELOPMENT AND SERVICE DELIVERY SYSTEMS 3 credits**

Prerequisite: Certification in an area of special education and/or permission of the instructor. The course provides strategies for community analysis, case findings, funding sources and practices, and the development of program models and service delivery systems to serve handicapped individuals.

**5610:695 FIELD EXPERIENCE: MASTER'S 1-4 credits**

(May be repeated up to a total of 8 credits)

Designed to provide on-the-job experience in a special education program on an individual basis.

**5610:697 INDEPENDENT STUDY 1-3 credits**

(May be repeated up to a total of 9 credits)

Prerequisite: Consent of advisor and supervisor of the independent study. The specific area of investigation will be determined in accordance with the student's needs.

**5610:699 SPECIAL EDUCATION: PROBLEM OR THESIS 1-3 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.

**5610:798 RESEARCH PROJECT IN SPECIAL EDUCATION 1-3 credits**

Study, analysis and reporting of a special education problem.

**5620: SCHOOL PSYCHOLOGY****5620:490/590 WORKSHOP 1-2 credits**

Prerequisite: Permission of instructor. An opportune topical experience provided periodically as needed and/or resources become available.

**5620:491-492/591-592 WORKSHOP 1-3 credits each**

Prerequisite: Permission of instructor. An opportune topical experience provided periodically as needed and/or resources become available.

**5620:494/594 SCHOOL PSYCHOLOGY INSTITUTE 1-4 credits**

Prerequisite: Permission of instructor. A specifically designed learning experience for program graduate focusing upon critical topics in school psychology.

**GRADUATE COURSES****5620:600 SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST 3 credits**

Prerequisite: Permission of instructor. A seminar on the role and function of the School Psychologist. The course, tailored to meet individual needs of trainees, is a consideration of professional standards of school psychology practice.

**5620:601 COGNITIVE FUNCTION MODELS FOR PRESCRIPTIVE EDUCATIONAL PLANNING 3 credits**

Prerequisite: Permission of instructor. A consideration of cognitive development theories and their application for educational programming.

**5620:610 EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS 4 credits**

Prerequisite: Permission of instructor. The clinical study and application of current assessment approaches applicable in the assessment of children's learning problems.

**5620:611 PRACTICUM IN SCHOOL PSYCHOLOGY 4 credits**

Prerequisite: Permission of instructor. A laboratory experience in the psycho-educational study of individual children who have learning problems in school.

**5620:630 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL****5620:631 INTERNSHIP IN SCHOOL PSYCHOLOGY: SPRING 3 credits each**

Prerequisite: Permission of instructor. Full-time paid

work assignment under supervision of a qualified school psychologist for an academic year structured according to the provisions of the State Department of Education. Additional readings required.

**5620:640 FIELD SEMINAR I: ISSUES & ASSESSMENTS (FALL)**

**5620:641 FIELD SEMINAR II: CLASSROOM ENVIRONMENT (SPRING) 2 credits each**

Prerequisite: Permission of instructor. A consideration of pertinent topics in the practice of School Psychology with emphasis upon field-based problems and issues of a practicing school psychologist.

**5620:695 FIELD EXPERIENCE: MASTER'S 1-3 credits**

Prerequisite: Permission of instructor. Practical school psychology-related experience in a school setting.

**5620:696 FIELD EXPERIENCE: MASTER'S 1-3 credits**

Prerequisite: Permission of instructor. Practical school psychology-related experience in an appropriate setting other than a school.

**5620:697 INDEPENDENT STUDY 1-4 credits**

Prerequisite: Permission of advisor and supervisor of the independent study. The documentation of a specific area of investigation. The nature of the inquiry to be determined by student-supervisor agreement.

**5620:698 RESEARCH PROJECT IN SPECIAL AREAS**

1-3 credits

Prerequisite: Permission of advisor. Study, analysis and reporting of school psychology problem.

**5620:699 SCHOOL PSYCHOLOGY: PROBLEM OR THESIS 1-3 credits**

Prerequisite: Permission of instructor. Thorough study, analysis, and reporting in depth of an educational problem; field projects in special areas; synthesis of existing knowledge in relationship to a specific topic.

## 5630: INNER-CITY EDUCATION

**5630:481/581 MULTI-CULTURAL EDUCATION IN UNITED STATES 3 credits**

Inquiry into multi-cultural dimensions of American education. Comparisons of urban, suburban, and rural educational settings and with reference to socio-economic differences.

**5630:482/582 CHARACTERISTICS OF CULTURALLY DIFFERENT YOUTH 3 credits**

A study of characteristics of Culturally-Different Youth, with a focus on youth in low-income areas. Emphasis is on cultural, social, economic and educational considerations and their implications.

**5630:483/583 PREPARATION FOR TEACHING CULTURALLY DIFFERENT YOUTH 3 credits**

The course is designed to help prepare trainees to teach culturally different youth from low-income backgrounds. Through the use of multi-media source materials trainees will: gain knowledge of the background and culture of culturally different learners, determine the role of the teacher, explore techniques of discipline and classroom management, survey motivational and instructional techniques and examine, prepare and adapt a variety of instructional materials for individual, small group and large group instruction.

### GRADUATE COURSES

**5630:686 SEMINAR: EDUCATION OF THE CULTURALLY DIFFERENT 2 credits**

A survey of educational considerations for schools populated by low-income culturally different youth. Field experience in the form of visitations to agencies serving low-income families will be required.

## 5700: SCHOOL ADMINISTRATION

**5700: 490-491-492-493/590-591-592-593 WORKSHOP**

1-3 credits each

Opportunity for individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

**5700:494/594 EDUCATIONAL INSTITUTES 1-4 credits**

Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

### GRADUATE COURSES

**5700:601 PRINCIPLES OF EDUCATIONAL ADMINISTRATION 3 credits**

Theories and practices in administering schools and school systems, with emphasis on administrative process, common problems, career opportunities, getting the first job.

**5700:604 SCHOOL AND COMMUNITY RELATIONS**

2 credits

Basics in maintaining cooperative relationships between educational institutions and their supporting publics. Examination and analysis of institutional environments and the impacts of mass news media on public support.

**5700:605 DECISION-MAKING THEORY AND PRACTICE IN EDUCATIONAL ADMINISTRATION**

3 credits

Theories underlying the process of decision-making in the philosophy, sociology, economics, and politics of education. Alternative decisions and their respective consequences. Fundamentals of PPBS and other decision-making aids.

**5700:606 EVALUATION OF EDUCATIONAL INSTITUTIONS 3 credits**

Theories and practices involved in the processes of delineating, obtaining, and providing information for decision-making are introduced and explicated.

**5700:607 LEGAL BASIS OF EDUCATION 2 credits**

The legal principles underlying education in the U.S. as reflected in statutory provisions, court decisions, and administrative orders are presented. Ohio school statutes are covered in depth.

**5700:608 PRINCIPLES OF SCHOOL FINANCE**

2 credits

Study of financial operations of school systems including tax and other income, expenditures and budgeting.

**5700:610 PRINCIPLES OF EDUCATIONAL SUPERVISION 3 credits**

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

**5700:611 SUPERVISION OF STUDENT TEACHING**

2 credits

Primarily for supervising teachers in the guidance of student teachers. Topics include: readiness for student teaching; directing teacher and college supervisor rela-

tionships, use of the conference, demonstration, and observation.

**5700:620 SECONDARY SCHOOL ADMINISTRATION**  
2 credits

Prerequisite: 601. Problems, procedures and principles of organization and administration in secondary schools.

**5700:631 ELEMENTARY SCHOOL ADMINISTRATION**  
2 credits

Prerequisite: 601. Problems, procedures and principles of organization, administration and supervision in elementary schools.

**5700:695 FIELD EXPERIENCE FOR SUPERVISORS**  
2 credits

Prerequisite: Completion of all course work except research problem. Designed to help students test and develop understandings and skills in supervision. Students will participate in selected task areas which reflect supervisory responsibilities.

**5700:696 FIELD EXPERIENCE FOR THE SECONDARY SCHOOL ADMINISTRATOR** 1-2 credits

(May be repeated for a total of 2 credits.)  
On-the-job experience in a public school system working with administrators and/or supervisors.

**5700:697 FIELD EXPERIENCE FOR THE ELEMENTARY ADMINISTRATOR** 1-2 credits

(May be repeated for a total of 2 credits.)  
On-the-job experience in a public school system working with administrators and/or supervisors.

**5700:698 INDEPENDENT STUDY** 1-3 credits

(May be repeated to a maximum of 6 credits)  
Prerequisite: Consent of advisor and the supervisor of the independent study. Area of study is determined by student's needs.

**5700:699 RESEARCH IN EDUCATION** 1-4 credits

Prerequisite: Permission of advisor. An in-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

**5700:701 SCHOOL BUILDING AND CONSTRUCTION**  
2 credits

Theories and practices involved in planning school facilities are discussed. Field explorations of exemplary school buildings are involved.

**5700:702 SCHOOL BUSINESS ADMINISTRATION**  
2 credits

A study of school business administration as a part of the total administrative pattern, and as a creative planning process designed to facilitate instruction.

**5700:703 ADMINISTRATION OF STAFF PERSONNEL**  
2 credits

Guidelines, techniques, and procedures for helping the administrator to become a democratic leader. Duties and responsibilities of the staff as participants in administrative activity.

**5700:704 ADMINISTRATIVE ORGANIZATIONS IN EDUCATION** 2 credits

A study of organizations, the strengths and weaknesses of the bureaucratic model in administering them. Practical means by which the weaknesses of bureaucracies are offset or lessened in educational institutions.

**5700:710 PRINCIPLES OF CURRICULUM DEVELOPMENT** 3 credits

An overview of the instructional programs of a school in terms of basic purposes, functions and structures necessary to study and interpret these instructional programs.

**5700:715 EDUCATIONAL ORGANIZATIONAL INFORMATION PROCESSING** 2 credits

A course designed primarily for the graduate education student majoring in administration. The course will include concepts of modern systems and their educational applications.

**5700:730 SEMINAR IN SCHOOL ADMINISTRATION**  
3 credits

Prerequisite: 601. Focus will be on recent research in administration and educational administration theory.

**5700:731 SEMINAR: PROBLEMS OF THE SCHOOL ADMINISTRATOR** 2 credits

Current administrative problems in educational institutions as perceived by students and practicing school executives. Emphasis on problem management, amelioration, or solution. Field visits or resource persons invited to the classroom.

**5700:732 ORGANIZATIONAL COMMUNICATIONS AND THE SCHOOL ADMINISTRATOR** 3 credits

Fundamentals in interpersonal communications. Application of these principles to roles of educational administrators. Skill development in written and spoken communications, with attention to non-verbal communications; simulation and role-playing.

**5700:733 THE EDUCATIONAL ADMINISTRATOR AND PLANNED CHANGE** 2 credits

Prerequisite: 601 & 704. Relationship between technological and social change and needed change in education; theories, principles and mechanisms in planned educational change.

**5700:740 THEORIES OF EDUCATIONAL SUPERVISION** 3 credits

Prerequisite: 610, 5200:732 or 5300:721. Explanation and examination of various theories of supervision; sample models which implement existing theories.

**5700:745 PRACTICUM IN EDUCATIONAL ADMINISTRATION: URBAN SETTING** 2 credits

Prerequisite: Completion of three-fourths of the doctoral program courses. Analysis of the uniquenesses of the urban setting, e.g., multi-cultural and pluralistic urban populations. Stress on the administrator's human relation skills.

**5700:746 POLITICS, POWER, AND THE SCHOOL ADMINISTRATOR** 3 credits

The impacts of formal and informal community power structures and influential persons on educational planning and decision-making. The administrator as an influence on the power structure for educational benefit.

**5700:747 PRACTICUM: COMPETING AND COMPLEMENTARY SOCIAL SYSTEMS** 3 credits

Designed to bring the educational administrator into direct contact with individuals responsible for other community service: delivery systems, e.g., city government. Methods of inter-agency cooperation to provide client services.

**5700:795-796 INTERNSHIP IN EDUCATIONAL ADMINISTRATION** 2 credits each

(May be repeated for a maximum of 6 credits.)  
Work under a practicing administrator involving experience in optimum number of administrative tasks. Includes seminars and written work.

**5700:797 FIELD EXPERIENCE FOR THE ELEMENTARY ADMINISTRATOR** 2 credits

This course will entail supervised, on-the-job, administration experience, in each of the administrative task areas: staff personnel, pupil personnel, curriculum, community relations, finance and physical facilities.

**5700:895 FIELD EXPERIENCE FOR THE SUPERINTENDENT 2 credits**

Prerequisite: Permission of instructor. A cooperative, field-based experience in a central office of a school district in which the student performs assignments in the administrative task areas.

**5700:896 FIELD EXPERIENCE IN SCHOOL PLANT PLANNING 2 credits**

Prerequisite: Permission of the instructor. Selected field experiences in the science of planning school plants. Emphasis is placed on analysis of school enrollments, evaluation of school plants, and the financial aspects of plant planning.

**5700:897 INDEPENDENT STUDY 1-3 credits**

(May be repeated to a maximum of 6 credits.)  
Prerequisite: Permission of advisor. An in-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

**5700:898 RESEARCH PROJECT IN SPECIAL AREAS 1-2 credits**

Prerequisite: Permission of advisor. A critical and in-depth study of a specific problem in educational administration.

**5700:899 DISSERTATION 1-20 credits**

Prerequisite: Permission of advisor. A specific research problem that requires the student to apply research skills and techniques to the problem being studied.

**5800: SPECIAL EDUCATIONAL PROGRAMS****5800:490/590 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES.**

1-3 credits  
Opportunity for individual work under staff guidance or curriculum problems; utilization of community resources; planning of curriculum units.

**5800:491/591 WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE 1-3 credits**

Opportunity for individual work under staff guidance or curriculum problems; utilization of community resources; planning of curriculum units.

**5800: 492/592 WORKSHOP IN READING 1-3 credits**

Opportunity for individual work under staff guidance or curriculum problems; utilization of community resources; planning of curriculum units.

**5800: 493/593 WORKSHOP ON EXCEPTIONAL CHILDREN 1-3 credits**

Opportunity for individual work under staff guidance or curriculum problems; utilization of community resources; planning of curriculum units.

**5800:494/594 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.

**5800: EDUCATIONAL TECHNOLOGY****5850:100 INTRODUCTION: PUPIL PERSONNEL WORK 2 credits**

Prerequisite: none. The purposes, needs, scope and character of pupil personnel services are explored.

**5850:201 INFORMATIONAL SERVICES IN GUIDANCE AND SPECIAL EDUCATION 2 credits**

Prerequisite: none. Emphasis on the organization and status of informational services as they relate to the activities of the educational technologist.

**5850:204 HUMAN RELATIONS IN EDUCATION 3 credits**

Prerequisite: none. Study of individual and group relationships in an educational setting including the development of basic interpersonal skills.

**5850:207 MECHANICS OF STUDENT APPRAISAL 3 credits**

Prerequisite: none. Introduction to group appraisal with major emphasis placed on assisting certified personnel in group test administration, scoring, organizing and recording test results.

**5850:213 ORIENTATION OF THE EDUCATIONAL TECHNICIANS TO THE SECONDARY SCHOOL 2 credits**

Designed to provide the student preparing for the role of an educational technician with a framework for understanding secondary education.

**5850:260 SPECIAL EDUCATION TECHNOLOGY 2 credits**

A survey of selected procedures and materials employed in classrooms especially designed and operated for exceptional children.

**5850:295 EDUCATION TECHNICIAN FIELD EXPERIENCE 5 credits**

A supervised field experience in the school setting designed for educational technician enrollees only. The course may be repeated once.

# The College of Business Administration

## 6200: ACCOUNTING

### 6200:201 ACCOUNTING I 4 credits

An introduction to accounting, the language of business. Emphasis is on the basic principles, concepts, and terminology of accounting for assets, liabilities, and proprietorship.

### 6200:202 ACCOUNTING II 4 credits

Prerequisite: 201. A study of the accounting informational needs of management. Emphasis is on planning and control, including financial statement analysis, funds flow, budgets, cost-volume-profit analysis, and decision-making costs.

### 6200:301 COST ACCOUNTING 3 credits

Prerequisites: 202 and 3250:202. An introduction to product costing, emphasizing the analysis of materials, labor, and factory overhead. Cost control is achieved through the use of flexible budgets, standard costs, and variance analysis.

### 6200:317 INTERMEDIATE ACCOUNTING I 4 credits

Prerequisite: 202. Accounting theory and problems of statement preparation; in depth study of cash, temporary investments, receivables, inventories, tangible fixed assets, intangibles and current liabilities.

### 6200:318 INTERMEDIATE ACCOUNTING II 4 credits

Prerequisite: 317. In depth study of long term liabilities and investments, capital stock, retained earnings, accounting changes, funds statement, pensions, leases, statement analysis, and price level accounting.

### 6200:355 ELECTRONIC DATA PROCESSING 3 credits

Prerequisites: 202 and 6500:340. An introduction to automatic data processing systems in an accounting and management environment. Fundamentals of computer programming are presented to the student for execution of basic programs.

### 6200:360 BUDGETING 3 credits

Prerequisite: 301. A study of the principles and policies of budgeting. Emphasis is on managerial control of expenses, capital expenditures, and related activities.

### 6200:401 ACCOUNTING SURVEY 3 credits

Prerequisite: permission of instructor. An introductory course for students with no previous accounting background. Essential accounting concepts, techniques, and terminology for a business organization are provided for the student.

### 6200:402 ADVANCED COST ACCOUNTING 3 credits

Prerequisite: 301. In depth study of the use of standard cost procedures, job-order costing procedures, and advanced problems in the area of cost accounting.

### 6200:410 TAXATION FOR THE NON ACCOUNTANT 3 credits

A course designed to provide the non-accountant basic knowledge of federal tax law as applied to individuals and businesses. Not open to accounting majors.

### 6200:420/520 ADVANCED ACCOUNTING 3 credits

Prerequisites: 318. An examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, non-profit entities, and consolidated statements.

### 6200:425 CURRENT DEVELOPMENTS IN ACCOUNTING 3 credits

Prerequisite: 318. Official pronouncements of the

Accounting Principles Board, the Financial Accounting Statements Board, and the Securities and Exchange Commission, and other current developments in accounting theory. Essential for CPA preparation.

### 6200:430/530 TAXATION I 3 credits

Prerequisite: 318. Application of the current federal tax law to individuals and proprietorships. Types of income, deductions, and the structure of the tax return are covered.

### 6200:431/531 TAXATION II 3 credits

Prerequisite: 430/530. Application of current federal tax law to partnerships, corporations, trusts, estates and gifts. Social security taxes and Ohio income, sales, and personal property taxes are also discussed.

### 6200:440/540 AUDITING 3 credits

Prerequisites: 301 and 318. Examines auditing standards and procedures, used by the independent auditor in determining whether a firm has fairly represented its financial position.

### 6200:454 ACCOUNTING SYSTEMS 3 credits

Prerequisites: 301, 318, 355, and permission of instructor. Focus on the development of accounting methods and procedures, installation and improvement of accounting systems, and evaluation of automated data processing systems.

### 6200:460 CONTROLLERSHIP PROBLEMS 3 credits

Prerequisites: 301, 318. An examination of quantitative accounting methods of planning, control, and decision-making. Standard costing, variable costing, and the contribution approach to decision-making are emphasized.

### 6200:470/570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING 3 credits

Prerequisite: 318. Theory and procedures involved in the application of fund accounting, budgetary control, appropriations, and various accounting systems to governmental units, educational, medical and other non-profit institutions.

### 6200:480/580 ACCOUNTING PROBLEMS 3 credits

Prerequisite: 318. Independent research on an advanced accounting problem in the student's specific area of interest.

### 6200:485 CPA PROBLEMS—COMMERCIAL LAW 3 credits

Prerequisite: permission of instructor. This course deals with those general principles of commercial law which appear on the CPA examination.

### 6200:486 CPA PROBLEMS—ACCOUNTING PRACTICE 3 credits

Prerequisite: permission of instructor. The study of methods for solving the various types of problems which appear on the accounting practice section of the CPA examination.

### 6200:487 CPA PROBLEMS—TAXATION 1 credit

Prerequisite: permission of instructor. Application of current developments in federal income tax law to the CPA examination.

### 6200:488/588 CPA PROBLEMS—AUDITING 2 credits

Prerequisites: 440/540 or permission of instructor. A preparation for the auditing section of the CPA examination, focusing on auditing principles, standards and ethics, and situations encountered by the independent auditor.

**6200:489/589 CPA PROBLEMS—THEORY 2 credits**  
Prerequisite: permission of instructor. A preparation for the theory section of the CPA examination, focusing on current developments and use of basic accounting theory to solve advanced accounting problems.

**6200:491/591 WORKSHOP IN ACCOUNTING**  
1-3 credits

Prerequisite: permission of instructor. Group study of accounting under faculty guidance. May not be used to meet undergraduate or graduate accounting major requirements, but may be used for elective credit only with permission of the instructor or department. May be repeated.

**6200:495 INTERNSHIP IN ACCOUNTING 3 credits**  
Prerequisite: permission of instructor. On-the-job training for the student in the field of public accounting. Individual assignments are made by the supervising faculty member.

**6200:499 INDEPENDENT STUDY  
IN ACCOUNTING 3 credits**  
Prerequisite: Permission.

## GRADUATE COURSES

**6200:601 FINANCIAL ACCOUNTING 3 credits**  
An introductory course for students with no accounting background. This course examines accounting principles as applied to financial problems of the firm.

**6200:610 ACCOUNTING MANAGEMENT AND CONTROL 3 credits**  
Prerequisite: 601 or equivalent. An investigation of the role of accounting as a management tool in the areas of production, marketing, internal control, and capital budgeting with focus on management planning.

**6200:630 TAX RESEARCH AND PLANNING 3 credits**  
Prerequisite: 431 or equivalent. This course is designed to develop research competence in solving complex tax problems involving federal income, estate trust, and gift tax laws.

**6200:637 ADVANCED ACCOUNTING THEORY 3 credits**  
Prerequisite: 318. An examination of accounting concepts and standards through critical analysis of articles on current trends in the profession. Discussion and outside research are stressed.

**6200:640 ADVANCED AUDITING 3 credits**  
Prerequisite: 440/540. Conceptual foundations and current research on professional and internal auditing. Includes government regulation and litigation, statistics, computer systems as well as current and prospective developments in auditing.

**6200:655 INFORMATION SYSTEMS 3 credits**  
Prerequisites: 355 and 610. An advanced study of accounting information system theory, elements, principles, design, and implementation. Practical data processing and networks to control the flow of information are also discussed.

**6200:670 COST CONCEPTS AND CONTROL 3 credits**  
Prerequisite: 610. Focus on the analysis and control of costs and their uses in decision-making. Determination of cost data and efficiency of decision are also emphasized.

**6200:680 INTERNATIONAL ACCOUNTING 3 credits**  
Prerequisite: 610. An examination of accounting theory and practice from an international perspective with emphasis on multi-national investment, business and auditing activities, and reporting problems.

**6200:697 INDEPENDENT STUDY IN ACCOUNTING**  
1-3 credits  
(may be repeated but not to exceed a total of 3 credits for all registrations)  
A focus on special topics of study and research in Accounting on an independent basis.

**6400:697 INDEPENDENT STUDY IN FINANCE**  
1-3 credits  
(may be repeated but not to exceed a total of 3 credits for all registrations)  
A focus on special topics of study and research in Finance on an independent basis.

**6500:697 INDEPENDENT STUDY IN MANAGEMENT**  
1-2 credits  
(may be repeated but not to exceed a total of 2 credits for all registrations)  
A focus on special topics of study and research in Management on an independent basis.

**6600:697 INDEPENDENT STUDY IN MARKETING**  
1-3 credits  
(may be repeated but not to exceed a total of 3 credits for all registrations)  
A focus on special topics of study and research in Marketing on an independent basis.

**6200:699 SEMINAR IN ACCOUNTING 3 credits**  
Prerequisite: Permission of instructor. A program of independent research in an accounting area of the student's choice, requiring submission of a finished report within a year. (May be repeated for a total of 6 credits.)

## 6400: FINANCE

**6400:314 CREDITS AND COLLECTIONS 2 credits**  
Nature and fundamentals of credit investigation and analysis, credit extension, collection operations, collection aids and problems.

**6400:318 RISK MANAGEMENT AND INSURANCE 2 credits**  
The concept of risk and risk management and the principles of insurance are developed in business. Life and health insurance are related to the employee benefit programs.

**6400:320 THE LEGAL ENVIRONMENT OF BUSINESS 4 credits**  
Designed to give the student an understanding of legal reasoning and analysis. Discussions include court and procedures, business organizations, commercial transactions, and the legal aspects of government regulation of business.

**6400:321 BUSINESS LAW I 3 credits**  
Discussions are designed to develop legal reasoning within the substantive areas of contractual obligation, agency relationships, partnerships, corporations, accountant's legal responsibility, federal securities regulation, and antitrust law.

**6400:322 BUSINESS LAW II 3 credits**  
Applications of the Uniform Commercial Code in sales, commercial paper, and secured transactions. Additional discussions include property, wills, estates, trusts, bailments, insurance, suretyship, bankruptcy and labor law.

**6400:338 FINANCIAL INTERMEDIARIES 3 credits**  
Studies the flows of funds. Analyzes major financial intermediaries. Money and capital markets are re-

viewed with emphasis on interest rates and their impact upon the administration of specific financial intermediaries.

**6400:343 INVESTMENTS 3 credits**

Prerequisite: 371. The range of security investment media is explored, alternative investment programs are considered and the role of securities markets through which goals can be achieved is studied.

**6400:371 BUSINESS FINANCE 3 credits**

Prerequisites: 6200:201 and 202 (or 401) and 3250:201 and 202. A study of the problems of the business firm from the financial manager's viewpoint. Topics include planning, sources and uses of funds, capital budgeting and optimum financial structure.

**6400:400 INVESTING IN REAL ESTATE 3 credits**

Prerequisite: 371. A study in the environment and variables of the associated decision-making process, its background, the specialists on decision making, with an emphasis on the purchase and financing decisions.

**6400:410 PERSONAL FINANCIAL MANAGEMENT 3 credits**

Reviews and analyzes the many personal financing decisions made by individuals. Areas of study include money management, credit acquisition insurance program development, investment analysis, and pension evaluation.

**6400:425 BUSINESS AND SOCIETY 3 credits**

Prerequisite: Senior standing. A conceptual course which considers the financial, economic, legal and socio-political implications of business in society. Issues related to the economic and legal framework for business decisions are discussed.

**6400:436 COMMERCIAL BANK MANAGEMENT 3 credits**

Prerequisite: 338. A study of administrative policy determination and decision making within the commercial bank. Analyses of policy making in the areas of liquidity, loan and security investment, and sources of funds.

**6400:447 SECURITY ANALYSIS 3 credits**

Prerequisite: 343. Application of quantitative and qualitative techniques of analysis to limited income and equity securities. Timing the changes in portfolio composition.

**6400:479 PROBLEMS IN FINANCE 3 credits**

Prerequisites: 371 and Senior Standing. The case method is utilized, emphasizing the application of analytical techniques from texts and journal readings to the solution of complex problems in financial management.

**6400:491/591 WORKSHOP IN FINANCE 1-3 credits**

Group studies of special topics in the Department of Finance. May not be used to meet undergraduate or graduate major requirements in Finance. May be used for elective credit only with permission of instructor or department. May be repeated.

## GRADUATE COURSES

**6400:602 MANAGERIAL FINANCE 3 credits**

Prerequisite: 6200:201 and 202 (or 601) and 3250:201 and 222 (or 600). The emphasis of this course is financial decision making as it relates to the goal of the firm — specifically, the investment decision, the financing decision and the dividend decision.

**6400:633 MANAGEMENT OF FINANCIAL INSTITUTIONS 3 credits**

Prerequisite: 674. A study of the administration of financial institutions in the U.S. economy. The focal point of study is policy determination and administrative decision making in the individual financial institution.

**6400:645 INVESTMENT ANALYSIS 3 credits**

Prerequisite: 674. Workings and nature of equity markets; development of ability to analyze the operational capability of industrial firms and make rational portfolio selections leading to long-term capital preservation and appreciation.

**6400:650 ADMINISTERING COSTS AND PRICES 3 credits**

The course provides an understanding of managerial economics. Short and long-run decisions of the firm are analyzed. Analysis includes the impact of costs and prices on business profitability.

**6400:655 GOVERNMENT AND BUSINESS 3 credits**

Prerequisite: 371. Public policy with regard to business, institutions and issues in the U.S. are considered from an economic, legal, and political framework.

**6400:665 COMPARATIVE INDUSTRIAL RATIONALE 3 credits**

An analytic approach to proper allocation of resources. Consideration given to industrial structure and evaluation made of relationship between structure and total economy. Various economic and political systems are considered.

**6400:674 FINANCIAL MANAGEMENT AND POLICY 3 credits**

Prerequisite: 371. Working capital management, controlling inventory investments, administering costs and funds, managing investment in plant and equipment, administering business income and forecasting for financial management.

**6400:676 MANAGEMENT OF FINANCIAL STRUCTURE 3 credits**

Prerequisite: 674. Emphasizes the determination of the volume and composition of the sources of funds. The primary attention is directed to the cost of capital for specific sources of financing.

**6400:678 CAPITAL BUDGETING 3 credits**

Prerequisite: 674. This course attempts to integrate various theories of capital budgeting into a comprehensive conceptual scheme. Theoretical concepts and practical applications will be blended for a better understanding of capital problems.

**6400:681 INTERNATIONAL BUSINESS FINANCE 3 credits**

Prerequisite: 371. Financial policies and practices of companies involved in multinational operations, considers management of working capital and permanent assets, return on investment and capital budgeting for the global firm.

**6400:699 SEMINAR IN FINANCE 3 credits**

Prerequisites: 674 and a total 25 Phase II-III graduate credits. Individual research projects. (May be repeated for a total of 6 credits.)

## 6500: MANAGEMENT

**6500:301 MANAGEMENT: PRINCIPLES & CONCEPTS 3 credits**

Prerequisite: 2 courses in Behavioral Science. An introductory study of behavioral and quantitative theory, principles, and practice in the management of human resource; extended illustrations drawn from the management of operations systems. Prerequisite to

all other management courses except the 320's and 407.

**6500:302 INTRODUCTION TO ORGANIZATIONAL BEHAVIOR 3 credits**

Prerequisite: 2 courses in psychology or sociology. An investigation of the applications of the behavioral and social sciences as they relate to individual and group behavior in organizations.

**6500:321 QUANTITATIVE BUSINESS ANALYSIS I 3 credits**

Prerequisite: Math Modules. Statistical analysis of business data including coverage of probability theory, probability distributions, sampling, estimation, hypothesis testing, and analysis of variance.

**6500:322 QUANTITATIVE BUSINESS ANALYSIS II 3 credits**

Prerequisite: 321. Statistical analysis of business data including regression & correlation, time series, index numbers, distribution free statistics, Bayesian decision-making. Includes applications using cases in functional areas of business.

**6500:323 COMPUTER APPLICATIONS FOR BUSINESS 3 credits**

Prerequisite: Fortran IV programming-or its equivalent is recommended. Emphasis is on the use of batch & realtime processing in solving computer-oriented business problems. Topics included are flowcharting, hardware, and the PLOTALL, FORTRAN, APL & GPSS programming languages.

**6500:331 PRODUCTION & SYSTEMS MANAGEMENT 3 credits**

Prerequisite: 321. Basic course for management majors. Terminal course in production for other students. Emphasis on design and analysis of operating systems, utilizing scientific decision-making methodology. Case exercises & project.

**6500:332 PRODUCTION & OPERATIONS MANAGEMENT 3 credits**

Prerequisite: 323, 321, 331, 301. Continuation of 331. Introduces the use of models for production scheduling, materials management, quality control, distribution & project management. Includes linear programming, PERT & simulation. Cases, exercises, problems, and computer analysis.

**6500:341 PERSONNEL MANAGEMENT 3 credits**

Prerequisite: 2 courses in psychology or sociology. Principles, policies, and practices in administering the functions of recruiting, selecting, training, compensating, and appraising the human resources of organizations.

**6500:342 PERSONNEL RELATIONS 3 credits**

Prerequisite: 341. Analysis of management, union and employee objectives, attitudes, and strategy, as they affect the conduct of business and the economy. Stress placed on group assigned readings and reports.

**6500:407 INDEPENDENT STUDY IN SMALL BUSINESS MANAGEMENT 3 credits**

Prerequisite: Senior standing. Focuses on the problems of organizing and operating a small business. This will be done through case studies and field experiences.

**6500:408/508 MANAGEMENT PROBLEMS 3 credits**

Prerequisite: Senior standing. The student applies modern management principles, practices and theory to an actual problem in industry.

**6500:409 BUSINESS POLICY 4 credits**

Prerequisite: Senior standing and all other business core program courses. The course is designed to enable the student to understand informal organization; the philosophy of modern management; evaluation of

objectives of management; policy requirements of business and use of various management tools in operating the business firm.

**6500:433 BUSINESS OPERATIONAL PLANNING 3 credits**

Prerequisites: 322, 332. Application of quantitative techniques for planning overall operations of the firm. Emphasis given to external-internal factors, which influence short-run and long-run economic success of the firm.

**6500:434 PRODUCTION PLANNING & CONTROL 3 credits**

Prerequisite: 323, 322, 332. Forecasting, materials management, production planning, scheduling and control. Integrates previous courses and provides overall framework including use of computers and quantitative methods. Cases and a project in an operating organization.

**6500:435 QUALITY CONTROL 3 credits**

Prerequisite: 321, 322. Emphasis statistical techniques essential to controlling product quality for both measurement and attribute data. Includes control chart methods and acceptance sampling plans.

**6500:443 ADVANCED PERSONNEL MANAGEMENT 3 credits**

Prerequisite: 341. Advanced study of current issues and problems in the field of personnel. Emphasis given to current literature and research. Activities may include projects, library research, case studies.

**6500:491 WORKSHOP IN MANAGEMENT**

1-2 credits  
Group studies of special topics in Management. May not be used to meet undergraduate major requirements in Management. May be used for elective credits only. May be repeated with permission of instructor or department.

**6500:499 INDEPENDENT STUDY: MANAGEMENT**

1-2 credits  
Prerequisite: Senior standing and Department Head permission. This course provides a means for individualized study in management from which the student can derive significant value.

## GRADUATE COURSES

**6500:600 MANAGEMENT CONCEPTS 3 credits**

A quantitative, behavioral, systems approach to introduce the Management Process, emphasizing the production function. This course is designed for those students who have not previously had courses in business.

**6500:601 QUANTITATIVE DECISION MAKING 3 credits**

Prerequisite: Finite math. This course applies quantitative techniques to business decision making. Topics covered include probability estimation and hypothesis testing, simple and multiple regression, and correlation analysis, analysis of variance and non-parametric statistics.

**6500:652 ORGANIZATIONAL BEHAVIOR 3 credits**

Prerequisite: 301. A study of factors which influence human behavior in business organizations. Emphasis on theories of individual and group behavior, motivation, leadership and communication in organizations.

**6500:653 ORGANIZATIONAL THEORY 3 credits**

Prerequisite: 652. Leadership styles explored in organized institutional setting; influence of these styles on individual and group behavior . . . organizational goal attainment. Analysis of leader's role in the administrative process.

**6500:654 INDUSTRIAL RELATIONS 3 credits**

Prerequisite: 600. A study of the rights and duties of management in dealing with labor and the economic consequences of union and management policies and practices.

**6500:655 BUS. STRATEGY & POLICY FORMULATION 3 credits**

Prerequisites: to be scheduled during the last quarter of the individuals MBA program. This course focuses on the integration of the theoretical and practical knowledge acquired in core discipline courses. The student is required to analyze and evaluate organizational strategy and policy from the administrative viewpoint.

**6500:656 MANAGEMENT OF INTERNATIONAL OPERATIONS 3 credits**

Prerequisite: 652 or 653. This course deals with the institutional environment of International Business — the parameters of the international business system which hold the system together and which the individual businessman cannot materially alter.

**6500:662 QUANTITATIVE METHODS — OPERATIONS MANAGEMENT 3 credits**

Prerequisite: 661. A survey of the basic techniques of operations research. The course stresses application to the functional areas of business with particular emphasis given to the production and planning aspects.

**6500:663 APPLIED INDUSTRIAL STATISTICS I 3 credits**

Prerequisite: 321, 322. Designs for survey sampling and estimation. Simple linear regression analysis, including inferences, aptness of the model and joint confidence intervals.

**6500:664 APPLIED INDUSTRIAL STATISTICS II 3 credits**

Prerequisite: 663. Applications of multiple regression including determining "best" set of independent variables, correlation models, analysis of variance models including multi-factor models. Experimental designs including randomized block and Latin square designs.

**6500:671 ADVANCED OPERATIONS RESEARCH 3 credits**

Prerequisite: 661, 662. Designed to present in more depth and breadth, certain topics surveyed in Quantitative Methods for Operations Management, with emphasis placed on the application of these techniques to the student's own business situations.

**6500:672 MANAGEMENT & OPERATIONS ANALYSIS 3 credits**

Prerequisite: 671. To provide an applications forum where skills gained in other manufacturing — quantitative areas of the curriculum can be empirically utilized and applied.

**6500:689 SEMINAR IN HEALTH CARE SYSTEMS MANAGEMENT 3 credits**

Prerequisite: permission of instructor. This seminar provides graduate students in business administration with in-depth study of nonprofit health care organizations and the health care delivery system. The organizational structure and management differences between nonprofit health care organizations and traditional business organizations are examined. Study is made of the health care delivery system, its providers (patient care—third party payers), and the role of governmental programs. A major research paper is required.

**6500:699 GRADUATE SEMINAR IN MANAGEMENT 3 credits**

Prerequisite: Total of 25 Phase II-III graduate credits. A course for Master's degree candidate in management. Independent study and reading. Leads to

finished paper which should be completed within one year from time of enrollment of course. (May be repeated for a total of 6 credits.)

**6600: MARKETING****6600:300 MARKETING PRINCIPLES 3 credits**

Prerequisites: 3250:201-202 or permission. This broad course integrates commodity, institutional, functional and managerial concepts of the marketing process to provide the student with a total framework of economic activity.

**6600:320 PHYSICAL DISTRIBUTION 3 credits**

Prerequisite: 300. A basic course in the source, movement and storage of goods, including emphasis on the economics of transportation and the requirements of an effective system.

**6600:330 INTERNATIONAL MARKETING 3 credits**

Prerequisite: 300. Students concentrate on principles of international trade, balances, and import and export distribution machinery. The course pinpoints characteristics and potentials of various foreign markets.

**6600:340 MERCHANDISING 3 credits**

Prerequisite: 300. Presents principles of management that will result in service to consumers at a profit to the retailer. Store location, staffing, planning and control, buying, pricing and promotion are explored.

**6600:350 ADVERTISING 3 credits**

Prerequisite: 300. Basic principles of a marketing communication system are developed, with emphasis on media selection and feedback requirements. The roles of research and trade requirements are stressed.

**6600:360 INDUSTRIAL MARKETING 3 credits**

Prerequisite: 300. Following principles of modern marketing management, this course focuses on the development of local, regional and national markets. Particular emphasis is placed on problems of industrial goods manufacturers.

**6600:370 PURCHASING 3 credits**

Prerequisites: 3250:201-202. This course deals with "marketing in reverse" and includes such topics as buying the right quantity, inspection and quality control, and sources and assurance of supply.

**6600:430 PROMOTIONAL STRATEGIES 3 credits**

Prerequisite: 340 or 350. The examination at length and in depth of a variety of the advertising-public relations-personal selling mix to marketing problems.

**6600:460/560 MARKETING RESEARCH 3 credits**

Prerequisites: 300, 6500:348. Through lectures, cases and team projects, students are taught to detect and evaluate actionable forces in the marketplace. Emphasis is placed on investigation appropriate to the economics of the situation.

**6600:470/570 SALES ADMINISTRATION 3 credits**

Prerequisite: 350 or 360. Advanced consideration of the firm's marketing mix as it is applied to and adjusted to marketing objectives and policies and their implementation and control.

**6600:480/580 MARKETING CASES AND PROBLEMS 3 credits**

Prerequisite: 470 or its equivalent. Detailed case analysis of corporate marketing problems, most of which involve all of the marketing inputs and allied internal and external forces and resources

**6600:490 WORKSHOP IN MARKETING 1-3 credits**  
Group studies in special topics in Marketing. May not be used to meet undergraduate or graduate major requirements in Marketing. May be used for elective credit only with permission of instructor or department.

**6600:499 INDEPENDENT STUDY: MARKETING 1-3 credits**  
Prerequisite: Permission of the instructor. This course provides a means for individualized in depth study of a marketing problem or problems from which the student can derive significant benefit.

## GRADUATE COURSES

**6600:600 MANAGERIAL MARKETING 3 credits**  
Prerequisites: Post baccalaureate status. An assessment of the basic marketing principles involved in business and industry. Required of all non-business undergraduates; may not be selected for Phase III credit.

**6600:629 THE INTERNATIONAL BUSINESS ENTERPRISE 3 credits**  
Prerequisite: 3250:600 or equivalent. This course provides a comprehensive overview of International Business emphasizing the interactions between the multinational environmental setting and the firm's decision making process. Students are assigned specific research topics.

**6600:630 INTERNATIONAL MARKETING POLICIES 3 credits**  
Prerequisite: 600. Within a planning framework, the

course explores some of the problems in formulating and implementing multinational marketing strategies emphasizing the resolution of conflict. Students are assigned specific research papers.

**6600:660 MARKETING MANAGEMENT AND POLICY 3 credits**  
Prerequisite: 600. This basic survey stresses company functions in relation to demand and consumer factors, and the cost of operational elements that determine profitable operation. The corporate viewpoint is emphasized.

**6600:670 MARKETING PLANNING 3 credits**  
Prerequisite: 660. In the context of a dynamic domestic marketing environment, students develop extensive marketing plans, both short- and long-run, for a wide variety of businesses, services and institutions.

**6600:680 MARKETING THEORY 3 credits**  
Prerequisite: 660. A course designed to apply those theoretical works from the areas of economics, psychology, sociology and cultural anthropology which have relevance to a general theory of marketing.

**6600:690 SEMINAR IN INTERNATIONAL BUSINESS 3 credits**  
Prerequisites: 629 and a total of 25 Phase II-III graduate credits. This course permits the MBA candidate to independently analyze a significant international business problem culminating in a major paper.

**6600:699 SEMINAR IN MARKETING 3 credits**  
Prerequisite: A total of 25 Phase II-III graduate credits. This cap-stone course permits the MBA candidate to undertake a carefully delineated program of independent study and reading which leads to a finished major paper. (May be repeated for a total of 6 credits.)

# The College of Fine and Applied Arts

## 7100: ART

**7100:100 SURVEY OF HISTORY OF ART I. 4 credits**  
Architecture, sculpture, painting and the minor arts from Primitive sources through the Gothic time period in Europe.

**7100:101 SURVEY OF HISTORY OF ART II. 4 credits**  
Prerequisite, 100. Architecture, sculpture, painting and the minor arts from the Renaissance through the 1960's, primarily in Western Art. The development of photography and its application as an art form will be integrated into the artistic styles of the Twentieth Century.

**7100:105 UNDERSTANDING ART. 3 credits.**  
A study of the uses different societies have found for art and how the social and technological levels of the society have affected the kind of art they make.

**7100:121 THREE-DIMENSIONAL DESIGN. 3 credits.**  
An introduction to the meaning of "design" and the act of designing in real space. A study of naturally occurring form, structure, and process.

**7100:131 DRAWING I. 3 credits.**  
Freehand drawing experience with an orientation to elements and principles of visual organization. Limited media.

**7100:144 TWO-DIMENSIONAL DESIGN. 3 credits.**  
Experimentation with systems for purposeful organization of visual elements on a two-dimensional surface. Study of visual theory including color theory. Lecture and studio experience.

**7100:191 DESIGN. 2 credits.**  
Basic principles of creative design and color theory. Discussion and studio. No credit toward major or teaching field in art.

**7100:213 LITHOGRAPHY 3 credits.**  
Prerequisites, 101, 131, 144, and 231. Use of the lithographic stone and metal plate as printmaking media. Stone and plate preparation, lithographic drawing materials and techniques, paper registration, and the printing press will be covered. Emphasis on aesthetic theory, technique, and related history.

**7100:214 SERIGRAPHY. 3 credits.**  
Prerequisites, 101, 131, 144, and 231. Silk screen printmaking. Theory and use of stencil process, positive and negative block-out techniques, photo stencil, registration and printing procedures. Emphasis on aesthetic theory, technique, and related history.

**7100:215 RELIEF PRINTING. 3 credits.**  
Prerequisites, 101, 131, 144, and 231. Relief printmaking using found objects, synthetic materials, as well as traditional woodcut and linoleum engraving. Emphasis on aesthetic theory, technique, and related history.

**7100:216 INTAGLIO PRINTING. 3 credits.**  
Prerequisites, 101, 131, 144, and 231. Intaglio printmaking using drypoint engraving, aquatint, and soft-ground techniques. Emphasis on aesthetic theory, technique, and related history.

**7100:222 INTRODUCTION TO SCULPTURE. 3 credits.**  
Prerequisites, 100, and 121. An introduction to sculpture and its significance as a human endeavor. Exploration of factors influencing a sculptural statement through lecture and studio work.

**7100:231 DRAWING II. 3 credits.**  
Prerequisites, 100, and 131. Continuation of Drawing I. In-depth exploration of a wide range of techniques and media. Attention to controlled descriptive drawing and space illusion and their aesthetic applications.

**7100:232 INSTRUMENT DRAWING. 3 credits.**  
The creative uses of mechanical drawing processes for visually descriptive purposes. Proficiency in the use of mechanical drawing instruments is stressed. Both practical and theoretical drawing styles will be undertaken.

**7100:233 LIFE DRAWING. 2 credits.**  
Prerequisite, 131. A study of perceptual problems in drawing from the life model. Study of the skeletal, muscular and mechanical nature of the human figure and the application of this knowledge to the resolution of aesthetic problems.

**7100:245 POLYMER ACRYLIC PAINTING. 3 credits.**  
Prerequisites, 100, 131, and 144. A study of the technical and aesthetic problems involved in polymer acrylic painting. The student will pursue, through lecture and experimentation, the transparent and opaque uses of this water-based paint.

**7100:246 WATER COLOR PAINTING. 3 credits.**  
Prerequisites: 100, 131, and 144. A studio course in the theory and technique of water color painting. A study of traditional transparent water color methods, and experimentation with less conventional approaches to aqueous media.

**7100:247 OIL PAINTING. 3 credits.**  
Prerequisites: 100, 131, and 144. A study of the technical and aesthetic problems involved in oil painting. A painterly orientation toward the plasticity of form as mediated by color.

**7100:254 CERAMICS I. 3 credits.**  
Prerequisites: 100, 121, and 131. A studio/lecture course exploring the potentials of hand building techniques in both sculptural and functional forms. Clay processing, glaze application and practical kiln firing.

**7100:266 METALSMITHING I. 3 credits.**  
Prerequisites: 101, 121, 131, and 144. A studio experience in which the student is introduced to the properties of metals, the processes of silversmithing, and the design and production of jewelry.

**7100:268 ENAMELING ON METAL. 3 credits.**  
Prerequisite: 266. A studio course in which the student investigates the inherent aesthetic qualities of color and texture resulting when molten, colored glass is applied to metal surfaces.

**7100:275 PHOTOGRAPHY I. 3 credits.**  
Prerequisites: 100, 131, and (either 144 or 284 or 2240:245). A lecture, studio and laboratory course in which the student studies and experiences fundamental characteristics of photo-sensitive materials, the chemistry of photography, optical systems, and photographic equipment. Photography is studied as an art medium.

**7100:283 DRAWING TECHNIQUES. 3 credits.**  
Prerequisites: 131 and 232. The course includes advanced drawing and presentation techniques commonly used in graphic design. Various presentation and design problems will be encountered stressing the use of selected drawing methods and processes.

**7100:284 INTRODUCTION TO GRAPHIC DESIGN**  
3 credits

Prerequisites: 131, and 232. Studio experience in the use of tools and materials of the commercial graphic artist. Elementary design problems in commercial graphic design.

**7100:286 COMMERCIAL DESIGN THEORY** 3 credits

Prerequisite: 284. A basic course in visual problem solving emphasizing the visual movements in, and the graphic elements of, single as well as multiple images. Equal emphasis is given to existing and created images.

**7100:288 LETTER FORM AND TYPOGRAPHY**

3 credits

Prerequisite: 286. Letter symbols studied in terms of communication and aesthetic awareness. History of letter forms, hand lettering, alphabet design, contemporary type faces, and reproduction processes.

**7100:293 WEAVING I** 3 credits

Prerequisites: 100, 131, and 144. Warping, threading and manipulation of table and floor looms. Some off-the-loom techniques, yarn dyeing, and experimentation with types, weights, and colors of yarn.

**7100:300 ART SINCE 1945** 3 credits

Prerequisites: 101 or permission of the instructor. Consideration of significant developments in visual art forms since World War II in architecture, sculpture, printing, photography, metal, textile, ceramics, printmaking, and graphic design.

**7100:302 ART IN EUROPE DURING THE 17TH AND 18TH CENTURIES** 3 credits

Prerequisites: 101, or permission of the instructor. An analysis of major European examples of architecture, landscape design, painting, prints and sculpture from the beginning of the 17th century until approximately 1850.

**7100:303 RENAISSANCE ART IN ITALY** 3 credits

Prerequisites: 101, or permission of the instructor. A study of architecture, painting and sculpture of Italy during the thirteenth through the sixteenth centuries.

**7100:304 ART IN EUROPE DURING THE NINETEENTH CENTURY** 3 credits

Prerequisite: 101, or permission of the instructor. A study and analysis of the major developments in the visual arts in Europe from 1800 to 1900.

**7100:305 ART FROM 1900 TO 1945** 3 credits

Prerequisite: 101, or permission of the instructor. A study of the significant developments in the visual arts from approximately 1900 to 1945.

**7100:317 PRINTMAKING II** 3 credits

Prerequisites: 233, 275, and (either 213 or 214 or 215 or 216 in the appropriate process). A continuation of studio work in printmaking with concentration in one process designated by letter as follows: A. Lithography, B. Serigraphy, C. Relief, D. Intaglio. May be repeated for a total of 12 credits when a different process is indicated.

**7100:322 SCULPTURE: MOLDING AND CASTING**

3 credits

Prerequisites: 101, 131, 144, and 222. Examination of the relationship of materials and tools to aesthetic decisions. To include studio work with modeling/molding and metal casting. May include other techniques.

**7100:323 SCULPTURE: FABRICATION** 3 credits

Prerequisites: 101, 131, 144, and 222. Examination of the relationship of materials and tools to aesthetic decisions. To include studio work with wood and metal fabrication. May include other techniques.

**7100:331 DRAWING III** 3 credits

Prerequisites: 101, 144, 231, and 233. Drawing III continues the concerns of visual organization and technical proficiency with materials begun in Drawing I and II, but places more emphasis upon the use of imagination and development of ideas in drawing.

**7100:333 ADVANCED LIFE DRAWING** 2 credits

Prerequisites: 231, and 233. Studio course in drawing from the human figure. Individual interpretation of the human figure, using numerous media and drawing techniques. Emphasis upon aesthetic structure and the formal realization of personal intention. May be repeated for a total of 6 credits.

**7100:348 PAINTING II** 3 credits

Prerequisites: 101, and (either 245 or 246 or 247 in the appropriate medium). A continuation of painting with concentration in one medium designated by letter as follows: A. Polymer Acrylic, B. Water Color, C. Oil. Course may be repeated for a total of 9 credits, but limited to a maximum of 3 credits in a given medium.

**7100:354 CERAMICS II** 3 credits

Prerequisites: 101, 144, and 254. Wheel throwing of both functional and sculptural form. Experiments in glaze chemistry and firing experience with both gas and electric kilns. Emphasis on technique, studio procedures, and critical evaluation of each student's progress.

**7100:366 METALSMITHING II** 3 credits

Prerequisites: 232, and 266. A continuation of experiences presented in the introductory course with a further development of skills and expansion of technical knowledge. May be repeated for a total of 6 credits.

**7100:368 ADVANCED ENAMELING** 3 credits

Prerequisite: 268. Continuation of enameling on metal. Development of personal aesthetic values. Advanced techniques with metal foils, champleve, cloisonne, limoge, and grisaille processes. May be repeated for a total of 9 credits.

**7100:375 PHOTOGRAPHY II** 3 credits

Prerequisites: 101, 231, and 275. Projects utilizing photographic media and tools are designed to expand the student's awareness of visual qualities and order, both in the subject and in the photographic image. Student most own or have use of a camera with controllable shutter, lens diaphragm, focus, and exposure meter.

**7100:376 PHOTOGRAPHICS** 3 credits

Prerequisites: 121, and 375. Photographic media and equipment are used experimentally to produce line conversions, high contrast images, tone separations, shadow reversals and other photo-abstractions.

**7100:387 ADVERTISING LAYOUT DESIGN** 3 credits

Prerequisites: 275 and 288. Creative exploration of problems in visual merchandising. Projects offer exercises in developing design skills from concept through final comprehensive presentation.

**7100:388 ADVERTISING PRODUCTION AND DESIGN**  
3 credits

Prerequisites: 387, and (either 2240:222 or 7100:376). Continuation from Advertising Layout Design. More complex projects with emphasis given to mechanical preparation of finished art for various printing processes.

**7100:389 CORPORATE IDENTITY AND GRAPHIC SYSTEMS** 3 credits

Prerequisite: 388. Advanced level projects in corporate identity and graphic systems analysis and design. Problem solving for these specific areas of graphic design within mechanical limitations of art reproduction.

**7100:393 WEAVING II 3 credits**

Prerequisites: 101, 121, 231, and 293. Continuation of Weaving I. Advanced off-the-loom and loom techniques. Spinning. Emphasis on creative and experimental approaches. May be repeated for a total of 9 credits.

**7100:400/500 ART IN THE UNITED STATES BEFORE WORLD WAR II 3 credits**

Prerequisite: 101 or permission of the instructor. Consideration of the development of art in the United States from earliest evidences to approximately World War II.

**7100:401 SPECIAL TOPICS IN HISTORY OF ART**

1 to 3 credits

Prerequisites: 100, and 101, or permission of the instructor. A lecture course in which the subject is specified each time the course is offered. Course focuses upon an art movement, time period, the production of a single artist, or a specific art medium. May be repeated for credit when a different subject or level of investigation is indicated.

**7100:405/505 HISTORY OF ART SEMINAR 1-3 credits**

Prerequisite: Fifteen hours in Art History or permission of the instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an artistic problem. May be repeated for credit when a different subject is indicated.

**7100:418 ADVANCED PRINTMAKING 3 credits**

Prerequisites: 121, (either 245 or 246 or 247), 317 in the appropriate process, and 375. Lectures, demonstrations, and experiments with more sophisticated printmaking techniques and applications. Concentration in one process designated by letter as follows: A. Lithography, B. Serigraphy, C. Relief, D. Intaglio. May be repeated for a total of 12 credits.

**7100:421 THREE DIMENSIONAL DESIGN**

APPLICATIONS 3 credits

Prerequisites: 121, 232, advanced standing in art, or permission of the instructor. Application of creative designing principles to problems of utilitarian function in human designed and produced items. May include product design/prototype development, furniture design and construction, display design, etc.

**7100:422 ADVANCED SCULPTURE 3 credits**

Development of individual points of view and sculptural statements. May be repeated for a total of 9 credits.

**7100:431 DRAWING IV 3 credits**

Prerequisites: 121, 232, and 331. An in-depth study of drawing for the advanced art student. Emphasis upon interpretive and inventive drawing using the widest possible range of media and techniques. May be repeated for a total of 9 credits.

**7100:449 ADVANCED PAINTING 3 credits**

Prerequisites: 121, 231, 233, and 348 in the appropriate medium. An advanced level painting course. An opportunity to explore polymer acrylic, or oil, or water color painting techniques, and experiment with the aesthetics of color, form, and style. Concentration in one medium designated by letter as follows: A. Polymer Acrylic, B. Water Color, C. Oil. May be repeated for a total of 9 credits.

**7100:454 ADVANCED CERAMICS 3 credits**

Prerequisites: 231, and 354. Emphasis is on refinement of technique toward personal aesthetic statement in preparation for professional or private studio production. Student may choose a general survey of subject matter or a more concentrated area of study. May be repeated for a total of 15 credits.

**7100:455 FIBER, CLAY AND METAL SEMINAR**

2 credits

Prerequisite: Permission of the instructor. An open format seminar designed to explore ideas in clay, fiber, and metal art through reading, discussion and production.

**7100:466 ADVANCED METALSMITHING 3 credits**

prerequisites: 283, and 366. Investigation in-depth of aesthetic and technical problems of metalsmithing. Student works on individual projects under guidance from instructor. May be repeated for a total of 12 credits.

**7100:475 ADVANCED PHOTOGRAPHY 3 credits**

Prerequisites: 233, 376, and 365:137. Photographic media, light, and photographic equipment are manipulated experimentally to produce creative graphic images. Student works under guidance of instructor on advanced individual projects. Course may be repeated for a total of 12 credits.

**7100:480 ADVANCED GRAPHIC DESIGN 3 credits**

Prerequisites: 388, or permission of the instructor. Student works on advanced level individual projects under supervision of instructor. May be repeated for a total of 9 credits.

**7100:484 ILLUSTRATION 3 credits**

Prerequisites: 283 or permission of the instructor. The application of painting and drawing skills and aesthetic sensitivity to specific commercial illustration and editorial art assignments.

**7100:485 ADVANCED ILLUSTRATION 3 credits**

Prerequisite: 484, or permission of the instructor. Advanced projects are designed to tune the student's personal aesthetic to communicative imagery. A more individual approach to design. Drawing and painting are emphasized as is experimentation with multimedia. May be repeated for a total of 9 credits.

**7100:486 PACKAGING DESIGN 3 credits**

Prerequisite: 387, or permission of the instructor. Synthesis of two and three dimensional visual thinking. Research in materials applicable to packaging of various products. Assignment of projects stressing the development of conventional and experimental package design.

**7100:488 PUBLICATION DESIGN 3 credits**

Prerequisite: 389. Advanced research and design of promotional brochures, annual reports, and other multi-paged communicational print. Emphasis on total design from concept to camera ready art. The student's individual approach to communicative graphics is stressed. Portfolio development.

**7100:489 SPECIAL TOPICS IN STUDIO ART 3 credits**

Prerequisite: Advanced standing, or permission of the instructor. Group investigation of a particular phase of art which is not offered by other courses in the curriculum. May be repeated for credit when a different subject or level of investigation is indicated.

**7100:490/590 WORKSHOP IN ART 1-4 credits**

Prerequisite: Advanced standing in Art or permission of instructor. Group investigation of a particular phase of art which is not offered by other courses in the curriculum. May be repeated for credit when a different subject or level of investigation is indicated (490 to maximum of 8 credits, or 590 to maximum of 12 credits).

**7100:497 STUDIO PROBLEMS 3 credits**

Prerequisite for art majors, advanced standing in area chosen, and permission of the instructor. Prerequisite for non-art majors, permission of the instructor. Investigation in depth of aesthetic and technical problems within a studio-selected area of specialization. Student

must present in writing a proposed study plan and time schedule for instructor approval. Course may be repeated for credit.

**7100:498/598 SPECIAL PROBLEMS IN HISTORY OF ART 1-3 credits**

Prerequisite: Twenty hours in Art History and permission of instructor and Department Head. Individual research in art history centered around a limited topic, such as a specific time period, the history of specific techniques, a single artist, or a movement in art history. No more than 10 credits will be counted toward major. May be repeated for credit when a different subject or level of investigation is indicated.

**7100:499 HONORS IN ART 3 credits**

To be used for research in the honors program established by the student and his advisor(s). May be repeated for a total of 9 credits.

**7400: HOME ECONOMICS AND FAMILY ECOLOGY**

**7400:121 TEXTILES 3 credits**

Basic study of natural and man-made fibers. Emphasis upon physical properties, selection and care. Attention given to design and manufacture of textiles. Lecture.

**7400:123 CLOTHING CONSTRUCTION 3 credits**

Basic theory and methods of garment construction including experience with pattern alterations, diverse fabrics, and special construction techniques. 2 hrs. Lecture, 2 hrs. Lab.

**7400:132 EARLY CHILDHOOD NUTRITION 2 credits**

Emphasis on nutrition as a component of Early Childhood programs. Nutrition principles are discussed in relation to self and young children. Prenatal and infant nutrition is studied. Food as a learning experience, menu planning, purchasing, sanitation, food labeling, storage and parent involvement are included. For Family and Child and Child Development Option, Educational Technology students.

**7400:133 NUTRITION FUNDAMENTALS 3 credits**

Study of fundamental concepts of nutrition. Nutrients, their sources, metabolism, physiology and interrelationships are emphasized. Requirements at different stages of growth and development are considered.

**7400:141 FOOD FOR THE FAMILY 3 credits**

Application of nutrition to meal planning; problems in selecting, budgeting and preparing food; table etiquette, meal service. 3 two-hour Labs.

**7400:147 HOME ECONOMICS SURVEY 1 credit**

Survey of history and development of home economics with emphasis on professional and career opportunities.

**7400:158 HOUSE FURNISHINGS 2 credits**

An introduction to home furnishings involving topics such as furniture styles, utilization of space, color, lighting, wallcoverings, window treatments, floor coverings, furniture arrangement/selection and accessorizing. Lecture-Lab.

**7400:159 FAMILY HOUSING 3 credits**

A study of housing alternatives related to stages in the family life cycle. Also an overview of the physical aspects of the house: construction financing, insulation, heating/cooling systems, wiring, and kitchen design. Lecture-Lab.

**7400:201 RELATIONAL PATTERNS IN MARRIAGE AND FAMILY 3 credits**

Study of familial interaction in various lifestyles with emphasis on self concept, changing roles, developmen-

tal tasks, family life cycles and socio-economic and cultural influence upon the individual and family.

**7400:204 SURVEY OF APPLIED HOME ECONOMICS IN THE COMMUNITY 1 credit**

Directed study and observation of ongoing community and business programs related to home economics and family ecology. Two hours once a week plus class sessions.

**7400:218 FAMILY HEALTH AND HOME NURSING 2 credits**

Overview of strategies for the generation of positive physical, mental and emotional health across the individual and family life cycles. Emphasis upon preventative strategies as well as home care procedures.

**7400:245 BASIC NUTRITION AND FOODS 5 credits**

Basic study of the composition of common foods, their places in the diet. Principles involved in selection, purchase and preparation of food. Emphasis on retention of food nutrients in the preparation and preservation of foods.

**7400:255 FATHERHOOD: THE PARENT ROLE 2 credits**

An overview of the development of stereo typed behavior as it affects the father role and his interactive relationship with other family members. Directives for family life education, research, theory and social policy.

**7400:265 CHILD DEVELOPMENT 3 credits**

Physical, social, mental and emotional development of the child from prenatal through five. Observation of children in child care and preschool centers.

**7400:275 PLAY AND CREATIVE EXPRESSION ACTIVITIES 4 credits**

Importance of play in the child's social, emotional, intellectual and physical growth. Encouragement of creativity in adults and children thru planned experiences that provide for individual expression.

**7400:290 ADMINISTRATION OF CHILD CARE CENTERS 3 credits**

Study of principles, concepts, and procedures involved in working with children in preschool programs. Curriculum innovation and implementation, parent involvement, observation and recording of children's progress.

**7400:301 CONSUMER EDUCATION 3 credits**

Study of consumer needs, concerns and problems as related to the individual consumer, to consumers in the market economy and to the complex society in which families function.

**7400:305 ADVANCED CONSTRUCTION AND TAILORING 3 credits**

Prerequisite: 121, 123. Advanced theory and principles in the construction of a couture garment. The construction of a coat or suit jacket utilizing custom tailoring techniques. 2 hrs. Lecture, 4 hrs. Lab.

**7400:311 CONTEMPORARY NEEDLE ARTS 3 credits**

Prerequisite: 123 or permission of instructor. Emphasizes the use of appropriate textiles, yarns and needles in the creation of various items for purposes of enhancing leisure time or as earning skills. Lec/Lab.

**7400:314 INTRODUCTION TO FOOD SYSTEMS MANAGEMENT 4 credits**

CUP students only. Introductory course in food systems management with coordinated experiences to identify initial concepts.

**7400:316 NORMAL NUTRITION 5 credits**

Prerequisites: 245, 3100:191, 3150:130. Composition, metabolism and physiological functions of food nutri-

ents; requirements and interrelating factors affecting nutritional intake throughout the life cycle; interpretation of research findings.

**7400:317 HISTORIC COSTUME 3 credits.**

Chronological study of costume from ancient to modern times as a source of inspiration for contemporary dress and the theater with consideration of cultural forces that affected the development. Lecture.

**7400:328 INTRODUCTION TO NUTRITION IN MEDICAL SCIENCE 5 credits**

Prerequisite: 316. CUP students only. Implementation of therapeutic health care concepts. The study of nutritional implications of pathological conditions and the construction of diets for specific disorders: Cardiovascular, Gastro intestinal and Endocrine.

**7400:340 MEAL SERVICE 2 credits**

Prerequisites: 245, 316, (or 133, 141). Management of resources in relation to marketing, meal preparation and service appropriate forms of service for various types of meals. Preparation of foods from various parts of the world.

**7400:362 HOME MANAGEMENT THEORY 3 credits**

Introduction to management theories, processes and principles as applied to the utilization of human and material resources in the promotion of individual and family well-being.

**7400:381 PROMOTIONAL TECHNIQUES: DIETETICS 4 credits**

Prerequisite: 316. Techniques for effective oral and written communication of nutrition information to individuals and groups to meet behavioral objectives; evaluation of literature on nutrition; experiences in community facilities providing nutritional services.

**7400:395 COMMUNITY INVOLVEMENT IN HOME ECONOMICS 1-3 credits**

Development of managerial expertise through experience with the families. Selected participation sites in business and industry, hospitals, community agencies and with individual families with special managerial problems.

**7400:401/501. FAMILY LIFE PATTERNS IN THE ECONOMICALLY DEPRIVED HOME. 2 credits.**

Study of family life orientation and life style patterns among the economically deprived with an emphasis on the impact of socio-economic and psychological deprivation on family members throughout the family life span.

**7400:412 INSTITUTIONAL MANAGEMENT 3 credits.**

Principles of organization and management in the administration of food service systems; problems in the control of labor, time and cost. Limited field experience in food production.

**7400:414 FOOD SYSTEM MANAGEMENT 10 credits.**

Prerequisite: 314; CUP students only. Coordination of clinical experiences with advanced concepts in the management of dietetic service systems relating to the achievement of nutritional care goals; preparation for entry-level staff positions.

**7400:415 HOUSEHOLD EQUIPMENT 2 credits.**

Selection, use and care of modern household equipment. Survey of commercial equipment used in home economics related professions.

**7400:416 QUANTITY FOOD PREPARATION 4 credits.**

Prerequisites: 246, 340 (or 2280:123, 136, 230; 3100:207). Scientific principles and methods of preparation for different types of service of food in quality. Use and care of equipment.

**7400:419 CLOTHING COMMUNICATION 3 credits.**

Study of cultural, social, psychological and economic aspects of clothing. Emphasis on expression and use of clothing in relation to self, society and culture. Lec/Disc.

**7400:420 EXPERIMENTAL FOODS 3 credits.**

Prerequisites: 245, 3100:207, 3150:130. A scientific approach to the study of foods under controlled conditions. Group and individual research.

**7400:421 SPECIAL PROBLEMS IN HOME ECONOMICS 1-3 credits.**

Additional study or apprentice experience in a specialized field or preparation; group and individual experimentation.

**7400:422 ADVANCED HOME MANAGEMENT 3 credits.**

Theoretical and practical experiences are utilized in the study of management processes and principles as applied to families. Management of human and material resources and decision-making processes are emphasized.

**7400:426 THERAPEUTIC NUTRITION 4 credits.**

Application of principles of normal nutrition to diet in to meet nutritional needs. Practice in writing therapeutic diets and interviewing hospitalized patients.

**7400:428 NUTRITION IN MEDICAL SCIENCE 10 credits.**

Prerequisite: 328; CUP students only. Overview of major areas of diet therapy not covered previously. Coordinates clinical experience and delivery of therapeutic nutritional services in participating agencies.

**7400:430 COMPUTER ASSISTED FOOD SERVICE MANAGEMENT 3 credits.**

Use of computer programs in the application of management concepts for food service systems.

**7400:439 FASHION 3 credits**

Prerequisite: Junior standing or permission of the instructor. Overview of the fashion industry including growth, promotion and impact of cultural influences. Review of international and American fashion scene. Lec/Disc.

**7400:449 DESIGN AND DRAPING 3 credits**

Prerequisite: 305. Theory and experience in clothing design utilizing flat pattern and draping techniques. 2 hrs. Lec., 4 hrs. Lab.

**7400:450 DEMONSTRATION TECHNIQUES 2 credits**

Majors only. Provides practical experience in the organization and presentation of demonstrations. Emphasis on competencies in the coordination of materials, motion and speech in the presentation.

**7400:460/560 ORGANIZATION AND SUPERVISION OF CHILD CARE CENTERS 2 credits**

Prerequisite: permission of instructor. Theory and principles involved in establishing and operating centers for infants and young children.

**7400:480-481 COMMUNITY NUTRITION I, II 4 credits each**

Prerequisites: 381 and 380; CUP students only. Major food and nutrition related problems in the community. Emphasis on policies, legislation, program evaluation and rationales for nutrition services. Field experiences.

**7400:485/585 SEMINAR IN HOME ECONOMICS 1-3 credits**

Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas of Home Economics and Family Ecology.

**7400:490/590 WORKSHOP IN HOME ECONOMICS AND FAMILY ECOLOGY 1-3 credits**

Prerequisite: at least Junior standing. An investigation on a current issue or topic in selected areas of Home Economics and Family Ecology.

**GRADUATE COURSES****7400:601 FAMILY IN TRANSITION 2 credits**

Overview of the family in historical perspective. Effects of social change upon the family and emerging relational patterns. Review of theory, research and educational strategies.

**7400:602 FAMILY IN LIFESPAN PERSPECTIVE**

2 credits  
Study of individual and family development across the lifespan. Emphasis upon the management of available resources, adjustment patterns and inter personal competence. Implications for education, theory, research and social policy.

**7400:605 FAMILY: MIDDLE AND LATER YEARS**

2 credits  
Study of family patterns and problems during the middle and later years of life with emphasis on psychological and biological changes and economic and social adequacy. Research and trends in gerontology.

**7400:616 INFANT AND CHILD NUTRITION 2 credits**

Prerequisites: 265 and 133 or 316. Study emphasizes current research trends in physiology of the infant and young child in relation to nutritional requirements and feeding practices.

**7400:651 FAMILY LAW 2 credits**

Study of laws which control and protect individuals within the family unit. Emphasis on current trends and legal rulings. Course taught by an attorney.

**7400:660 PROGRAMMING FOR CHILD CARE CENTERS 2 credits**

Principles and procedures involved in program development for child care centers. Examination of current programs available for preschool children. Implications, literary analysis, application and evaluation are stressed.

**7400:665 DEVELOPMENT IN INFANCY 2 credits**

Prerequisite: 265 or permission. Analysis of research and theoretical frameworks regarding infant development from conception through age four. Implications for guidance and education.

**7400:695 INTERNSHIP IN FAMILY AND CHILD DEVELOPMENT 5 credits**

Prerequisite: Permission of advisor. Community-based experience designed to supplement classroom studies. Students work with agency personnel and clientele in programs designed to meet the needs of children and/or families.

**7400:697 INDIVIDUAL INVESTIGATION IN FAMILY DEVELOPMENT 1-3 credits**

Prerequisite: Permission of graduate adviser only. Individual pursuit and analysis in a specific area of student's interest and design under direction of a faculty adviser.

**7400:698 INDIVIDUAL INVESTIGATION OF CHILD DEVELOPMENT 1-3 credits**

Prerequisite: Permission of graduate adviser only. Individual pursuit and analysis in a specific area of student's interest and design under direction of a faculty adviser.

**7400:699 THESIS 5 credits**

Prerequisite: Permission of advisor. Preparation of a

thesis pertaining to a selected research project in the area of family or child development.

**7500: MUSIC****7500:101 INTRODUCTION TO MUSIC THEORY**

2 credits  
Credit not applicable toward degree for music majors. Course designed to correct deficiencies in background. Includes notation, scales, meter and key signatures, intervals, chord formation and symbols, performance terms and symbols.

**7500:104 CLASS PIANO I 2 credits**

Prerequisites: 101 or permission of the instructor. Designed for students with no previous keyboard experience to learn rudimentary keyboard skills such as playing scales, chords, arpeggios and melodic patterns as well as simple music.

**7500:105 CLASS PIANO II 2 credits**

Prerequisites: 104 or permission of the instructor. A continuation of the work begun in Class Piano I.

**7500:107 CLASS VOICE I 2 credits**

Prerequisites: 101 or permission of instructor. Minimum memorization and solo singing requirement — seven songs. Voice literature emphasis — folk songs, ballads, spirituals, sacred songs and easy art songs in English.

**7500:108 CLASS VOICE II 2 credits**

Prerequisites: 107. Minimum memorization and solo singing requirement — eight songs. Vocal literature emphasis — old Italian and English songs, art songs in English or foreign language if the student is conversant with the language.

**7500:151-152 THEORY I, II 3 credits each**

Prerequisites: 101 or permission of the instructor. Sequential. Study and creative use of the elements of music; investigation of the music of major composers of the classic and romantic eras; introduction to earlier musical practices and contemporary music.

**7500:154-155 MUSIC LITERATURE I, II 2 credits each**

Sequential. Familiarization with large body of musical material from all branches of music writing; the vocal, instrumental, symphonic, and choral music literature. Special attention given to style, form, and structural procedures of principal composers.

**7500:157 STUDENT RECITAL 0 credits**

Required each quarter of all music majors. A forum for students and faculty members providing lectures, recitals and the opportunity for practice of various skills necessary for successful music performance.

**7500:161-162 SIGHT-SINGING AND EAR TRAINING I, II 2 credits each**

Prerequisites: 101 or permission of the instructor. Vocal mastery of major and minor scales, all intervals convenient to the vocal range, broken chords, problems of rhythm, meter, tempo dynamics, modulation, and part singing.

**7500:201 FUNDAMENTALS OF MUSIC 2 credits**

Introduction to the fundamentals of music, including basic notation, elementary music reading, ear-training, sight-singing, creativity, and functional piano (for non-music majors).

**7500:251-252 THEORY III, IV 3 credits each**

Prerequisite: 152. Sequential. Renaissance vocal counterpoint; Baroque instrumental counterpoint; Form and analysis of music of all eras.

**7500:254-255 STRING INSTRUMENT TECHNIQUES I, II 2 credits each**

Sequential. Learning the fundamentals of technique, tone production, methods, and materials pertaining to the violin, viola, cello, and string bass; culminating in heterogeneous string ensemble activities.

**7500:261-262 KEYBOARD HARMONY I, II 2 credits each**

Prerequisites: 105 or equivalency and 152. Sequential. The essentials of basic theory and harmony practically applied at the keyboard, accompaniment, improvisation, transposition, modulation and sight reading.

**7500:263 SERVICE PLAYING FOR ORGANISTS 2 credits**

Prerequisite: 152 and 261. A practical course in the basic keyboard skills needed by an organist to play for religious services in various denominations — hymn playing, anthem accompaniment, and simple improvisation.

**7500:301 MUSIC APPRECIATION: MUSIC BEFORE 1800 2 credits****7500:302 MUSIC APPRECIATION: 19TH AND 20TH CENTURIES 2 credits**

301 and 302 are designed as electives for the general student (the non-music major) to provide an introductory survey of the art of music.

**7500:305 MARCHING BAND ORGANIZATION AND TECHNIQUE 1 credit**

Prerequisites: 104 or permission of instructor. All aspects of the band on the field are discussed. Learn to write a complete half-time show, administer a marching band program, etc.

**7500:306 MARCHING BAND ARRANGING 2 credits**

Prerequisites: 104, 153 or permission of instructor. Learn to arrange music for the marching band including style, sound projection, etc. Will include discussion of scoring for concert band as it relates to the marching band.

**7500:307 TECHNIQUES OF STAGE BAND PERFORMANCE AND DIRECTION 2 credits**

Prerequisite: Permission of instructor. Provides for basic experiences relating to conducting, rehearsal techniques, improvisation, performance, repertoire, and other matters pertaining to the organization and direction of stage bands.

**7500:340 GENERAL MUSIC 3 credits**

(Repeatable to 6 credits). Prerequisites: Upper college standing; 200's level of performance in applied major; 155, 162, 262. Introductory and developmental sequence of studies related to skills, techniques and materials appropriate to nonpublic performance music classes in grades K-12. Clinical and field-based experiences; Competency evaluation for all students. (Three hours credit required for all students; 3 additional hours credit required for Voice/Keyboard Majors, elected by all others.)

**7500:342 WIND-PERCUSSION INSTRUMENT TECHNIQUES 3 credits**

(Repeatable to 6 credits.) Prerequisites: Upper college standing; 200's level of performance in applied major; 155, 252, 262. Basic techniques in teaching woodwind, brass and percussion instruments. Development of knowledges and skills on band instruments applied to ensemble, large group and individualized instruction. Clinical and field-based experiences; competency evaluation for all students. (Three hours credit required for all students; 3 additional hours credit required for Instrumental (keyboard) majors, elected by others.)

**7500:351-352 MUSIC HISTORY I, II 3 credits each**

Prerequisites: 152 and 155. Sequential. Development of

music from ancient to modern times; scores, recordings and live performance as illustrative material.

**7500:356 MUSIC IN THE TEACHING OF RETARDED AND HANDICAPPED PEOPLE 2 credits**

Prerequisite: Permission of instructor. A study of the application of music to the needs of the special person in the public/private school, clinical settings.

**7500:358 FUNCTIONAL CLASS GUITAR 2 credits**

Prerequisite: Knowledge of music rudiments and permission of instructor. To provide the student in music education with the basic rudiments of guitar playing as it relates to use in music classrooms.

**7500:360 CHORAL TECHNIQUES 2 credits**

Prerequisites: 152 and 361. Techniques employed in choral conducting; securing attacks, releases, dynamic and tempo changes, voice classification; methods of securing correct intonation; analysis of choral literature; developing and maintaining a choral organization.

**7500:361 CONDUCTING 2 credits**

Prerequisite: 152. Technique and practice in conducting, including beat patterns, fermatas, tempo change, attacks and releases, score reading through the use of small and large ensembles.

**7500:362 CHORAL ARRANGING 2 credits**

Prerequisites: 252, 352, or permission of instructor. Designed to provide the student with an understanding of the principles of choral arranging and composition in all idioms and styles.

**7500:371 ANALYTICAL TECHNIQUES I 2 credits**

Prerequisite: 252. Techniques for the analysis of musical scores from all eras of western music history, with major emphasis placed upon works of the Baroque, Classical and Romantic periods.

**7500:372 ANALYTICAL TECHNIQUES II 2 credits**

Prerequisites: 371. A continuation of 371. Required of majors in composition.

**7500:451/551 INTRODUCTION TO MUSICOLOGY 2 credits**

Prerequisites: 352. Comparative musicology; acoustics; psychology and physiology of music; aesthetics; theory of music theory; historical musicology.

**7500:452 COMPOSITION 2 credits**

Prerequisites: 252. Study and creative use of the major styles and idioms of musical composition of the 20th century.

**7500:453/553 BIBLIOGRAPHY AND RESEARCH 2 credits**

Prerequisites: 352. Examination of all types of published musical materials and publications related to music; methods of research; field trips to specialized collections; writing of research papers in areas of interest.

**7500:454 ORCHESTRATION 2 credits**

Prerequisites: 252, 255, 354 and 355. Theory of instrumentation ranging from small ensembles to full band and orchestras.

**7500:455/555 ADVANCED CONDUCTING 2 credits**

Prerequisites: 361 and 454. Baton technique and problems relating to the practice, reading and preparation of scores; organization of orchestra and band, problems in programming and practice conducting larger instrumental ensembles.

**7500:460/560 REPERTOIRE AND PEDAGOGY: VOICE 3 credits**

Prerequisites: Permission of Instructor. A study in depth of subjects dealing with the teaching of voice; the physiology of the vocal instrument, principles governing vocal production and their application to vocal pedagogy.

**7500:461/561 REPERTOIRE AND PEDAGOGY: PIANO AND HARPSICHORD 3 credits**

Prerequisites: Permission of the instructor. Designed for the future keyboard teacher; a study of the standard teaching repertoire and practical teaching methods: some supervised teaching of children and/or adults.

**7500:462/562 REPERTOIRE AND PEDAGOGY: ORGAN 3 credits**

Prerequisite: Permission of Instructor. A survey of organ literature of all eras and styles, and of methods of teaching organ, applying the principles to the literature.

**7500:464/564 REPERTOIRE AND PEDAGOGY: WIND AND PERCUSSION INSTRUMENTS 3 credits**

Prerequisite: Permission of Instructor. A survey of wind and percussion instrument literature with representative works from the total repertory for each instrument. Principles and methods of teaching and performance.

**7500:471 COUNTERPOINT 2 credits**

Prerequisite: Permission of Instructor. Designed to give the student of theory-composition the necessary knowledge and skills for understanding the contrapuntal practices and procedures of the 20th century.

**7500:472 ADVANCED ORCHESTRATION 2 credits**

Prerequisite: 454. The study of techniques of orchestral style as found in major works from the classical orchestra of Haydn and Mozart through the modern orchestra of Stravinsky, Bartok, Berg, and Schoenberg.

**7500:490/590 WORKSHOP IN MUSIC 1-3 credits**

Prerequisite: Permission of Instructor. Investigation of topics in Music Education, Theory, Composition, History, or Church Music not offered in regular curriculum. Graduate students must fulfill additional requirements.

**7500:497 INDEPENDENT STUDY IN MUSIC 1-2 credits**

Prerequisites: Senior standing and permission of the head of the department. (May be repeated to a total of four credits.) Music majors only. Independent study under the supervision of specially selected faculty members in a subject area bearing on the student's own goals.

## GRADUATE COURSES

**7500:601 CHORAL LITERATURE 2 credits**

Prerequisite: Permission of instructor. A study in depth of the style, structure, technical demands, manner of setting the text, and special performance problems found in masterworks by the great choral composers of nine centuries.

**7500:604 DEVELOPMENT OF OPERA 2 credits**

Prerequisite: Permission of instructor. A course dealing with the growth and development of opera from 1600 to the present. Included will be a detailed examination of stylistic and structural changes as well as performance practices.

**7500:605 SEMINAR IN MUSIC OF THE MIDDLE AGES AND RENAISSANCE 2 credits**

Prerequisite: Permission of instructor. Historical and

stylistic analysis of all aspects of the music of the Middle Ages and Renaissance. Research and writing in areas of special interest.

**7500:606 SEMINAR IN MUSIC OF THE 17TH AND 18TH CENTURIES 2 credits**

Prerequisite: Permission of instructor. Historical and stylistic analysis of baroque and classic music; study in depth of special examples, from recordings and scores, continuation and synthesis of approaches normal to study of music history and music theory.

**7500:607 SEMINAR IN MUSIC OF THE 19TH AND 20TH CENTURIES 2 credits**

Prerequisite: Permission of instructor. Historical and stylistic analysis of the music of the 19th and 20th centuries; study in depth of specific examples, from recordings, scores, selected readings, and project papers.

**7500:608 SEMINAR IN MUSIC OF THE WESTERN HEMISPHERE 2 credits**

Prerequisite: Permission of instructor. Designed to develop understanding of the peoples and cultures of the Western Hemisphere through study of the music of each major area. Research and writing in areas of special interest.

**7500:609 TECHNIQUES OF 20TH CENTURY COMPOSITION 3 credits**

Prerequisites: Permission of Instructor. Study of the principal styles of 20th century music by means of background reading of the foremost composers and their compositions, and analysis of the musical procedures and techniques involved.

**7500:611 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION 3 credits**

Prerequisites: Permission of Instructor. A study of the basic philosophical, historical, sociological and psychological concepts around which public school music programs function.

**7500:612 PRACTICES AND TRENDS IN MUSIC EDUCATION 3 credits**

Prerequisites: Permission of Instructor. An in depth exploration of innovative practices and trends in music education. Findings of research and practice are related to prevailing situations in public/private school programs.

**7500:614 MEASUREMENT AND EVALUATION IN MUSIC 2 credits**

Prerequisites: Permission of Instructor. A study and application of the principles of music aptitude, music achievement, and content evaluation. Elementary statistics for music test interpretation and construction are explored.

**7500:617 MASTER'S CHAMBER RECITAL 1 credit**

Prerequisites: Permission of Instructor. The Composition student will present a recital of chamber music compositions (at least one-half hour in length) written while in residence at The University of Akron. The student will actively organize and coordinate the recital and will also participate either as performer or conductor.

**7500:697 ADVANCED PROBLEMS IN MUSIC 1-3 Credits**

Prerequisites: Permission of Graduate Advisor. (May be repeated for 8 credits.) Studies or research projects related to problems in music.

**7500:699 MASTER'S THESIS/RECITAL 2 credits**

Prerequisites: Completion of at least two quarters of graduate work and permission of student's graduate advisor. Thesis or recital credit is taken as appropriate to each student's major option.

## 7510: MUSICAL ORGANIZATIONS

No fee is charged for enrollment of qualified students in music organizations. Enrollment may be repeated each semester for credit as indicated.

### 7510:101 UNIVERSITY SINGERS 1 credit

Mixed chorus. Membership by audition. Open to any qualified University student. Previous choral experience and knowledge of music reading essential. Campus, regional and tour performances. Also annual concerts with Akron Symphony Orchestra and Chorus.

### 7510:102 UNIVERSITY EVENING CHORUS 1 credit

Membership by audition. Prospective members are advised to contact Music Department two weeks prior to beginning of term. Music reading skills and previous choral experience required. Performs with Akron Symphony Orchestra.

### 7510:103 UNIVERSITY SYMPHONY ORCHESTRA

1 credit

An organization devoted to the study of orchestral literature, presents three full-length programs as well as appearing for special University functions. Membership through auditions.

### 7510:104 UNIVERSITY BAND 1 credit

Includes the Marching Band (fall semester only, 20 percent tuition reduction), Symphony Band, Concert Band, Varsity Band. Membership open to all University students through audition with the Director of Bands.

### 7510:105 CHORAL ENSEMBLE 1 credit

Membership by audition. Study and performance of literature for chamber vocal ensemble from all periods of music history. Frequent public concerts. Designed for personnel with good music reading ability and previous choral experience.

### 7510:106 BRASS ENSEMBLE 1 credit

Membership by audition. Must be a member of the University Band or Orchestra. Study and performance of literature for brass ensemble from all periods of music history. Frequent public concerts. For advanced brass players.

### 7510:107 STRING ENSEMBLE 1 credit

Membership by audition. In depth study in the performing of chamber music literature with special emphasis on the string quartet and piano trio.

### 7510:108 OPERA WORKSHOP 1 credit

Membership by audition. Musical and dramatic group study of excerpts from the operatic repertoire. Includes an annual production of a standard opera and/or contemporary chamber work with staging, costumes, and scenery.

### 7510:109 PERCUSSION ENSEMBLE 1 credit

Membership by audition. Must be a member of the University Band or Orchestra. Study and performance of literature for various percussion groups. Develop skill in ensemble performance.

### 7510:110 WOODWIND ENSEMBLE 1 credit

Membership by audition. Must be a member of a major organization. Study and performance of woodwind literature for various woodwind ensembles from all periods. To develop performance skills and knowledge of woodwind literature.

### 7510:111 CHAMBER ORCHESTRA 1 credit

Membership by audition. An organization designed to study for performance the substantial repertoire for small orchestra. Open to students of advanced ability.

### 7510:112 MEN'S GLEE CLUB 1 credit

Prerequisite: Permission of instructor. Designed to perform a variety of music written for male voices in ensemble.

### 7510:113 WOMEN'S GLEE CLUB 1 credit

Prerequisite: Permission of instructor. Designed to perform a variety of music written for female voices in ensemble.

### 7510:114 KEYBOARD ENSEMBLE 1 credit

Involves three hours a week of accompanying. Keyboard majors are required to enroll for at least three years. Music education majors may substitute another musical organization for one year.

### 7510:115 JAZZ ENSEMBLE 1 credit

Membership by audition. This ensemble provides experience in jazz ensemble performance. Students are assumed to have knowledge of the rudiments of music and some experience in jazz performance.

## 7520: APPLIED MUSIC

2 or 4 credits each quarter.

(Under graduate or Graduate)

Students must contact the Music Department and consult with the applied music instructor before registering for course work.

All music majors must perform annually before an applied music jury on each instrument which he studies privately for credit. The non-music major studying applied music will appear before a jury at the discretion of his private teacher.

Credit is earned on the basis of two credits per quarter for one thirty-minute lesson per week and ninety minutes practice per day. Enrollment may be repeated each quarter for credit.

### 7520:021. PERCUSSION.

### 7520:022. CLASSICAL GUITAR.

### 7520:023. HARP.

### 7520:024. VOICE.

### 7520:025. PIANO.

### 7520:026. ORGAN.

### 7520:027. VIOLIN.

### 7520:028. VIOLA.

### 7520:029. CELLO.

### 7520:030. STRING BASS.

### 7520:031. TRUMPET/CORNET.

### 7520:032. FRENCH HORN.

### 7520:033. TROMBONE.

### 7520:034. BARITONE.

### 7520:035. TUBA.

### 7520:036. FLUTE/PICCOLO.

### 7520:037. OBOE/ENGLISH HORN.

### 7520:038. CLARINET/BASS CLARINET.

### 7520:039. BASSOON/CONTRABASSOON.

### 7520:040. SAXOPHONE.

### 7520:041. HARPSICHORD.

The above are applied Music courses for students below the minimum level of performance skills ex-

pected for credit at the 7520:100 level or above. Designed for students with limited background in applied study, who wish to take lessons for their own pleasure, satisfaction and/or elective credit in nonmusic programs. Not to be counted for credit in any music major programs of study.

- 7520:121-221-321-421/521. **PERCUSSION.**  
 7520:122-222-322-422/522. **CLASSICAL GUITAR.**  
 7520:123-223-323-423/523. **HARP.**  
 7520:124-224-324-424/524. **VOICE.**  
 7520:125-225-325-425/525. **PIANO.**  
 7520:126-226-326-426/526. **ORGAN.**  
 7520:127-227-327-427/527. **VIOLIN.**  
 7520:128-228-328-428/528. **VIOLA.**  
 7520:129-229-329-429/529. **CELLO.**  
 7520:130-230-330-430/530. **STRING BASS.**  
 7520:131-231-331-431/531. **TRUMPET OR CORNET.**  
 7520:132-232-332-432/532. **FRENCH HORN.**  
 7520:133-233-333-433/533. **TROMBONE.**  
 7520:134-234-334-434/534. **BARITONE.**  
 7520:135-235-335-435/535. **TUBA.**  
 7520:136-236-336-436/536. **FLUTE OR PICCOLO.**  
 7520:137-237-337-437/537. **OBOE OR ENGLISH HORN.**  
 7520:138-238-338-438/538. **CLARINET OR BASS CLARINET.**  
 7520:139-239-339-439/539. **BASSOON OR CONTRABASSOON.**  
 7520:140-240-340-440/540. **SAXOPHONE.**  
 7520:141-241-341-441/541. **HARPSICHORD.**  
 7520:442. **PRIVATE LESSONS IN MUSIC COMPOSITION.**  
 2 credits. (May be repeated for a total of 12 credits.)  
 Prerequisite, 253 and 353. Private instruction in composition. Primarily offering the students whose concentration is in theory composition.

## GRADUATE COURSES

7520:642. **APPLIED COMPOSITION.** 2-4 credits.  
 (May be repeated for a total of 12 credits.)  
 Prerequisite, undergraduate degree with a major in music. Private instruction in Composition offered primarily for students majoring in Composition at the graduate level, and graduate students in other areas of music (music education, performance, history and literature, etc.) interested in taking Composition lessons.

## 7600: MASS MEDIA/ COMMUNICATION

7600:141 **INTERCOLLEGIATE DEBATE** 1 credit  
 Study and practice of the techniques of contest speech and debate, including techniques of research and presentation. Requires participation in the University's forensics program.

7600:190 **PUBLIC SPEAKING** 2 credits  
 Study and practice in public address, especially audience analysis and adaptation in the platform speaking situation. Includes opportunity for performance, individual analysis, and criticism.

• 7600:201 **NEWS WRITING** 3 credits  
 Prerequisite: 1100:112. Writing of news stories; applying theory through discussions, illustrative material; actual writing for publication.

• 7600:202 **INTRODUCTION TO JOURNALISM** 3 credits  
 This course considers the whole field of contemporary American journalism. It attempts to present and explain the functions of those agencies through which news and views reach the general public.

7600:203 **RADIO AND TELEVISION NEWS WRITING** 2 credits  
 Prerequisite: 1100:112. Principles and practice in the preparation of radio/television news and documentaries. Also the fundamentals of electronic news gathering and writing, practice in news delivery and voice control.

7600:204 **EDITING** 2 credits  
 Prerequisite: 201. Copyreading, headline writing, proofreading, makeup, type and typography, printing machines and processes, newspaper methods and systems.

7600:206 **FEATURE WRITING** 3 credits  
 Prerequisite: 1100:112. Short newspaper and magazine articles, preparation of articles for publication, human interest situations, extensive writing with class discussion.

7600:245 **ARGUMENTATION** 3 credits  
 Study of the process of developing, presenting, and defending inferences and arguments in the oral communication setting. Includes study and practice of evidence, reasoning, case construction, refutation and rebuttal.

7600:252 **ETHICAL PERSUASION** 3 credits  
 Emphasis on understanding persuasion theory and practice. Includes information analysis of motivational appeals and introduction to propaganda analysis.

7600:281 **INTRODUCTION TO RADIO AND TELEVISION** 2 credits  
 Special projects in message design and development with practical radio and television production experience.

7600:282 **COMMUNICATION MEDIA: RADIO** 2 credits  
 Prerequisite: 281. A study of the history, nature and function of educational and commercial broadcasting with practical production experience.

7600:283 **COMMUNICATION MEDIA: TELEVISION** 3 credits  
 Prerequisite: 281 or permission. The function, structure, and influence of television as a communication medium with practical production experience in studio.

7600:288 **COMMUNICATION MEDIA: FILM** 3 credits  
 The techniques, limitations and potentials of film production. Students will learn script writing, directing, lighting, and makeup; practical production experience in studios and on location.

7600:301 **COMMUNICATION MEDIA: PRINT** 3 credits  
 Prerequisite: 201 or permission. An advanced course in writing and editing news, features and analysis for the print media. The course will take a behavioral approach to communication of information and ideas.

7600:303 **PUBLICITY WRITING** 2 credits  
 Prerequisite: 201 or permission. This course will acquaint the student with the functions of public relations in our society and will explain the basic theories and principles involved in publicity writing and placement.

**7600:309 PUBLICATIONS PRODUCTION 3 credits**

Prerequisite: 201. Fundamental course for persons engaged in production of publications. Consideration of a variety of processes for reproducing the printed work including photo-engraving, lithography, letterpress, rotogravure, mimeographing.

**7600:310 INTERCULTURAL COMMUNICATION**

2 credits

Study of the effect on the oral communication process of the existence of cultural barriers. Includes study of verbal and non-verbal communication in transracial, informal international, and diplomatic communicative settings.

**7600:344 PUBLIC DISCUSSION 3 credits**

The principles of effective group discussion and practices inherent to panel presentations, participation in a group of simulations, and interviews found in a variety of situations.

**7600:351 SURVEY OF SPEECH COMMUNICATION**

3 credits

This course presents the elements of communication and communication systems, including special stress on language, para-language, media, inter-personal and public communication.

**7600:380 MASS MEDIA COMMUNICATION**

INTERNSHIP 1-8 credits

(May be repeated for a total of 8 credits.)

Prerequisite: permission. Provides the student with supervised experience and on the job training in mass media communications related organizations on and off campus.

**7600:383 THE TELEVISION PRODUCER 3 credits**

Prerequisite: permission. In-depth study of the role of the producer in the complexities of developing a television program from inception to completion.

**7600:384 SPEECH-COMMUNICATION RESEARCH I**

2 credits

The role of mass media as it relates to modern communication theory. Special projects in research.

**7600:385 AMERICAN FILM HISTORY: THE BEGINNING TO 1945 3 credits**

The purpose of the course is to acquaint the undergraduate student with the historical developments of film and film concepts. This course ends with the films of 1945.

**7600:386 AMERICAN FILM HISTORY: 1945 TO THE PRESENT 3 credits**

This course continues the student's survey of film history and film concepts begun in 385.

**7600:392 SPEECH IN AMERICA 3 credits**

A survey and critical analysis of major speakers, speeches, and speech movements in American history. Examines how style and content of American speaking influenced events, and reflected their times.

**7600:393 INTERPERSONAL COMMUNICATION**

3 credits

Theory and practice in interpersonal communication. Emphasis on communicator apprehension, interpersonal attitudes, non-verbal communication, and listening. Also an introduction to current research in intrapersonal communication — biofeedback and non-instrument assisted self-communication.

**7600:410 ORGANIZATIONAL COMMUNICATION**

2 credits

The study of large organizational communication principles and practices. Group projects related to several communication problems inherent to organiza-

tions (1) inside communication flow, (2) communication outward, (3) incoming information to the organization.

**7600:439 MASS MEDIA/COMMUNICATION**

PRACTICUM 1-12 credits

(May be repeated for a total of 23 credits.) Prerequisite: permission from a Departmental Committee on Special Projects.

**7600:445/545 THEORIES OF ARGUMENT AND FORENSICS 3 credits**

Prerequisite: 245. Intended for the advanced student of argument. A survey of major theories of argument, including those of Aristotle, Toulmin, and Perelman. Application of the theory of argument to the forensic model will be presented where appropriate.

**7600:454/554 THEORY OF GROUP PROCESSES**

3 credits

Group communication theory and conference leadership as applied to individual projects and seminar reports.

**7600:470/570 ANALYSIS OF PUBLIC DISCOURSE**

3 credits

This course identifies the principle textual and contextual elements of public discourse and presents various theories and models to be applied in studying rhetorical acts.

**7600:471/571 THEORIES OF RHETORIC 3 credits**

Study of key figures in the history of rhetorical theory, stressing the inter relationships among theories or rhetoric, intellectual climates and social climates.

**7600:483 SURVEY OF BROADCAST STATION**

DEPARTMENTS 3 credits

Prerequisite: 282, 283, or permissions. This course is designed to give the senior student an understanding of the several departments in a radio/television station.

**7600:484 REGULATIONS IN MASS MEDIA 3 credits**

Concentration on government regulations and self-regulatory bodies in broadcasting, film and the print media.

**7600:488/588 CINEMATOGRAPHY 3 credits**

This course is designed to give filming experience to selected students. The point of emphasis is on communication through film, color and sound; not a technical course in camera maintenance.

**7600:490/590 MEDIA WORKSHOP 1-3 credits**

(May be repeated for a total of 3 credits.)

Prerequisite: Advanced standing and permission. Group study or group projects investigating a particular phase of media which is not covered by other courses in the curriculum.

**GRADUATE COURSES****7600:601 INTRODUCTION TO QUANTITATIVE**

RESEARCH IN SPEECH COMMUNICATION 3 credits

Introduces students to basic concepts of the scientific method applied to the social sciences and their specific application to problems of interest to the field of communication and mass media.

**7600:606 COMMUNICATION PROBLEMS IN THE**

BASIC SPEECH COURSE 1 credit

This course is designed to train graduate students in the methods and materials of the introductory speech course. Required of all teaching graduate assistants.

**7600:610 SEMINAR IN COMMUNICATION**

PROBLEMS 3 credits

(May be repeated for a total of 6 credits.) This variable

content seminar examines such areas of concern in communication theory and practice as organizational communication, psychology of the audience, and cross-cultural communication.

**7600:671 SEMINAR: RHETORICAL FORMS** 3 credits  
The study of various periods, forms and functions of discourse in sustaining social order and mediating social change.

**7600:675 SEMINAR IN RHETORICAL CRITICISM** 3 credits  
(May be repeated for a total of 6 credits.) The course is organized around special problems and methods involved in the analysis of different genres, forms and topics of discourse.

**7600:676 SURVEY OF RHETORICAL THEORIES** 4 credits  
Concentrated study and research of ancient, modern or contemporary writers or on some specific topic in rhetorical theory.

**7600:680 SPECIAL PROBLEMS IN COMMUNICATION AND MASS MEDIA** 2 credits  
(May be repeated for a total of 4 credits.) Problem analysis, investigation and evaluation of a major interest area related to communication theory, the mass media, or interpersonal communication.

**7600:681 THEORY OF INTERPERSONAL COMMUNICATION** 3 credits  
Prerequisite: permission. Detailed analysis of complex systems in persuasion and propaganda, particularly as related to information control.

**7600:683 MASS MEDIA RESEARCH SEMINAR** 2 credits  
A study of experimental design in mass media, its development and use. Students will study the research literature on experiments in mass media.

**7600:684 SURVEY OF COMMUNICATION THEORY** 3 credits  
A study of the dimensions of the field of communication: information analysis, social interaction and semantic analysis.

**7600:685 SCHOOL ADMINISTRATOR: COMMUNICATION DESIGN IN THE MASS MEDIA** 2 credits  
This course is designed to teach the school administrator communication development for the media in order to take full advantage of the potentialities of radio, TV, and films for message impact.

**7600:686 STUDIES IN COMMUNICATION MEDIA: RADIO**

**7600:687 STUDIES IN COMMUNICATION MEDIA: TELEVISION**

**7600:688 STUDIES IN COMMUNICATION MEDIA: FILM** 3 credits each  
Emphasis on production, message design and impact analysis. These courses are designed to give the students an opportunity to experiment with new production and message concepts.

**7600:697 GRADUATE RESEARCH IN MASS MEDIA/ COMMUNICATION** 1-6 credits  
(May be repeated for a total of 5 credits.)  
Prerequisite: 7800:600 and approval of project prospectus one term prior to undertaking the project. Performance of research on problems found in mass media/communication.

**7600:699 RESEARCH AND THESIS** 1-6 credits  
(May be repeated for a total of 5 credits.)  
Prerequisite: permission of department head.

## 7700: SPEECH PATHOLOGY AND AUDIOLOGY

**7700:110 INTRODUCTION TO SPEECH DISORDERS** 3 credits  
An overview of the various types of speech disorders: their incidence, etiology and characteristics. Basic concepts and principles underlying speech pathology.

**7700:111 INTRODUCTION TO PHONETICS** 2 credits  
An introduction to the International Phonetic Alphabet, and an overview of articulatory phonetics.

**7700:130 BASES AND STRUCTURE OF LANGUAGES** 3 credits  
An introduction to the linguistic bases of speech and language: phonological, morphological, syntactical and semantic. Social and psychological variables in the communicative process as they apply to the therapeutic environment will be presented.

**7700:140 INTRODUCTION TO AUDIOLOGY** 3 credits  
Normal anatomy and physiology of the hearing system and the acoustics of hearing. Survey of the field of audiology. The nature of hearing problems.

**7700:210 APPLIED PHONETICS** 3 credits  
Prerequisite: 111. Training in allophonic transcription. Analysis of sound substitutions, distortions and dialectal variations. Study of Distinctive Feature Systems.

**7700:211 INTRODUCTION TO SPEECH SCIENCE** 2 credits  
Study of the anatomical, physiological and physical principles involved in the production, transmission, and reception of the speech signal.

**7700:230 SPEECH AND LANGUAGE DEVELOPMENT** 3 credits  
Prerequisite: 130 or permission. A study of language development including acquisition of comprehension and production of phonology, syntax and semantics. Approaches to the use of language in learning and thinking.

**7700:240 AURAL REHABILITATION** 4 credits  
Prerequisite: 140. Introduction to the philosophy and methods of aural rehabilitation for children and adults. Includes methods of speech reading, auditory training, speech conservation, hearing aid use, and combined visual and auditory approaches.

**7700:241 PRINCIPLES OF AUDIOMETRY** 3 credits  
Prerequisite: 140. Introduction to the psychoacoustic principles which underlie basic audiometric tests; principles of speech audiometry, masking and impedance audiometry.

**7700:250 OBSERVATION AND CLINICAL METHODS** 1 credit  
Prerequisite: 110. Observation of speech and hearing disorders in a variety of clinical settings; introduction to general methods of clinical procedures.

**7700:271 LANGUAGE OF SIGNS I** 3 credits  
Fundamental expressive and receptive skills in manual communication; introduction to the various sign systems; the philosophy of total communication and orientation to aspects of deafness; conversational sign language and developing speed and comprehension of fingerspelling skills. Laboratory.

**7700:321 SPEECH PATHOLOGY I** 4 credits  
Prerequisites: 110 and 210. Study of disorders of articulation, voice and stuttering including etiology, symptomatology, evaluation and therapeutic procedures.

**7700:322 SPEECH PATHOLOGY II** 4 credits

Prerequisites: 110 & 3100:260. Study of organically based speech disorders: cleft palate, cerebral palsy, aphasia and dysarthria including etiology, symptomatology, evaluation, and therapeutic procedures.

**7700:330 LANGUAGE DISORDERS 4 credits**

Prerequisite: 230. Etiology, identification, evaluation, intervention, and remediation of symbolic, cognitive and interpersonal language disorders of children are viewed. Disorders are viewed as correlates or sequelae of central nervous system dysfunction or emotional disturbance.

**7700:340 AUDIOLOGIC EVALUATION 2 credits**

Prerequisite: 241. The "test battery" approach to audiometry is explored; techniques of case finding and handling of difficult-to-test cases; competency with all tests in the battery is required.

**7700:350 CLINICAL PRACTICUM: ARTICULATION**

1 credit

Prerequisite: 321. Supervised clinical practicum in Articulation. Emphasis will be upon therapy procedures, diagnostic techniques and preparation of reports.

**7700:351 CLINICAL PRACTICUM: LANGUAGE**

1 credit

Prerequisite: 331. Supervised clinical practicum in language. Emphasis will be upon therapy procedures, diagnostic techniques, and preparation of reports.

**7700:352 CLINICAL PRACTICUM: AURAL REHABILITATION 1 credit**

Prerequisite: 240. Supervised clinical practicum in hearing rehabilitation. Emphasis will be upon therapy procedures, diagnostic techniques, and preparation of reports.

**7700:370 LANGUAGE OF SIGNS II 1 credit**

Prerequisite: 271 or permission of instructor. Advanced work in signs and finger-spelling with emphasis upon additional sign vocabulary acquisition and development of expressive and receptive skills. Stress is on continued skill building in conversing with deaf adults.

**7700:430/530 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits**

Prerequisites: (May not be taken by majors in Speech Pathology and Audiology.) An introduction to the acquisition and development of comprehension and production of language-phonologically, semantically and syntactically. Course also relates language acquisition to the perceptual development of the child and looks at the function of language in the individual, family, and school.

**7700:450 INTRODUCTION TO SPEECH AND HEARING DIAGNOSTICS 3 credits**

Prerequisite: Senior Status. A general introductory course devoted to a discussion of the role of the speech and hearing clinician in differential diagnosis. Special emphasis is placed on case history taking, and the administration of standardized and informal procedures in the diagnosis of communicative disorders.

**7700:451 CLINICAL PRACTICUM: HEARING DIAGNOSIS 1 credit**

Prerequisite: 340. Supervised clinical practicum in hearing diagnostics. Emphasis will be upon diagnostic procedures and preparation of reports.

**7700:460/560 SPEECH AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits**

Nature, causes and treatment of speech, hearing, and language disorders in public schools. Special reference to the role of the classroom teacher in identifying and

referring students with suspected problems and in working with the school clinician.

**7700:461 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH AND HEARING PROGRAMS 2 credits**

Prerequisite: Senior standing; open to majors in Speech Pathology and Audiology only. This course is designed for the speech and hearing clinician who plans to work in the public school system. It covers the following areas with particular reference to the public school setting: case selection; scheduling, individual and group therapy; in-service training for classroom teachers; parent counseling; and certification and program standards as set up by the Department of Education in the State of Ohio.

**7700:480 SEMINAR IN COMMUNICATIVE DISORDERS 2 credits**

Prerequisite, senior standing. This course provides a vehicle for detailed study and discussion of the various communicative disorders.

**7700:481 SPECIAL PROJECTS 1-3 credits**

(May be repeated for a total of 4 credits.) Prerequisite: Permission of the Instructor. Individual or group projects related to any of the problems of communicative disorders.

**7700:483/583 COMMUNICATION DISORDERS: GERIATRIC POPULATION 3 credits**

An examination of the communication disorders that exist in the geriatric population. Focus will be on etiology, symptomatology, and concomitant rehabilitative procedures. This course is designed for the student interested in the aging population and is not open to majors in speech pathology and audiology.

**7700:490/590 WORKSHOP: COMMUNICATIVE DISORDERS 1-3 credits**

(May be repeated for a maximum of 10 credits.) Prerequisite: Permission. Group investigation of a particular phase of speech pathology and/or audiology which is not offered by other courses in the curriculum.

**7700:495 INTERNSHIP: SPEECH PATHOLOGY AND AUDIOLOGY 3-6 Credits**

Prerequisite: Permission of Director of the Speech and Hearing Center. This course affords an opportunity for in-depth clinical experience in a variety of clinical settings outside The University of Akron Speech and Hearing Center. The student is afforded on-the-job experience with specialized case populations.

## GRADUATE COURSES

**7700:601 ADMINISTRATION AND SUPERVISION IN SPEECH AND HEARING PROGRAMS 4 credits**

Prerequisite: Permission of Instructor. The organization and management of speech and hearing programs in voluntary and official agencies. Philosophy and methodology in the supervision of speech and hearing services.

**7700:610 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDIOLOGY 2 credits**

Principles and use of clinical and research instrumentation in speech and hearing.

**7700:611 RESEARCH METHODS IN COMMUNICATIVE DISORDERS I 3 credits**

Introduction of experimental design in the field of communicative disorders.

**7700:612 RESEARCH METHODS IN COMMUNICATIVE DISORDERS II 2 credits**

Prerequisite: 611. Advanced experimental methods; development of a research study.

**7700: 620 ARTICULATION 2 credits**

Historical background, current theories, and research related to the etiology, diagnosis, and treatment of articulatory disorders.

**7700: 621 COMMUNICATIVE DISORDERS IN CLEFT PALATE 2 credits**

Historical background, current theories and research related to the etiology, diagnosis and treatment of cleft palate.

**7700: 622 COMMUNICATIVE DISORDERS IN MENTAL RETARDATION 2 credits**

Historical background, current theories and research related to the etiology, diagnosis, and treatment of cleft palate.

**7700: 623 COMMUNICATIVE DISORDERS IN CEREBRAL PALSY 2 credits**

Historical background, current theories and research related to the etiology, diagnosis and treatment of cerebral palsy.

**7700: 624 APHASIA 2 credits**

Historical background, current theories and research related to the etiology, diagnosis and treatment of adult aphasia.

**7700:625 COMMUNICATIVE DISORDERS OF CHILDREN 2 credits**

Oral and aural language deviations; their etiologies, pathologies and remediation.

**7700: 626 VOICE PATHOLOGY 2 credits**

Prerequisite: Permission of Instructor. Background and current research related to the etiology, diagnosis and therapy for various disorders of voice.

**7700: 627 STUTTERING: THEORIES AND THERAPIES 3 credits**

Reading and discussion of selected theories and therapies related to stuttering.

**7700: 628 TOPICS IN DIFFERENTIAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS. 2 credits**

(May be repeated for a total of 4 credits.) Prerequisite: Permission of Director of Speech and Hearing.

**7700: 629 TOPICS: SPEECH PATHOLOGY AND AUDIOLOGY 2 credits**

Prerequisites: Permission of Instructor. Selected current topics in clinical and/or experimental areas of speech pathology, audiology, or language. Emphasis on review of current and historical literature.

**7700: 638. SEMINAR IN LANGUAGE AND SPEECH OF THE HEARING IMPAIRED 2 credits**

Study of the development of language and speech in hearing impaired children, emphasizing a psycholinguistic approach, and means of intervention; study of the communicative processes of hearing impaired adults: the effect of conditions of minimum auditory stimulation and acoustic feedback on speech and language; methods of speech conservation

**7700: 639 ADVANCED CLINICAL TESTING 4 credits**

Theoretical basis for pure tone, speech tests, masking and acoustic impedance measurements. Review of classical and current literature relative to above tests.

**7700:640 SPECIAL TESTS/MEDICAL AUDIOLOGY 4 credits**

Prerequisite: 639 or permission of Instructor. Underlying psychoacoustic principles of administration and interpretation of site-of-lesion tests. Relationship between otology and audiology; the application of clinical audiology in a medical environment.

**7700: 641 AMPLIFICATION 3 credits**

Prerequisite: 639 or permission of instructor. Compo-

nents of amplification system; methods of evaluating hearing aid performance.

**7700: 642 PEDIATRIC AUDIOLOGY 2 credits**

Prerequisite: 639 or permission of instructor. Etiology of hearing loss in children; techniques for testing preschool and school-age children and other difficult to test clients.

**7700:643 INDUSTRIAL AUDIOLOGY 2 credits**

Prerequisites: 639 or permission of instructor. Theoretical principles of noise measurement; etiology of noise induced hearing loss and acoustic trauma; industrial hearing conservation programs; Occupational Safety and Health Act (OSHA) Regulations.

**7700:644 AURAL REHABILITATION 4 credits**

Prerequisite: Permission of Instructor. Review of current methodologies employed in aural rehabilitation of children and adults, as well as current and potential areas of research.

**7700:647 EXPERIMENTAL AUDIOLOGY 2 credits**

Prerequisite: 6 graduate audiology credits or permission of instructor. Principles of psychoacoustics. Review of instrumentation and research techniques. Study of significant literature in the field.

**7700:650 ADVANCED CLINICAL PRACTICUM; DIFFERENTIAL DIAGNOSIS 1 credit**

Supervised clinical practicum diagnostic procedures.

**7700:651 ADVANCED CLINICAL PRACTICUM: VOICE 1 credit**

Supervised clinical practicum in the rehabilitation of voice disorders.

**7700:652 ADVANCED CLINICAL PRACTICUM: FLUENCY 1 credit**

Supervised clinical practicum in the rehabilitation of disorders of fluency.

**7700:653 ADVANCED CLINICAL PRACTICUM: APHASIA 1 credit**

Supervised clinical practicum in the rehabilitation of aphasia.

**7700:654 ADVANCED CLINICAL PRACTICUM: AUDIOLOGY 1 credit**

Supervised clinical practicum in hearing diagnostics and aural rehabilitation.

**7700:695 EXTERNSHIP: SPEECH PATHOLOGY AND AUDIOLOGY 2-4 credits**

(May be repeated for a total of 4 credits.) Clinical practicum in a selected area center.

**7700:697 SPECIAL PROBLEMS: SPEECH PATHOLOGY AND/OR AUDIOLOGY 1-3 credits**

(May be repeated for a total of 6 credits.) Prerequisite: Permission of Instructor. Guided research or reading in selected topics in speech pathology, audiology or language disorders.

**7700:699 RESEARCH AND THESIS 2 credits**

(May be repeated for a total of 6 credits.) Prerequisite: Permission of the Department Head.

**7750: SOCIAL WORK****7750:270 POVERTY IN THE UNITED STATES**

3 credits

A survey of the social and personal dimensions of life

in the inner city and other areas of poverty in the United States. For persons wishing to develop an in-depth understanding and/or intending to work in such areas.

**7750:276 INTRODUCTION TO SOCIAL WELFARE**  
4 credits

A survey of the field of Social Welfare and the place of the Social Work profession within the human services institutions of the U.S. Introduction of basic concepts relating social welfare institutions and social work to our society.

**7750:401/501 SOCIAL WORK PRACTICE I** 3 credits

Prerequisite: 276 or permission. Basic concepts and methods of Social Work practice, particularly relating to understanding and working with individuals and families.

**7750:402/502 SOCIAL WORK PRACTICE II** 3 credits

Prerequisite: 276 or permission. Concepts and methods of Social Work practice particularly relating to understanding and working with groups in various settings in our society.

**7750:403/503 COMMUNITY ORGANIZATION** 3 credits

Prerequisite for 403, 276 or permission; for 503, permission. Development of understanding and practice methods for utilization of Community Organization and Social Planning as a Social Work process in assessing problems and developing program to meet needs.

**7750:421 FIELD EXPERIENCE SEMINAR** 1 credit

Corequisite: 495, prerequisite: 401 and permission. Careful examination and integration of academic understanding and professional methodological studies into professional practice. Required in any semester in which a student is enrolled in 420.

**7750:450/550 SOCIAL NEEDS AND SERVICES FOR LATER ADULTHOOD AND AGING** 3 credits

Prerequisite: 276 or permission. Application of the knowledge and principles of professional Social Work practice to understanding, development and provision of social services to meet needs of aging and later maturity individuals, families and communities and the institutions serving them and their relatives.

**7750:451/551 SOCIAL WORK IN CHILD WELFARE**  
3 credits

Prerequisite: 276 or permission. In-depth exploration of the structure and functioning of social services designed to help children, and of the practice of Social Work in child welfare settings. Consideration of (1) supportive service, (2) supplementary services, and (3) substitutive services.

**7750:452/552 SOCIAL WORK IN MENTAL HEALTH**  
3 credits

Prerequisite: 276 or permission. Issues, organization, development and methodologies of current professional Social Work practice in mental health settings.

**7750:480/580 SPECIAL TOPICS IN SOCIAL WORK AND SOCIAL WELFARE** 1-3 credits

Prerequisite: 401 and permission of the instructor. Analysis of current Social Work and social welfare theory and policy, settings, innovative interventions and trends in delivery systems in relation to selected areas of concern. Topics and credits variable.

**7750:490/590 SOCIAL WORK WORKSHOP** 1-4 credits

(May be repeated for a maximum of 6 credits.) Prerequisite: permission of the instructor. Group investigation of a particular phase of Social Work or Social Welfare which is not offered by other courses in the curriculum.

**7750:495 FIELD EXPERIENCE IN A SOCIAL AGENCY** 2-8 credits

(2 credits minimum and 8 credits maximum-total in consecutive semesters only.)

Corequisite: 421, prerequisite: 401 and permission. Individual placement in selected community and social service agencies for supervised experience with individuals, groups and communities in family service, health care, corrections, community development, mental health, child welfare, public welfare, and similar social welfare settings. Student must enroll in 421 concurrently. Student must register intent and receive permission to take the course with the course instructor during the early part of the quarter preceeding enrollment. For senior majors in Social Work.

**7750:497/597 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK AND SOCIAL WELFARE** 1-3 credits

Prerequisite: permission and prearrangement with the instructor. Individual readings, research or projects in an area of interest in social welfare theory or institutional operations or in Social Work practice under the guidance of a Social Work faculty member. Preparation of a report paper appropriate to the nature of the topic. For Social Work majors.

## GRADUATE COURSES

**7750:673 CONTEMPORARY SOCIAL WORK APPLICATIONS** 3 credits

Contemporary Social Work concepts and methods compared and applied in various social welfare, community service, educational and health settings. Particularly useful for Professionals from related fields, and for advanced practitioners.

## 7800: THEATRE ARTS AND DANCE

**7800:116 BALLET ANALYSIS I** 3 credits

Required of all Ballet majors in their freshman year. A lecture and laboratory course designed to prepare the dancer to understand his/her body and its function in the technique class, as student and future teacher or performer.

**7800:117 BALLET ANALYSIS II** 3 credits

Prerequisite: 116 or permission. A continuation of Ballet Analysis I.

**7800:122 BALLET TECHNIQUE I** 5 credits

(May be repeated for a total of 10 credits.) Prerequisite: permission. The theory and practice of ballet, stressing fundamentals of vocabulary, structure and placement.

**7800:124 INTRODUCTION TO BALLET** 2 credits

(May be repeated for a total of 4 credits.) Designed for students with little or no previous experience or training. This is a course in the basic exercises of classical ballet with emphasis on body placement, rhythmic and muscular awareness.

**7800:126 CHOREOGRAPHY: IMPROVISATION**  
2 credits

An experiential approach leading to the rediscovery of unstructured movement. The emphasis will be toward inner space and textures as materials for later structurings.

**7800:127 CHOREOGRAPHY: ESTABLISHED FORMS**

2 credits

Prerequisite: 126 or permission. A study and practical application of choreographic principles recorded by earlier masters (Horst, Humphrey, Cunningham, etc.) as they apply to concert dance today.

**7800:175 ORAL INTERPRETATION I 3 credits**

Oral interpretation of the printed page with special emphasis on individual performance of poetry and prose fiction.

**7800:222 BALLET TECHNIQUE II. 5 credits**

(May be repeated for a total of 20 credits.)

Prerequisite: 122 or permission. Continuation of Ballet Technique I, expanding upon vocabulary and established patterns of balletic movement.

**7800:224 FUNDAMENTAL BALLET TECHNIQUE**

3 credits

(May be repeated for a total of 6 credits.)

A continuation of Introduction to Ballet designed as a bridge between that course and Ballet Technique I. Emphasis on perfecting the basic vocabulary of the Barre and developing strength.

**7800:226 CHOREOGRAPHY: SOUND AND****MOVEMENT I 2 credits**

Prerequisite: 127. An introduction to music structures and their applicability to dance structure. Emphasis on rhythm (simple music notation and score comprehension) and linear aspects of dance/music as well as texture, contrast and parallelism.

**7800:227 CHOREOGRAPHY: SOUND AND****MOVEMENT II 2 credits**

Prerequisite: 127. A continuation of Choreography: Sound and Movement I.

**7800:229 CONTEMPORARY DANCE TECHNIQUE I**

2 credits

(May be repeated for a total of 4 credits.)

Prerequisite, Ballet Technique I or permission. An introduction to contemporary movement styles. For Ballet Majors or dancers with equal training.

**7800:250 VOICE TRAINING FOR SPEECH AND THEATRE ARTS 1 credit**

Prerequisite: permission. The focus of this course will be on the safe and most effective uses of the vocal instrument in its specific application to the stage, the platform, radio, television and films. Laboratory hours required.

**7800:261 INTRODUCTION TO THEATRE 3 credits**

Section 1—Play production, involving projects relative to University Theatre productions.

Section 2—Aesthetics of Theatre-stage, dance, film, television, with frequent attendance at variety of productions.

When only one section is offered during any term, the course content will be adapted to the specific needs of the students enrolled.

**7800:262 STAGE MAKEUP 2 credits**

A study of the basic principles of stage makeup, from character analysis to the execution of a makeup plan. Laboratory hours required.

**7800:263 SCENE PAINTING 1 credit**

Introduction to basic equipment and techniques of scene painting. No particular artistic skills required of prospective students. Laboratory hours required.

**7800:265 BASIC STAGECRAFT 3 credits**

Content includes basic aspects of stagecraft in terms of production: the stage and its equipment; construction and handling of scenery; theatrical hardware. Laboratory hours required.

**7800:271 DIRECTING I 2 credits**

Prerequisite: 261. Emphasized are the fundamentals of play directing, including responsibilities of the director, stage nomenclature, play selection, character analysis and rehearsals. The one-act form is stressed.

**7800:275 ORAL INTERPRETATION II 3 credits**

Prerequisite 175. Oral interpretation from the printed page, with special emphasis on group performance of literature.

**7800:320 DANCE NOTATION 2 credits**

A beginning study of the Labanotation Method of recording movement both as reading skill and a means of increasing one's perception of movement per se. The goal would be to prepare the student to the level of passing the beginning examination of the Notation Bureau.

**7800:322 BALLET TECHNIQUE III. 5 credits**

(May be repeated for a total of 30 credits.)

Prerequisite: 222 and permission. Continuation of Ballet Technique II with an emphasis on development of style and line.

**7800:329 CONTEMPORARY DANCE TECHNIQUE II.**

2 credits

(May be repeated for a total of 4 credits.)

Prerequisite: Contemporary Dance Technique I or equivalent and Ballet Technique II. An advanced course in Contemporary technique.

**7800:362 ADVANCED STAGECRAFT 3 credits**

Prerequisites: 265. Content includes backstage organization and management in terms of production staff; three-dimensional scenery construction and rigging problems. Laboratory hours required.

**7800:364 INTRODUCTION TO STAGE DESIGN**

3 credits

Introduction to basic design principles and drawing techniques for the design of stage scenery. Ability to draw not a prerequisite, but an understanding of basic stagecraft is necessary.

**7800:366 ADVANCED STAGE DESIGN 3 credits**

Focuses on advanced design problems involving designing multi-set productions, unusual staging methods, and specific historical periods. Understanding of basic design principles necessary. Laboratory hours required.

**7800:367 HISTORY OF THEATRE: GREEK-****ELIZABETHAN 4 credits**

Prerequisite: 261 or permission. Development of theatre in ancient Greece and Rome, the Medieval period, and the Renaissance, with emphasis on the culture of each period, dramatists, plays, stage conventions, and theatre architecture.

**7800:368 HISTORY OF THEATRE: RESTORATION TO PRESENT 4 credits**

Prerequisite: 7800:261 or permission. Development of theatre from the English Restoration, 18th and 19th Century, to the modern period with emphasis on the culture of each period, dramatists, stage conventions, set designs, and theatre architecture.

**7800:370 THE AMERICAN THEATRE: PLAYS, PLAYERS AND PLAYWRIGHTS 3 credits**

A study of the American Theatre, from its beginning in the 17th Century to the present, with emphasis on achievements in the 20th Century.

**7800:371 DIRECTING II 2 credits**

Prerequisite: permission. An advanced course in the principles and techniques of staging plays from past periods, as well as modern plays requiring stylized treatment.

**7800:372 ACTING I 2 credits**

Prerequisite: 250 and 261. An introduction to the fundamentals of improvisation, mime, and basic stage movement.

**7800:373 ACTING II 2 credits.**

Prerequisites: 372. An extension of acting techniques in Acting I to include stage terminology, analysis of character and structure in one-act forms, with an emphasis on development of short scenes in class.

**7800:374 ACTING III 2 credits.**

Prerequisite: 373 and permission. An introduction to advanced acting techniques required in classic plays and modern dramas. This performance course places special emphasis on stylized acting techniques, as well as on dialects.

**7800: 376 THEATRE ORGANIZATION AND MANAGEMENT 2 credits.**

Prerequisite: 261. A study of the successful organization and management of the nonprofessional theatre operation.

**7800: 379 THEATRE LABORATORY 1 credit.**

Prerequisite: permission of Director of Theatre. This course is designed to give students credit for practical work done in actual University Theatre productions. Those enrolled will have weekly discussions with the Theatre Staff about their work.

**7800:422 BALLET TECHNIQUE IV 5 credits**

(May be repeated for a total of 40 credits.)

Prerequisite: 322 and permission. Professional level of ballet technique.

**7800:423 HISTORY OF THE DANCE 2 credits**

A survey of the most important developments in the dance from prehistory to the Renaissance.

**7800:424 TWENTIETH CENTURY DANCE 2 credits**

Prerequisite: Ballet Major and permission of Instructor. An investigation of the many different styles and techniques of today's dance and their influence on present-day choreography Diaghileff to now.

**7800:425 DEVELOPMENT OF BALLET 2 credits**

Ballet origins from Italy to France with various influences through the court of Louis XIV through the Diaghileff era of today. Each student will do a project in a special area and present it for class discussion. The emphasis will be on technical and choreographic evolution with regards for developments in other art forms as well as socioeconomic change. Renaissance to Diaghileff.

**7800:426 TECHNIQUES OF TEACHING BALLET I 2 credits**

Prerequisite, Ballet Major and permission of Instructor. A lecture course combined with practical work in the classroom, in the basic principles of teaching classical ballet, with emphasis on elementary training.

**7800:427 TECHNIQUES OF TEACHING BALLET II 2 credits**

Prerequisite: 426. A continuation of 426, with more

emphasis on teaching and practical work.

**7800:430 CRITICISM OF THE PERFORMING ARTS**

2 credits

Prerequisite: 330 and permission. After a preliminary discussion of methodology for written criticism, the student, in cooperation with various critics, actually participates in writing criticisms in several areas of the performing arts.

**7800:439 SPEECH AND THEATRE ARTS PRACTICUM**

1-12 credits

(May be repeated for a total of 23 credits.)

Prerequisite: Permission from a Departmental Committee on Special Projects.

**7800:460/560 DRAMATIC CRITICISM 3 credits**

Prerequisites: 367, 368 or permission. Detailed study of the major documents of dramatic criticism with special emphasis on the relevance of criticism today.

**7800:462/562 PLAYWRITING 2 credits**

Prerequisite: permission. Principles of dramatic construction learned through an analysis of the playwright's art, as well as through the writing of dramatic compositions by the individual student.

**7800:464 STAGE LIGHTING 2 credits**

Covers history, theory, and practices of stage lighting. Areas studied include: color theory, electricity and electrical safety, and dimming control systems.

**7800:466/566 ADVANCED PROBLEMS IN LIGHTING**

2 credits

Prerequisite: 464. A study of problems confronting the advanced lighting designer and technician.

**7800:467/567 CONTEMPORARY THEATRE STYLES**

3 credits

A study of contemporary theatre from the emergence of modern drama in the 19th Century through a reading list of representative plays, with special emphasis on departures from realism.

**7800:468/568 CHILDREN'S THEATRE 3 credits**

A study of theatre for the child audience: Play selection, set design and construction, acting, directing. A full-length play for children, produced by the class, culminates the course.

**7800:490/590 WORKSHOP IN THEATRE ARTS/DANCE**

1-3 credits

(May be repeated for a maximum of 8 credits.) Prerequisite: Advanced standing or permission. Group study or group projects investigating a particular phase of theatre arts or dance which is not covered by other courses in the curriculum.

## GRADUATE COURSES

**7800:600 INTRODUCTION TO GRADUATE STUDIES IN SPEECH AND THEATRE ARTS 1 credit**

A study of the basic research methods used in Speech and Theatre Arts. Students will present oral seminar reports and written research papers to indicate competence in the several research methods.

**7800:636 SPECIAL PROBLEMS IN ORAL INTERPRETATION 2 credits**

Prerequisite: Permission. A theory and performance course centering upon the interpretation of a variety of literary forms both individually and in a group.

**7800:641 PROBLEMS IN DIRECTING 3 credits**

An advanced directing course, with special emphasis on the staging of complex plays from all periods of drama.

**7800:642 PROBLEMS IN CONTEMPORARY ACTING**

3 credits  
A study of problems confronting the advanced actor in such areas as style, environmental theatre, mixed media, nonverbal productions and participatory theatre.

**7800:660 ADVANCED TECHNICAL THEATRE**

2 credits  
Detailed problems in mounting plays on secondary school, university, and professional stages.

**7800:663 SEMINAR: AMERICAN THEATRE**

2 credits

**7800:664 SEMINAR: COMMEDIA DELL'ART**

2 credits

**7800:665 SEMINAR: THEATRE AUDIENCES**

2 credits

**7800:666 INTRODUCTION TO ARTS MANAGEMENT**

2 credits  
An examination of efficient and practical arts management, with an emphasis on theatre operations. Individ-

ual projects and lectures by experts in the field highlight the course.

**7800:667-668-669 STUDIES IN DRAMATIC PRACTICE**  
Detailed and selective studies in the theatre, with emphasis on dramaturgy, social influences on theatre, auditoria and staging areas, technical elements and acting techniques.

**7800:667 PRE ELIZABETHAN THEATRE 2 credits**

**7800:668 THEATRE: ELIZABETHAN THROUGH 18TH CENTURY 2 credits**

**7800:669 THEATRE: 19TH AND 20TH CENTURIES 2 credits**

**7800:697 GRADUATE RESEARCH IN THEATRE ARTS 1-6 credits**

(May be repeated for a total of 6 credits.)  
Prerequisite: 600 and approval of project prospectus one term prior to undertaking the project. Performance of research on problems found in theatre arts.

**7800:699 RESEARCH AND THESIS 1-6 credits**

(May be repeated for a total of 6 credits.)  
Prerequisite: permission of department head.

# The College of Nursing

## 8200: NURSING

### 8200:100 INTRODUCTION TO NURSING 1 credit

This course is designed to introduce the student to nursing. Emphasis is placed on the historical perspective as a basis for modern trends in the profession of nursing.

### 8200:200 NURSING THEORIES AND CONCEPTS 5 credits

Prerequisite: 100. This course is designed to demonstrate the relationship of the relevant concepts and theories from the various sciences with man's interaction with the ecosystem. The focus is to relate these theories and concepts to the practice of nursing in the health care system utilizing a scientific research approach.

### 8200:273 GENERAL NURSING 5 credits

Prerequisites: 3750:141, 3850:100, 3150:129, 130 and permission. The course is designed to assist the student in formulating basic nursing principles and methods into nursing practice. Laboratory.

### 8200: 274 GENERAL NURSING 5 credits

Prerequisites: 273, 3100:130, 361 and permission. Designed to prepare students for further study and practice of nursing science. Laboratory.

### 8200: 276 NURSING PRACTICIUM 3 credits

Prerequisites: 273, 274 and permission. Opportunities are provided for the student to make application of theory from 273, 274 in the clinical laboratory. Included is a seminar where the student compares and contrasts basic concepts and applies them to the nursing process. Laboratory.

### 8200:278 COLLOQUIUM FOR R. N. STUDENTS 3 credits

Prerequisites: Course to be taken before challenging nursing courses. Provides opportunity for discussion and application of concepts; professional identity, accountability and responsibility, wellness-illness continuum, therapeutic communication, and teaching-learning process. Utilizes the nursing process as a problem-solving methodology for providing health care. The research process integrated through an independent study.

### 8200:300 NURSING PROCESS APPLIED TO MAN'S ADAPTATION IN HEALTH 12 credits

Prerequisite: 200. This course is designed to focus on healthy man's adaptation throughout man's life cycle. Emphasis will be placed on his interactions within an ecosystem approach. Nursing process is used to view this approach as holistic man's adaptation.

### 8200: 310 CULTURAL DIMENSIONS OF NURSING CARE 2 credits

Prerequisites: 3750:130, or permission. Application of cultural concepts in the delivery of nursing care to individuals, families, and communities. Exploration of attitudes, values and beliefs in relation to health and illness. Transcultural health practice in a multicultural society will be the focus.

### 8200: 315 NURSING PATHOPHYSIOLOGY 2 credits

Prerequisites: 274 or permission. A broad overview which develops an understanding of disease as a disturbance of normal physiologic processes. This course is built upon the basic care of nursing and continues to address the five needs of man.

### 8200:320 NURSING PROCESS APPLIED TO MAN'S MALADAPTATION 12 credits

Prerequisites: 100, 200, 300. This course is designed to focus on man's maladaptation throughout man's life cycle. Emphasis will be placed on his interactions within an ecosystem approach. Nursing process is used to view this approach as holistic man's adaptation.

### 8200: 324 ADULT NURSING THEORY 5 credits

Prerequisites: 273, 274, 276 or permission. 315 must be taken preceding or concurrently. Theory and concepts of Nursing Process as it applies to adult clients. Emphasis is on prevention, acuteness, chronicity and rehabilitation of individuals in health and diminished health situations.

### 8200: 325 ADULT NURSING PRACTICE 3 credit

Prerequisites: 273, 274, 276, 315 prerequisite or co-requisite. Clinical application of theories and concepts of the nursing process in the care of adult individuals. Experience will be provided in the acute settings and visits to prevention, rehabilitation or chronic care facilities. Laboratory.

### 8200: 335 MATERNAL-NEWBORN NURSING THEORY 4 credits

Prerequisites: 276, 3100:381 3750:130, 315 must be taken preceding or concurrently. Corequisite: 336. The focus of the course is emphasis on the family centered approach. Principles of the nursing process are explored in relation to the ante-partal, intrapartal and post-partal phases of the maternity cycle. Consideration is given to changing roles of families in response to enculturation. Focus of nursing action is on primary health care including health maintenance and restoration to health.

### 8200: 336 MATERNAL-NEWBORN NURSING PRACTICE 3 credits

Prerequisites: to be taken concurrently with 335. Centers upon application of the theory in 335, and the nursing process, to the care of families during the childbearing cycle. Opportunity is given to develop competency in the use of therapeutic skills and various modes of communication with clients and health team members in a variety of settings. Laboratory.

### 8200:345 NURSING OF CHILDREN THEORY 5 credits

Prerequisites: 276, 3100:381, 3750:130, 315 must be taken concurrently or preceding. This is a ten week course focusing upon the nursing process as a means of assisting children and families to attain, maintain and regain health. A problem-solving/decision making approach is utilized in studying health problems of each age group, infancy through adolescence.

### 8200:346 NURSING OF CHILDREN PRACTICE 3 credits

Prerequisites: 276, 3100:381, 375:130. A ten week course with focus on the application of the theory presented in 345. The Family Centered Approach is utilized in providing learning experiences in a variety of community agencies. Laboratory.

### 8200:400 NURSING PROCESS IN COMPLEX SITUATIONS 10 credits

Prerequisites: 320. This course is designed to assist the student in applying knowledge and skills in an integrative approach to clinical practice and will assist the student to strengthen application of knowledge to practice within a variety of settings. The student will be assisted to develop his/her roles as leader and

change agent within an interactive teaching/learning process.

**8200:420 ADVANCED NURSING PRACTICE 10 credits**  
Prerequisites: 320. This course will provide the student with independent practice opportunity. The emphasis would be to provide the student with practice in an area of his/her choice. Guidance and direction will be provided to students as necessary by a preceptor.

**8200:441 COMMUNITY NURSING—PSYCHIATRIC ASPECTS 6 credits**  
Prerequisites: 324, 325; 335, 336; 345, 346, and Senior Standing. Social and community aspects of psychiatry are explored with special attention given to behavioral theories, personality difficulties and clinical application in the care of disturbed patients. Laboratory.

**8200:451 COMMUNITY NURSING—HEALTH & WELFARE TEAMS 6 credits**  
Prerequisites: 324, 325; 335, 336; 345, 346 and Senior Standing. Nursing process is adapted to the needs of clients and communities at primary, secondary and tertiary levels. Concepts of public health science are applied to the analysis of family and community health problems. Laboratory.

**8200:461 ISSUES IN NURSING 2 credits**  
Prerequisites: One of the following courses: 441, 451, or 471 and Senior Standing. An orientation to current economic, social and educational trends with their influence on contemporary nursing. Nursing organizations and nursing opportunities, legal and professional relationships with their responsibilities are included.

**8200:471 SEMINAR IN NURSING 6 credits**  
Prerequisites: Senior Standing. Identification and investigation of the major problems in nursing to increase depth in nursing theory and facilitate the application of previous learning experiences. Performance of nursing functions of a beginning position and orientation to the organizational and operational aspects of nursing practice are included. Laboratory.

**8200: 489/589 SPECIAL TOPICS. 1-4 credits**  
Group studies of special topics in nursing. May not be used to meet requirements for the major in nursing. May be used for elective credit. May be repeated as new topics are presented.

**8200: 493/593 WORKSHOPS 1-3 credits**  
Group studies of special topics in Nursing. May not be used to meet college undergraduate of graduate major requirements. May be used for elective credit only. May be repeated as new topics are presented.

**8200:497 INDEPENDENT STUDY 1-3 credits**  
Prerequisites: Senior standing and the permission of the instructor. The course provides an opportunity to develop greater depth in an area of nursing through methodology specific to the discipline of nursing.

**8200: 498/598 SPECIAL READINGS 1-4 credits**  
Prerequisites: Permission by student's advisor or Dean. Special Readings in an area of concentration may be taken to satisfy elective credit. Special Readings may not be used to satisfy the requirements of the major.

## GRADUATE COURSES

**8200: 600 THEORETICAL BASIS FOR NURSING: PRACTICE I 4 credits**  
Prerequisites: Departmental approval. The purpose of this course is to study concepts and theories common to all specialty areas of nursing. It provides a firm basis for advanced clinical nursing practice.

**8200: 601 THEORETICAL BASIS FOR NURSING PRACTICE II 2 credits**  
Prerequisites: 600. This course will provide a forum for students from each of their selected areas of nursing concentration to come together to explore cognitive and affective concepts and the inter-relatedness of the needs of individuals, groups, families and communities for health care.

**8200: 610 CLINICAL INQUIRY I 2 credits**  
Prerequisites: Departmental approval. An examination of the relationship between selected theories, quasi theories and concepts in nursing practice and empirical verification. Emphasis will be placed on the discovery of knowledge and verification of theory within a context of clinical practice including an introduction to the logic of scientific inquiry.

**8200: 611 CLINICAL INQUIRY II 2 credits**  
Prerequisites: Statistics and 610. Techniques and methods of clinical research including problem formulation, design alternatives, methods of data collection and analysis. Focus on adaptation or research methods to the clinical setting and application of findings to innovation in practice.

**8200: 619 SYSTEMS APPROACH TO PSYCHIATRIC NURSING 3 credits**  
Prerequisites: Departmental approval. Major theoretical systems of historical importance to psychiatric nursing will be studied. Significant relationships between various systems will be examined and related to psychiatric nursing practice.

**8200: 620 PSYCHIATRIC MENTAL HEALTH NURSING I 3 credits**  
Prerequisites: 600. A combination of seminar and clinical practicum will be used to study theoretical approaches to intervention with individual clients in psychiatric mental health settings including both long-term and crisis intervention.

**8200:621 PSYCHIATRIC MENTAL HEALTH NURSING II 3 credits**  
Prerequisites: 601 and 620. This course is focused on theory and intervention with formal and informal groups with emphasis upon differentiation between content and process in group interaction and normal and pathological responses in groups. Practicum requires experience in leading and co-leading formal groups and management of informal groups with concomitant review of clinical data by faculty and classmates.

**8200:622 PSYCHIATRIC MENTAL HEALTH NURSING III 3 credits**  
Prerequisites: 621. A course on theory and practice in relation to intervention with rural and urban families who are clients of mental health and other community health facilities. Practicum requires intervention with a family with review of clinical experience by faculty and seminar groups.

**8200:623 PSYCHIATRIC MENTAL HEALTH NURSING IV 3 credits**  
Prerequisites: 622 and first year course requirements. A course on theory and practice in community systems including institutions, neighborhoods, and political and economic systems. Field experience in communication in large systems and evaluation of programs of intervention.

**8200:630 FAMILY HEALTH NURSING I 3 credits**  
Prerequisites: 600 and Pathophysiology. A combination of seminar and clinical practicum will be used to study the role of the family health nurse clinician and to develop competencies in the implementation of the Primary Care Nursing Process. (The focus is on the normative.)

**8200:631 FAMILY HEALTH NURSING II 3 credits**  
Prerequisites: 601, 610, and 630. A continuation of Family Health Nursing I. Emphasis is given to the normative as compared to the abnormal and the evaluative process specific to primary care nursing. Knowledge from the biological, social and behavioral sciences is utilized in assessment, health promotion and management of client problems. The student will begin health assessment and care in the multidisciplinary health care system.

**8200:632 FAMILY HEALTH NURSING III 3 credits**  
Prerequisites: 631, Year I completion, Sociology of the Family, and Pathophysiology. The student will be encouraged toward self direction in the application of the primary care nursing process. Opportunities will be focused on the middle-aged families, the post parenting families, and the families of the aged.

**8200:633 FAMILY HEALTH NURSING IV 3 credits**  
Prerequisites: 632, and first year course requirements. Theory and practice focuses on systems of health care delivery involving institutions, neighborhoods, social systems and the political and economic systems that support them. The clinical experience will include direct intervention with individuals, groups and families in interdisciplinary practice and indirect care opportunities through consultation, program planning, group teaching and evaluation of programs of intervention.

**8200:641 NURSING OF THE ADULT I 5 credits**  
Prerequisites: 600, 3100:561. Theory and practice will be utilized to facilitate the synthesis and implementation of current advanced theories and concepts from the biophysical, behavioral and nursing sciences in the assessment and health promotion of the adult. Acquisition of primary nursing skills with the initiation of health care will be emphasized.

**8200:642 NURSING OF THE ADULT II 4 credits**  
Prerequisites: 601, 610, 640, 3100:562. An analysis of the adult and family experiencing complex alterations resulting from an acute episode of diminished health. Adaptation and coping mechanisms will be studied. Building on Nursing of the Adult I, the clinical experience will provide an opportunity to develop, implement, and evaluate nursing strategies congruent with the student's own theoretical framework for nursing practice. Provision will be made for additional proficiency in management skills, collaboration with other health care providers and individual and family participation in the management of health problems. Students may focus on a selected clinical area.

**8200:643 NURSING OF THE ADULT III 4 credits**  
Prerequisites: First year course requirements and 641. Theoretical sessions and clinical experiences will encourage the student toward self-direction in the application of the nursing process to adults, as individuals, in families, and in groups, who are concerned with long-term alterations from health. Incorporating cognitive and affective concepts and psychomotor skills derived from previous courses, this course will focus on advanced concepts of rehabilitation, the role of the interdisciplinary team, collaboration with consumers of health care, evaluation of a long-term health care setting and the effectuation of change.

**8200:670-671 SPECIAL TOPICS 2 credits each**  
Prerequisites: Completion of all required first year courses. Selected topics and areas of interest to faculty and students will be available as electives.

**8200:680 FUNCTIONAL AREA OF THE CLINICAL SPECIALTY I 2 credits**  
Prerequisites: First year course requirements. Individually planned practicum in which the student performs in the role of a clinical specialist in a setting selected

by the student and his preceptor. Ongoing seminar focuses on the role, position, and function of the clinical specialist as well as current trends and issues regarding specialization in nursing.

**8200: 681 FUNCTIONAL AREA OF THE CLINICAL SPECIALTY II 2 credits**  
Prerequisites: 680. Continuation of 680.

**8200: 682 FUNCTIONAL AREA OF THE CLINICAL SPECIALTY III 3 credits**  
Prerequisites: 681. Continuation of 681.

**8200: 690 CURRICULUM AND TEACHING IN NURSING 2 credits**  
Prerequisites: First year course requirements. Concepts in curriculum development with a focus on philosophical commitments, theoretical frameworks, and educational goals.

**8200: 691 TEACHING AND EVALUATION OF NURSING 2 credits**  
Prerequisite: 690. Concepts of evaluation of educational goals with a focus on student learning opportunities and appraisal of student achievement.

**8200:692 PRACTICUM IN TEACHING NURSING 3 credits**  
Prerequisite: 691. Guided study and practice in the roles and functions of a teacher in a selected clinical nursing field.

**8200: 693 NURSING ADMINISTRATION I 2 credits**  
Prerequisites: First year course requirements. A seminar course emphasizing concepts and inquiries as they relate to principles of administrative process and behavior. Use of role theory will be emphasized.

**8200: 694 NURSING ADMINISTRATION II 2 credits**  
Prerequisites: First year course requirements. A seminar course emphasizing theory in teaching, learning, and the roles of the administration in a variety of health care settings.

**8200:695 PRACTICUM IN NURSING ADMINISTRATION 3 credits**  
Prerequisites: First year course requirements. Guided study and practice in the roles and functions of a nursing administrator in a selected clinical nursing field.

**8200:697 INDIVIDUAL INVESTIGATION 1-3 credits**  
For the student who desires to choose research as the functional role. Up to 7 semester hours may be taken to pursue a research project. This is over and above thesis or non-thesis study. Project to be approved by faculty advisor.

**8200:698 NON-THESIS PROJECT OPTION 3 credits**  
Prerequisites: Completion of first year of the program. Students must register for a total of 3 semester hours and carry out an applied clinical project which meets the approval of a project committee. A project is a report of the application of research findings in a clinical setting, a critical analysis of the literature directed toward a significant nursing problem or individual projects which meet the approval of a faculty committee.

**8200:699 THESIS 3 credits**  
Prerequisites: Completion of first year of the program. Students must register for a total of 3 semester hours. The thesis is a report of a faculty supervisor, clinical or non-clinical research investigation, that is suitable for publication and which meets the approval of a thesis committee.

# The School of Law

## 9200: LAW

### 9200:601 CIVIL PROCEDURE I 3 credits

Survey of civil procedure in state and federal courts. Jurisdiction. Pleading, motions, joinder of parties and causes of action. Judgments. Trial and appellate practice.

### 9200:602 CIVIL PROCEDURE II 3 credits

Prerequisite: 601. Continuation of 601.

### 9200:603 CONSTITUTIONAL LAW I 2 credits

Governmental authority and its distribution under the Constitution. Introduction to individual rights and liberties.

### 9200:604 CONSTITUTIONAL LAW II 2 credits

Prerequisite: 603. Continuation of 603.

### 9200:605 CONTRACTS I 3 credits

Nature and purpose of contract law. Formation. Consideration. Contractual alternatives. Reality of consent. Capacity. Statute of Frauds.

### 9200:606 CONTRACTS II 2 credits

Prerequisite: 605. Construction. Breach and associated remedies. Resolution of disputes. Discharge. Third party interests.

### 9200:607 CRIMINAL LAW 3 credits

Nature and source of criminal liability studied in light of modern developments. The act. Mental conditions requisite to criminal responsibility. Specific crimes and defenses thereto.

### 9200:608 EVIDENCE I 2 credits

Nature of judicial proof; the law of evidence by which the trial and resolution of issues of fact by judicial tribunals are regulated.

### 9200:609 EVIDENCE II 2 credits

Prerequisite: 608. Continuation of 608.

### 9200:611 LEGAL PROCESS 2 credits

Law making by private parties, courts, legislatures and administrative agencies. Statutory interpretation. Coordination of law-making techniques.

### 9200:612 LEGAL PROFESSION 1 credit

Legal profession as an institution. Profession responsibilities of lawyers. Duties and privileges of membership. Professional qualifications.

### 9200:613 LEGAL RESEARCH AND ADVOCACY

1 credit

Development and integration of skills in legal research, argumentation, writing and advocacy.

### 9200:614 PROPERTY I 3 credits

Possession, means by which title may be obtained; fixtures; emblements; estates in land; concurrent ownership; the deed; the mortgage, the land contract.

### 9200:615 PROPERTY II 3 credits

Prerequisites: 614. History of land law; Statute of Frauds; recording; title; registration; covenants for title; adverse possession; landlord-tenant relationship; legislation restricting land use; easements; licenses; private restrictions; water rights.

### 9200:616 TORTS I 3 credits

Survey of basic tort law and its function; impact of insurance and notions of allocating cost of unintentionally caused harm on tort doctrines keyed to negligence.

### 9200:617 TORTS II 3 credits

Prerequisites: 616. Continuation of 616.

### 9200:621 ACCOUNTING FOR LAWYERS

2 credits

Accounting principles in selected areas, including taxation, corporate enterprise and regulation of economic activity. Income determination, measurement and evaluation of business capital. Interpretation of accounting statements.

### 9200:622 ADMINISTRATION OF CRIMINAL JUSTICE

3 credits

Administration of criminal justice relating processes of criminal law to objectives of criminal correction. Effects of federal constitutional provisions on criminal procedure.

### 9200:623 ADMINISTRATIVE PROCESS 3 credits

Prerequisites: 604. Traditional politico-legal theories of separation of powers and the administrative process; procedure for rule-making and adjudication; conclusiveness of administrative determination.

### 9200:624 AIR LAW 3 credits

Law of modern air transportation in international and domestic flight and the emerging area of outerspace.

### 9200:625 ANTITRUST LAW 2 credits

Fundamentals of antitrust; questions of evidence in price fixing and boycotts under the Sherman Act, resale restrictions and tie-ins, scope of antitrust law and certain exemptions.

### 9200:626 BASIC BUSINESS ASSOCIATIONS 3 credits

Vicarious liability. Employment relationships and scope. Authority and apparent authority. Misrepresentation by an agent. Undisclosed principal. Ratification. Elements of partnership and other unincorporated business associations.

### 9200:627 COMMERCIAL TRANSACTIONS:

#### NEGOTIABLE INSTRUMENTS 3 credits

Commercial paper and bank deposits and collections under Articles 3 and 4 of the Uniform Commercial Code and under prior uniform acts relevant to modern law of commercial paper.

### 9200:628 COMMERCIAL TRANSACTIONS: SALES

2 credits

Law of sales of personal property under Article 2 of the Uniform Commercial Code and under prior uniform acts relevant to the modern law of sales.

### 9200:629 COMMERCIAL TRANSACTIONS: SECURED

#### TRANSACTIONS 3 credits

Security interests in personal property emphasizing the Uniform Commercial Code, portions of the Bankruptcy Act affecting the rights of secured parties; problems of priority between security interests and federal tax liens.

### 9200:630 ADMIRALTY 2 credits

History and jurisdiction of and practice in admiralty; carriage of goods by water and combined transport, collision, salvage and insurance; claims for personal injury and death claims; maritime lien.

### 9200:631 CONFLICT OF LAWS I 2 credits

Problems of application of private law in jural relations containing one or more foreign law elements. Jurisdiction and enforcement of foreign judgments.

**9200:632 CONFLICT OF LAWS II 2 credits**  
Prerequisites: 631. Continuation of 631.

**9200:633 CORPORATIONS I 2 credits**  
Conduct of the business enterprise. Control, management, financing, and governmental regulation of corporations, whether publicly owned or closely held. Management benefits and hazards, asset distribution to shareholders, dissolution and reorganization.

**9200:634 CORPORATIONS II 2 credits**  
Prerequisite: 633. Continuation of 633.

**9200:635 CREDITORS' RIGHTS 2 credits**  
Recommended: 627. Provisional remedies and enforcement of judgments. Fraudulent conveyances. General assignments for benefit of creditors. Creditors' agreements. Bankruptcy.

**9200:636 DEVELOPMENT OF LAW AND LEGAL INSTITUTIONS 2 credits**  
An historical introduction to the Anglo-American legal system.

**9200:637 EQUAL OPPORTUNITY LAW 2 credits**  
Prerequisite: 604. Legal developments, primarily federal, affecting discrimination in employment, housing and public accommodations.

**9200:638 FAMILY LAW 3 credits**  
Major areas of family law; theories that have influenced its development. Functions performed by various agencies which seek to effect a nonjudicial settlement of domestic problems. Adoption.

**9200:639 FEDERAL ESTATE AND GIFT TAXATION 2 credits**  
Federal estate and gift taxation; relation between federal income tax and federal taxes on gratuitous transfers; the place of federal taxes in estate planning.

**9200:641 FEDERAL INCOME TAXATION I 3 credits**  
Survey of federal income tax law with primary emphasis on individual income. May be taken independently of 642.

**9200:642 FEDERAL INCOME TAXATION II 3 credits**  
Prerequisite: 641. Survey of federal income tax law with primary emphasis on taxation of business units.

**9200:643 FEDERAL JURISDICTION AND PROCEDURE 3 credits**  
Prerequisites: 602. Congress, the federal courts and the Constitution; appellate and collateral review; federal question, diversity and admiralty cases; sovereign immunity, abstention and enjoining state actions; choice of law; federal common law.

**9200:644 FINANCING STATE AND LOCAL GOVERNMENT 2 credits**  
Planning, programming and budgeting; state and federal programs; local taxes; use of public authorities and special districts; property tax limits; debt limits; state supervision of local finance.

**9200:645 GOVERNMENT CONTRACTS 3 credits**  
Prerequisites: 606. Contracting with governmental units, primarily federal, including sovereign power to contract and limitations thereon; contract formation and performance clauses and litigation, considering applicable statutes, regulations and executive orders.

**9200:646 INJURIES TO RELATIONS 2 credits**  
Prerequisites: 606 and 617. Theories of liability for invasion of nonpersonal and nonproperty interests arising in three-party situations. Tort remedies available for physical, appropriational, and defamatory harms to trade, family, community and political relations.

**9200:647 JUVENILE LAW 2 credits**  
The study of laws relating to juveniles (neglect, dependency and delinquency).

**9200:648 INSURANCE LAW 2 credits**  
Legal principles of insurance of person and property, including insurable interest, measure of recovery, subrogation, rights of assignees and beneficiaries, warranty, concealment, representation and fraud. Adjustment of claims. Regulation.

**9200:649 INTERNATIONAL LAW 3 credits**  
Nature and breadth of international law; its sources and subjects, and relation to municipal law, to individuals, and to international organizations.

**9200:650 LABOR LAW 3 credits**  
Collective bargaining process. Representation procedures. Duty to bargain. Unfair labor practices of labor and management, strikes, picketing, boycotts, lockouts. Jurisdictional disputes.

**9200:651 LABOR ARBITRATION AND COLLECTIVE BARGAINING 2 credits**  
Prerequisites: 650. Law and practice of labor arbitration and collective bargaining, including a study of grievance arbitration process pursuant to collective bargaining agreements.

**9200:652 LAND USE PLANNING 2 credits**  
Prerequisites: 615. Assumptions, doctrines and implications of planning law; zoning; legal and administrative problems involved in allocating and developing land located in the metropolitan area.

**9200:653 LAW AND SOCIAL CHANGE 2 credits**  
Examination and study of the influence of law on society and society on law to illuminate contemporary developments in law and social institutions.

**9200:654 LAW OF CONSUMER CREDIT 2 credits**  
Recommended: 627 and 628. Consumer sale and credit transactions and their regulation, including specific statutory and administrative approaches dealing with problems of individual consumers and classes of consumers.

**9200:655 LAW REVIEW INTERNSHIP I 1 credit**  
Prerequisite: completion of first year and invitation predicated upon scholarship or demonstrated writing skills. Citations; preparation of casenote of recent cases. Graded Credit/Non-Credit.

**9200:656 LAW REVIEW INTERNSHIP II 1 credit**  
Prerequisites: 655. Recent case analyses and criticism; correction of casenotes or comments of others ("spading"). Graded Credit/Non-Credit.

**9200:657 LAW REVIEW, STAFF 1 credit**  
Prerequisites: 656. Preparation of comment or article of publishable quality. May be repeated once. Graded Credit/Non-Credit.

**9200:658 LAW REVIEW, EDITORIAL BOARD 1 credit**  
Prerequisites: 657 and election to Editorial Board. One credit per term for service on Akron Law Review Editorial Board; total credits for 655, 656, 657 and 658 not to exceed five (5) credits. Graded Credit/Non-Credit.

**9200:659 LAWYER AS NEGOTIATOR 2 credits**  
Prerequisite: 602. The lawyer's role as negotiator in planning negotiations and determination of strategies to effect object, weighing legal, economic, behavioristic, ethical and social factors that condition outcomes.

**9200:661 LEGAL CONTROL OF THE ENVIRONMENT 3 credits**  
Substantive and procedural problems in legal control of air and water pollution, common law precedents;

federal and state statutory law, federal administrative agencies, civil actions, constitutional consideration; federal tax incentives.

**9200:662 LEGAL REGULATION OF COMPETITION**  
2 credits

Regulated and unregulated sectors of industry aside from antitrust law; law of pricing practices; regulation of entry and rates; Robinson-Patman Act.

**9200:663 LEGISLATION** 2 credits

Legislative process in the context of legislative organization, policy formulation, drafting, statutory construction, constitutional limitations on subject matter and form and judicial interpretation; illustrative drafting problems.

**9200:664 LOCAL GOVERNMENT LAW** 2 credits

Nature of municipal corporations. Creation, annexation, and dissolution. Home rule. Police powers. Financing. Federal-state-local relationships. Staffing. Contractual and delictual liability.

**9200:665 MODERN REAL ESTATE TRANSACTIONS**  
3 credits

Prerequisite: 615. Real estate transactions such as condominiums, cooperatives, sales and leasebacks, high credit leases, leasehold mortgage, construction lending and syndication, with major emphasis on financing and related tax considerations.

**9200:666 MOOT COURT** 1 credit

Credit for participation by brief writing or written argumentation in National Moot Court, Jessup International, or other approved Moot Court Competitions. Not open to First-Year students. Graded Credit/Non-Credit.

**9200:667 PATENT, TRADEMARK AND COPYRIGHT LAW** 2 credits

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, infringement, plagiarism and unfair competition.

**9200:668 REMEDIES I** 2 credits

Comparison of relief at law and in equity; actions for damages, for restitution, for specific performance, injunction, rescission, reformation, bill of peace, interpleader, quiet title, and declaratory judgment.

**9200:669 REMEDIES II** 2 credits

Prerequisites: 668. Continuation of 668.

**9200:671 SECURITIES REGULATION** 2 credits

Prerequisites: 634. State and federal law and rules of the Securities and Exchange Commission in the issuance and trading of securities; legal and self-regulatory aspects of the securities industry.

**9200:672 SEMINAR IN BUSINESS PLANNING**

3 credits

Prerequisites: 634 and 642 or permission of instructor. An advanced course using the problem approach in planning business transactions in light of applicable corporate, tax and securities law.

**9200:673 SEMINAR IN COMPARATIVE LEGAL SYSTEMS** 2 credits

A study of contemporary foreign legal systems by a discussion of basic problems in specific areas on a comparative basis.

**9200:674 SEMINAR IN CORRECTIONS AND PRISONERS' REMEDIES** 2 credits

A study of theoretical and practical aspects of sentencing, punishment, treatment, release and alternatives

thereto; developments in the field of prisoners' rights and remedies.

**9200:675 SEMINAR IN ESTATE PLANNING** 3 credits

Prerequisites: 641 and 686 or permission of instructor. Relevant tax and nontax problems in planning of estates and examination of dispositive devices in accomplishing the objectives of estate planning.

**9200:676 SEMINAR IN INTERNATIONAL TRANSACTIONS AND RELATIONS** 3 credits

Legal problems in doing business abroad. Entry, holding, property, economic activity and choice of incorporated form; restrictive practices, currency and exchange. European Common Market. Relations being developed and developing countries.

**9200:677 SEMINAR IN JUDICIAL ADMINISTRATION**  
2 credits

Problems and practices in selection, tenure and removal of judges, selection and responsibilities of court administrators, the effect of devices and procedures used to expedite movement of cases through the litigation process; analysis of suggested reforms.

**9200:678 SEMINAR IN JURISPRUDENCE** 2 credits

Examination and evaluation of principal theories of legal philosophy. Theories are frequently considered in connection with concrete problems and are evaluated in light of various goal values.

**9200:679 SEMINAR IN LABOR LAW** 2 credits

Prerequisites: 650. Selected issues in labor law and labor relations such as internal union affairs, union democracy, bargaining in the public sector, discrimination in employment and topical affairs.

**9200:680 SEMINAR IN PENSION AND PROFIT SHARING** 2 credits

Recommended: Completion of 634 and 642. Employee Benefit plans; qualified pension and profit-sharing plans under the Internal Revenue Code. Nonqualified contracts involving individual employees.

**9200:681 SEMINAR IN LEGAL PROBLEMS OF THE DISADVANTAGED** 2 credits

Selected legal problems of persons disadvantaged by such factors as age, illness, mental incompetency and poverty.

**9200:682 SEMINAR IN POLITICAL AND CIVIL RIGHTS** 2 credits

Prerequisites: 604. A study of some of the basic problems in the relationship of the individual to government and in the protection of rights of minority groups.

**9200:683 SEMINAR IN PRODUCT LIABILITY**  
2 credits

Prerequisites: 617. Recommended: 628. Liability for defective products and developing legal theories and remedies. Examination of government regulation of dangerous and defective products.

**9200:684 SEMINAR IN SELECTED LEGAL PROBLEMS** 1-3 credits

May be repeated. Analysis of special or current legal problems offering opportunities for legal research, effective integration of legal and relevant non-legal materials, and expository legal writing.

**9200:685 WILLS, TRUSTS AND ESTATES I** 3 credits

Intestate succession; execution, revocation and revalidation of wills; creation and termination of trusts; gifts to charity; will substitutes; future interests; powers of appointment; and class gifts.

**9200:686 WILLS, TRUSTS AND ESTATES II** 3 credits

Prerequisite: 685. Continuation of 685.

**9200:691 SELECTED PROBLEMS, INTERNATIONAL LAW 2 credits**

Prerequisite: 649. Topical international problems and use of international law research materials in dealing with concrete international legal problems; analysis and preparation of short legal opinions.

**9200:692 PROBLEMS IN TRIAL ADVOCACY 2 credits**

Assigned problems requiring the application of rules and procedures and professional considerations in typical trial contexts.

**9200:696 LEGAL AID 2 credits**

Prerequisite: Completion of 28 credits, and permission of clinical director. May be repeated once. Application of legal knowledge to practical problems in supervised public law office contexts. Graded Credit/Non-Credit.

**9200:698 INDIVIDUAL STUDIES AND RESEARCH**

*1-3 credits*

May be repeated to 6 credits. With permission of Dean, special problems projects, or research may be taken for varying credit under supervision of a member of the faculty.

# VII. University Directory

## Board of Trustees

### DECEMBER 1977

- Mr. Ray C. Bliss ..... 2535 Addyston Road, Akron, Ohio 44313  
(Term expires 1984)
- Mr. Mario Di Federico ..... 2490 Brice Rd., Akron, Ohio 44313  
(Term expires 1986)
- Mr. W. Howard Fort ..... 1928 Oakridge Drive, Akron, Ohio 44313  
(Term expires 1978)
- Mr. Vincent H. Johnson ..... 380 W. Fairlawn Blvd., Akron, Ohio 44313  
(Term expires 1979)
- Mr. Robert J. Kidney ..... 2993 Vincent Road, Silver Lake, Cuyahoga Falls, Ohio 44224  
(Term expires 1981)
- Miss Frances McGovern ..... 550 Woodside Drive, Akron, Ohio 44303  
(Term expires 1982)
- Mr. Charles J. Pilliod, Jr. .... 311 Ely Road, Akron, Ohio 44313  
(Term expires 1985)
- Mr. Bernard I. Rosen ..... 277 Hollywood, Akron, Ohio 44313  
(Term expires 1980)
- Mr. Malcolm Rowan ..... 2838 S. Park Drive, Silver Lake, Cuyahoga Falls, Ohio 44224  
(Term expires 1983)

## Administrative Officers and Assistants

### UNIVERSITY ADMINISTRATION

D. J. Guzzetta, Ed.D., LL.D., D.S.Sc., L.H.D.	President of the University
Noel L. Leathers, Ph.D.	Vice President and Provost
R. Wayne Duff, LL.B.	Vice President for Business and Finance
Ian R. MacGregor, Ph.D.	Vice President for Planning
Richard L. Hansford, M.A.Ed.	Vice President and Dean of Student Services
George W. Ball, B.A.	Executive Director of University Relations and Development

### DEANS

Claibourne E. Griffin, Ph.D.	Dean of the Buchtel College of Arts and Sciences
Coleman J. Major, Ph.D.	Dean of the College of Engineering
H. Kenneth Barker, Ph.D.	Dean of the College of Education and Dean of International Programs
James W. Dunlap, Ph.D.	Dean of the College of Business Administration
Gerard L. Knieter, Ed.D.	Dean of the College of Fine and Applied Arts
Stanley A. Samad, J.S.D.	Dean of the School of Law
Lillian J. DeYoung, Ph.D.	Dean of the College of Nursing
Robert C. Weyrick, M.S.	Dean of the Community and Technical College
John G. Hedrick, M.A.	Dean of Wayne General and Technical College
Joseph M. Walton, Ph.D.	Associate Dean of Graduate Studies and Research
William A. Rogers, Ed.D.	Executive Dean of Continuing Education and Public Services
Caesar A. Carrino, Ph.D.	Dean of Evening College and Summer Sessions
Marion A. Ruebel, Ph.D.	Dean of General College

### OTHER UNIVERSITY OFFICIALS

Howard R. Baldwin, M.Ed.	Registrar
James P. Banks, B.S.	Development Officer
Mrs. Marilyn J. Carrell, M.S.Ed.	Director of Placement
Clark Biggins, B.S.C.	Director of Purchasing
Donald L. Bowles, B.S.I.M., B.S.Ed.	Assistant to the Vice President for Planning
Allen M. Boyer, B.A.	Director of Alumni Relations and Development Officer
Thomas O. Brown, Ph.D.	Director of Testing and Counseling Bureau
Foster S. Buchtel, M.B.A.	Assistant to the President
Robert G. Corbett, Ph.D.	Coordinator of Research
J. Dale Foster, B.S.	Director of Staff Personnel
Russel Giersch, B.M.E.	Director of Physical Plant
Robert D. Hahn, M.Ed.	Director of Student Financial Aids
Alberta R. Hensley, B.S.	Assistant to the Executive Director of University Relations and Development
Jay R. Hershey, M.Ed.	Director of Residence Halls
David Johnston, M.S.	Development Officer
Dudley C. Johnson, Jr., M.S.Ed.	Director of Counseling and Advising
Ted A. Mallo, J.D.	Director, University Legal Services
Thomas T. Miles, Ph.D.	Director of Instructional Media
Henry Nettling, B.S.B.A.	Controller
Mrs. Mary O'Neil, B.A.	Director of University News Service
James O. Oswald, B.S.Ed., B.A.	Director of University Publications
John W. Owen, M.A.	Director of Admissions
Charles F. Poston, Ph.D.	Director of Institutional Research and Academic Personnel
George E. Raymer, M.A.Ed.	Director of Radio and Television Information
Donald E. Sabatino, M.A.Ed.	Director of the Gardner Student Center
H. Paul Schrank, Jr., M.S.	University Librarian
Frank B. Thomas, M.A.	Director of the Computer Center
Mrs. Kathryn Vegso, M.S.Ed.	Assistant to the Vice President and Dean of Student Services
John S. Watt, Ph.D.	Assistant Provost
W. Richard Wright, B.A.	Assistant to the President - Off-Campus

## University Emeritus Faculty

December 1977

- NORMAN P. AUBURN, *President Emeritus of the University, Professor Emeritus of Political Science and Consultant* (1951) (Ret. as President 1971; Consultant 1971) 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 (West Africa), 1959; Litt.D., Washburn University of Topeka, 1961; L.H.D., College of Wooster, 1963; LL.D., The University of Akron, 1971.
- PAUL ACQUARONE, *Professor Emeritus of Botany and Geology* (1931) (Ret. 1965)  
B.S., Pennsylvania State College; Ph.D., Johns Hopkins University, 1929.
- DAVID E. ANDERSON, *Associate Professor Emeritus of Engineering Materials* (1923) (Ret. 1962)  
B.A., Augustana College; M.S., University of Chicago, 1923.
- MRS. HELEN MAE ARNETT, *Associate Professor Emeritus of Bibliography* (1953) (Ret. 1972)  
B.A., The University of Akron; B.S.L.S., Case Western Reserve University; M.A., San Jose State College (California); Ph.D., Case Western Reserve University, 1965.
- JOHN BACHMANN, *Professor Emeritus of Chemistry* (1960) (Ret. 1976)  
B.Ch.E., Ph.D., University of Minnesota, 1939.
- GERTRUDE BADGER, *Associate Professor Emeritus of Education* (1965) (Ret. 1977)  
B.S.Ed., B.A., The Ohio State University; M.Ed., Kent State University, 1960.
- EVELYN BAER, *Associate Professor Emeritus of Speech* (1966) (Ret. 1974)  
B.A., University of Chicago; M.A., The University of Akron, 1948.
- IRENE C. BEAR, *Professor Emeritus of Home Economics* (1944) (Ret. 1968)  
B.S., Illinois Wesleyan University, M.A., Texas State College for Women, 1937.
- HELEN BECKER, *Associate Professor Emeritus of Primary Education* (1949) (Ret. 1968)  
B.S., M.A., Ed.D., Columbia University Teachers College, 1949.
- CLARE BEDILLION, *Associate Professor Emeritus* (1968) (Ret. 1975)  
B.A., Woman's College of Georgia; M.A., New York University, 1944; Ph.D., University of Michigan, 1974.
- ROBERT C. BERRY, *Director of Placement Emeritus* (1946) (Ret. 1976)  
B.S.B.A., The University of Akron, 1942.
- VINCENT J. BIONDO, *Assistant Professor Emeritus of Education* (1968) (Ret. 1976)  
B.A., M.A., M.A.Ed., The University of Akron, 1957.
- RENA NANCY CABLE, *Associate Professor Emeritus of Art* (1927) (Ret. 1953)  
B.F., M.Ed., The University of Akron, 1931.
- FRANCES A. CLARK, *Associate Professor Emeritus of Accounting* (1946) (Ret. 1974)  
B.S., The University of Akron; M.Ed., University of Pittsburgh, 1946.
- KENNETH COCHRANE, *Professor Emeritus of Physical Education* (1948) (Ret. 1973)  
B.E., The University of Akron; M.Ed., University of Pittsburgh, 1941.
- GERALD CORSARO, *Professor Emeritus of Chemistry* (1948) (Ret. 1976)  
B.S., Fenn College; M.S., Ph.D., Case Western Reserve University, 1944.
- DONALD M. DAVIS, *Associate Professor Emeritus of Transportation* (1966) (Ret. 1977)  
B.S.B.A., University of Dayton; M.S., University of North Carolina, 1952.
- EMILY DAVIS, *Professor Emeritus of Art* (1945) (Ret. 1973)  
B.A., The Ohio State University; M.A., Columbia University, Teachers College; Ph.D., The Ohio State University, 1936.
- HJALMER W. DISTAD, *Professor Emeritus of Education* (1934) (Ret. 1963)  
B.S.Ed., M.A., Ph.D., University of Minnesota, 1926.
- ELDORA FLINT, *Associate Professor Emeritus of Secretarial Science* (1929) (Ret. 1957)  
B.E., The University of Akron; M.S.Ed., Syracuse University, 1935.
- VAUGHN W. FLOUTZ, *Professor Emeritus of Chemistry* (1941) (Ret. 1970)  
B.A., Olivet College; M.A., Ph.D., University of Colorado, 1932.
- OMER R. FOUTS, *Associate Professor Emeritus of Physics* (1926) (Ret. 1965)  
B.A., Wittenberg University; M.A., The Ohio State University, 1925.
- OSSIAN GRUBER, *Assistant Professor Emeritus of Business Administration* (1946) (Ret. 1962)  
B.A., University of Minnesota; M.B.A., Northwestern University, 1928.
- EMILE GRUNBERG, *Professor Emeritus of Economics* (1946) (1956) (Ret. 1970)  
A.M., M.A., Ph.D., University of Frankfurt, 1930.
- DOROTHY HAMLEN, *Professor Emeritus of Bibliography* (February 1937) (Ret. 1972)  
B.A., The University of Akron; B.S.L.S., Case Western Reserve University, 1942.
- LOUIS F. HAMPEL, *Associate Professor Emeritus of Finance* (1933) (1968) (Ret. 1974)  
B.S., The University of Akron; M.B.A., Northwestern University, 1931.
- PETER J. HAMPTON, *Associate Professor Emeritus* (August 1954) (Ret. 1975)  
B.A., M.A., University of Manitoba (Canada); Ph.D., Case Western Reserve University, 1950.
- LESLIE P. HARDY, *Financial Vice President Emeritus* (1934) (Ret. 1964)  
B.S.Ed., Kent State University; M.S.Ed., The University of Akron, 1935; L.H.D., The University of Akron.
- MARY GRACE HARRINGTON, *Associate Professor Emeritus of Bibliography* (1960) (Ret. 1976)  
B.S., The University of Akron; B.A.L.S., University of Michigan, 1939.
- IRENE HORNING, *Assistant Professor Emeritus of Biology* (1946) (Ret. 1970)  
St. John's Hospital School of Nursing, R.N., 1928; B.S.N., Western Reserve University, 1934.
- MARTHA HOSFELT, *Instructor Emeritus in English* (1961) (Ret. 1977)  
B.A., The University of Akron, 1959.

- DONATO INTERNOSCIA, *Professor Emeritus of Modern Languages* (1938) (Ret. 1963)  
B.A., Broadview College; M.A., Ph.D., Northwestern University, 1938.
- ALFRED H. JOHNSON, *Associate Professor Emeritus of Education* (1956) (Ret. 1969)  
B.S., College of Wooster; M.S., Ph.D., University of Wisconsin, 1956.
- DON A. KEISTER, *Distinguished Professor Emeritus of English* (1931) (Ret. 1971)  
B.A., M.A., The University of Akron; Ph.D., Western Reserve University, 1947.
- R. D. LANDON, *Professor Emeritus of Civil Engineering* (February 1946) (Ret. 1963)  
C.E., M.S., University of Cincinnati, 1927; P.E., Ohio
- DOROTHY LAUBACHER, *Professor Emeritus of Home Economics* (1950) (Ret. 1977)  
B.S., M.A., The Ohio State University; M.L.S., Kent State University, 1967.
- WILL LIPSCOMBE, *Associate Professor Emeritus of Mathematics* (1921) (Ret. 1962)  
B.S., Florida State College; M.S., The Ohio State University, 1926.
- MARGARET EVELYN MAUCH, *Professor Emeritus of Mathematics* (1945) (Ret. 1963)  
B.S., Huron College; M.S., Ph.D., University of Chicago, 1938.
- ESTELLE B. NAES, *Professor Emeritus of Nursing and Dan Emeritus of the College of Nursing* (1966) (Ret. 1975)  
B.S.N., M.S.N.E., Ph.D., Saint Louis University, 1922, R.N.
- SAMUEL C. NEWMAN, *Professor Emeritus of Sociology* (1951) (Ret. 1973)  
B.A., University of Pittsburgh; M.A., Oberlin College; Ph.D., The Ohio State University, 1939.
- ROBERT A. OETJEN, *Dean Emeritus of Buchtel College of Arts and Sciences and Professor Emeritus of Physics* (July 1970) (Ret. 1977)  
B.A., Asbury College; M.S., Ph.D., University of Michigan, 1942.
- MABEL RIEDINGER, *Distinguished Professor Emeritus of Education* (February 1947) (Ret. 1971)  
B.A., Mount Union College; M.A., University of Chicago; Ed.D., Columbia University, Teachers College, 1946 L.H.D., Mount Union College, 1965.
- EDGAR C. ROBERTS, *Assistant Professor Emeritus of English* (1926) (Ret. 1966)  
B.S.Ed., M.A., The Ohio State University, 1924.
- CLARA G. ROE, *Professor Emeritus of History* (1947) (Ret. 1959)  
B.A., University of Michigan; M.A., University of Chicago; Ph.D., University of Michigan, 1943.
- CECIL A. ROGERS, *University Auditor Emeritus* (1932) (Ret. 1969)  
B.S.B.A., The University of Akron, 1932.
- CHARLES ROGLER, *Professor Emeritus of Sociology* (1949) (Ret. 1962)  
B.A., M.A., University of Michigan; Ph.D., University of Kansas, 1935.
- MRS. MARGARET F. ROGLER, *Assistant Professor Emeritus of Marketing* (1948) (Ret. 1972)  
B.S., University of Nebraska; M.S., University of Denver, 1944.
- LOUIS ROSS, *Professor Emeritus of Mathematics* (February 1946) (Ret. 1977)  
B.S., B.A., M.A.Ed., The University of Akron; Ph.D., Case Western Reserve University, 1955.
- ROY V. SHERMAN, *Professor Emeritus of Political Science* (1929) (Ret. 1967)  
B.A., M.A., Ph.D., State University of Iowa, 1927.
- KENNETH F. SIBILA, *Professor Emeritus of Electrical Engineering* (February 1940) (Ret. 1977)  
B.S.E.E., M.S.E.E., Case Institute of Technology, 1937, P.E., Ohio.
- MARY VERNON SLUSHER, *Associate Professor Emeritus of Accounting* (1947)(1954) (Ret. 1971)  
B.S., M.A., Virginia Polytechnic Institute, 1931; C.P.A. Virginia.
- ERNEST A. TABLER, *Associate Professor Emeritus of Mathematics* (1935) (Ret. 1965)  
B.S., Kent State University; M.A., Western Reserve University, 1933.
- HELEN S. THACKABERRY, *Assistant Professor Emeritus of English* (1940) (Ret. 1976)  
B.A., M.A., State University of Iowa, 1937.
- ROBERT E. THACKABERRY, *Professor Emeritus of English* (1938) (Ret. 1976)  
B.A., M.A., Ph.D., State University of Iowa, 1937.
- ERNEST R. THACKERAY, *Distinguished Professor Emeritus of Physics* (1949) (Ret. 1972)  
B.A., M.A., University of Saskatchewan (Canada); Ph.D., University of Wisconsin, 1948.
- EVELYN M. TOVEY, *Professor Emeritus of Nursing* (1950) (Ret. 1975)  
B.S.N., M.S.N., Case Western Reserve University, 1950; R.N., City Hospital of Akron.
- MRS. AUDRA TUCKER, *Associate Professor Emeritus of Secretarial Science* (1926) (Ret. 1970)  
B.A., The University of Akron; M.A., New York University, 1936.
- PAUL E. TWINING, *Professor Emeritus of Psychology* (November 1941) (Ret. 1969)  
B.S., Ottawa University; M.A., University of Kansas; Ph.D., University of Chicago, 1938
- DONALD S. VARIAN, *Associate Professor Emeritus of Speech* (1934) (Ret. 1972)  
B.A., M.A., University of Wisconsin, 1934.
- MILTON WALES, *Assistant Professor Emeritus of Mechanical Technology* (1966) (Ret. 1977)  
B.S., Louisiana State University; M.Ed., Pennsylvania State University, 1966.
- MRS. FLORENCE N. WHITNEY, *Associate Professor Emeritus of English* (1936)-(Ret. 1953)  
B.A., Dakota Wesleyan University; M.A., Columbia University, 1913.
- EARL R. WILSON, *Associate Professor Emeritus of Mechanical Engineering* (1929) (Ret. 1968)  
B.M.E., The Ohio State University, 1916; P.E., Ohio.
- MARY H. WILSON, *Assistant Professor Emeritus of Home Economics* (April 1943) (Ret. 1972)  
B.S., Iowa State College, 1932.

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.

# University Faculty and Administration\*

DECEMBER, 1977

## FULL-TIME

- D. J. GUZZETTA, *President of the University and Professor of Higher Education* (1954 - March, 1968), (August, 1971)  
B.A., Ed.M., Ed.D., University of Buffalo, 1953; LL.D., The University of Akron, 1968; D.S.Sc., Marian College, 1971;  
LL.D., Kent State University, 1971; L.H.D., Walsh College (Canton, O.), 1972.
- NORMAN P. AUBURN, *Consultant, President Emeritus of the University, and Professor Emeritus of Political Science*  
(1951)  
B.A., University of Cincinnati, 1927; LL.D., Parsons College, 1945; LL.D., University of Cincinnati, 1952; D.Sc., Univer-  
sity of Tulsa, 1957; LL.D., University of Liberia (West Africa), 1959; Litt.D., Washburn University of Topeka, 1961;  
L.H.D., College of Wooster, 1963; LL.D., The University of Akron, 1971.
- PAUL ABERCROMBIE, *Assistant Director of Purchasing* (1971)  
B.S., B.S.Ed., M.Ed., Miami University (Ohio), 1960.
- IRVING ACHORN, *Professor of Art* (1965)  
B.S., M.A., Kent State University, (1956)
- ALEXANDER L. ADAMS, *Instructor in Physical Education* (1970)  
B.S.Ed., M.S.Ed., The University of Akron, 1970.
- HOBART W. ADAMS, *Professor of Accounting* (1969)  
B.S., Kent State University; M.B.A., D.B.A., Indiana University, 1967.
- MAURICE L. ADAMS, *Associate Professor of Mechanical Engineering* (1977)  
B.S.M.E., Lehigh University; M.Eng.SC., Pennsylvania State University; Ph.D., University of Pittsburgh, 1977.
- RONNIE G. ADAMS, *Associate Professor of Surveying and Construction Technology* (1969)  
B.C.E. Cleveland State University; M.S.C.E., Lehigh University, 1963.
- JOHN THOMAS ADOLPH, *Associate Professor of Physical Education* (1969)  
B.A., The University of Akron; M.Ed., Ohio University; Ph.D., The Ohio State University, 1969.
- PAMELA J. ALBRIGHT, *Instructor in Nursing* (1973)  
B.S.N., The University of Akron, 1972.
- DORIS ALDRICH, *Assistant Professor of Home Economics* (1973)  
B.S., M.Ed., Kent State University, 1972.
- RALPH A. ALEXANDER, *Assistant Professor of Psychology* (1973)  
B.A., Arizona State University; M.A., Ph.D., University of Rochester, 1974.
- RONALD E. ALEXANDER, *Associate Professor of Law* (1973)  
B.A., J.D., Ohio State University, 1971.
- GUY S. ALITTO, *Assistant Professor of History* (1976)  
B.A., King's College; M.A., University of Chicago; Ph.D., Harvard University, 1975.
- HOLLIS ALLAN, *Associate Professor of Law* (1972)  
B.A., The University of Akron; J.D., University of Michigan Law School, 1949.
- VIRGINIA ALLANSON, *Assistant Professor of Bibliography and Research Librarian* (October 1968)  
B.S., Purdue University; M.L.S., Kent State University, 1966.
- JUNE M. ALLEMAN, *Instructor in Education* (1973)  
B.A.Ed., M.A.Ed., Western Michigan University, 1972.
- ABDUL AMIR AL-RUBAIY, *Associate Professor of Education* (1972)  
B.S., M.A., Eastern Michigan University; Ph.D., Kent State University, 1972.
- BARBARA S. ANANDAM, *Assistant Professor of Nursing* (March 1973)  
B.S., M.S., Boston University, 1964
- LASCELLES F. ANDERSON, *Associate Professor of Economics and Director of Afro-American Studies* (1966)  
B.A., Howard University; M.A., Ph.D., New School for Social Research (New York), 1971.
- ALEXIS M. ANIKEEFF, *Professor of Psychology* (1967)  
A.B., A.M., University of Michigan; Ph.D., Purdue University, 1949.
- FARAJ ARDALAN, *Lecturer in Modern Languages* (August 1976)  
B.A., Howard University; M.A., M.A., The University of Akron, 1973.
- JOHN ARENDT, *Instructor in Surveying and Construction Technology* (February 1967)  
B.S.M.E., Cleveland State University, 1944.
- MARY ANN ARNELLA, *Instructor in Nursing* (1976)  
B.S.N., St. John College, 1965.
- WALTER E. ARMS, *Associate Professor of Education* (1968)  
B.S., Northwest Missouri State College; M.Ed., University of South Dakota; Ed.D., Indiana University, 1968.
- BARBARA N. ARMSTRONG, *Professor of Home Economics* (1972)  
B.S., M.S., West Virginia University; Ph.D., The Ohio State University, 1970.
- BRUCE R. ARMSTRONG, *Assistant Professor of Art* (1971)  
B.F.A., California Institute of the Arts, M.F.A., Washington State University, 1968.
- WILLIAM J. ARN, *Associate Professor of Education* (1967)  
B.S., Ohio Northern University; M.S., Bowling Green State University; Ph.D., Kent State University, 1967.
- ROBIN DIANE ARNOLD, *Assistant Professor of Physical Education* (Wayne General and Technical College) (1972)  
B.S., University of Maryland; M.A., The Ohio State University, 1966.

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.

- JOANN M. ARRIETTA, *Advisor of Students* (July 1976)  
B.A.Ed., M.A.Ed., The University of Akron, 1975.
- JOHN H. ASHLEY, *Producer/Director for Television Productions* (1973)  
B.S., Southern Illinois University; M.S., Indiana University, 1973.
- GLENN A. ATWOOD, *Professor of Chemical Engineering* (1965)  
B.S.Ch.E., M.S.Ch.E., Iowa State University; Ph.D., University of Washington, 1963 P.E., Ohio
- MARY ELLEN ATWOOD, *Assistant Professor of Education and of Home Economics, Director of University Nursey School* (1969)  
B.S., Iowa State College; M.S., The University of Akron, 1968.
- RICHARD L. AYNES, *Lecturer in Law* (1976)  
B.S., Miami University; J.D., Cleveland State University, 1974.
- ROGER BAIN, *Associate Professor of Geology* (1970)  
B.S., M.S., University of Wisconsin; Ph.D., Brigham Young University, 1968.
- DONALD E. BAKER, *Assistant Professor of Secretarial Science (Wayne General and Technical College)* (1973)  
B.S.Ed., M.S., Bowling Green State University, 1973.
- J. WAYNE BAKER, *Associate Professor of History* (1968)  
B.A., Western Baptist Bible College; B.D., Talbot Theological Seminary; B.A., Pepperdine College; M.A., Ph.D., University of Iowa, 1970.
- FRANK V. BALDO, *Professor of Marketing and Professor of Transportation* (1969)  
B.B.A., Fenn College; M.B.A., Case Western Reserve University; Ph.D., Pennsylvania State University, 1968.
- HOWARD R. BALDWIN, *Registrar* (July 1967)  
B.P.S.M., Mount Union College; M.Ed., Kent State University, 1960.
- GEORGE W. BALL, *Executive Director of University Relations and Development* (1957)  
B.A., Mount Union College, 1943.
- A. FREDERIC BANDA, *Professor of Finance* (1968)  
B.S., City College of New York; M.B.A., Ph.D., New York University, 1964.
- JAMES P. BANKS, *Development Officer* (May 1974)  
B.S., Ohio University, 1950.
- H. KENNETH BARKER, *Dean of the College of Education, Dean of International Programs and Professor of Education* (1966)  
B.A., M.A., University of Louisville; Ph.D., University of Michigan, 1959.
- ANITRA BARKLEY, *Assistant Professor of Speech* (March 1969)  
B.A., M.A., The University of Akron, 1969.
- ANNA P. BARNUM, *Assistant Professor in the Community and Technical College* (1970)  
B.A., Middlebury College; M.A., University of Vermont; J.D., The University of Akron, 1977.
- DAVID G. BARR, *Associate Professor of Education* (1967)  
B.S., M.A., Kent State University, 1966.
- CHARLES M. BARRESI, *Professor of Sociology* (1966)  
B.A., M.A., Ph.D., State University of New York at Buffalo, 1965.
- GERALD V. BARRETT, *Professor of Psychology* (1973)  
B.A., Wittenberg University; M.S., Ph.D., Case Western University, 1962.
- PHILLIP E. BARTLETT, *Planning Aide* (1971)  
B.A., Kent State University, 1963.
- WALTER BARZDITIS, JR., *Manager of Parking Systems* (April 1970)  
B.A., Ripon College, 1950.
- MARIAN BAUER, *Associate Professor of Nursing* (1969)  
B.A., Maryville College; M.N., Western Reserve University, 1941, R.N.
- EDWARD L. BAXTER, *Assistant Professor of Business Law* (1974)  
A.B., Bowdoin College; J.D., Harvard Law School; LL.M., M.A., Boston University, 1966.
- DONALD E. BECKER, *Assistant Professor of Management* (1959)  
B.A., M.A., Oberlin College, 1948.
- JOHN D. BEE, *Associate Professor of Mass Media-Communication* (1969)  
B.A., Ohio University; M.A., Ph.D., University of Wisconsin, 1972.
- JAMES D. BELL, *Assistant Professor of Secretarial Science* (1970)  
B.S., M.Ed., Kent State University; M.S.Ed., The University of Akron, 1975.
- JUTTA T. BENDREMER, *Instructor in English* (1967)  
B.A., Hunter College; M.A., Brooklyn College, 1951.
- EUGENE MOSS BENEDICT, *Assistant Professor in the Community and Technical College* (January 1969)  
S.T.B., Boston University School of Theology; B.A.Ed., M.A., The University of Akron, 1964.
- DAVID S. BERNSTEIN, *Assistant Professor of Music* (1972)  
B.M., M.M., Florida State University; D.M., Indiana University, 1974.
- DONALD BERQUIST, *Associate Professor of Accounting* (1968)  
B.S.B.A., Youngstown University; M.Acc., The Ohio State University, 1964; C.P.A., Ohio.
- SANDRA LEE BERRY, *Adviser of Student* (July 1971)  
B.A., M.A., Michigan State University, 1971.
- CARLA A. BERSANI, *Associate Professor of Sociology* (1965)  
B.A., Eastern Michigan University; M.A., University of Michigan; Ph.D., Iowa State University, 1965.
- WILLIAM H. BEYER, *Professor of Mathematics* (1961)  
B.S., The University of Akron; M.S., Ph.D., Virginia Polytechnic Institute, 1961.

- MICHAEL BEZBATCHENKO, *Professor of Mechanical Engineering (June 1949)*  
B.M.E., The University of Akron; M.S., Case Western Reserve University, 1954; P.E., Ohio.
- CLARK E. BIGGINS, *Director of Purchasing (April 1967)*  
B.S.C., Ohio University, 1957.
- DON BIRDSELL, *Professor of Education (1977)*  
B.A., Luther College; M.A., University of Minnesota; Ph.D., University of Iowa, 1965.
- PAUL MARTIN BISS, *Assistant Professor of Music (1972)*  
B.M., Indiana University; M.S., Julliard School of Music, 1968.
- ROBERT R. BLACK, *Associate Professor of Economics (1958)*  
B.A., Carleton College; M.B.A., University of Chicago; Ph.D., University of California at Berkley, 1963.
- PATSY B. BLACKWELL, *Assistant Professor of Speech (1973)*  
B.S.Ed., Mississippi College; M.A., Louisiana State University, 1971.
- RALPH O. BLACKWOOD, *Professor of Education (1967)*  
B.A., Muskingum College; M.A., Ph.D., The Ohio State University, 1962.
- C. ROBERT BLANKENSHIP, *Instructor in Education and Head of Audio-Visual Services (1952) (July 1956)*  
B.S.B.A., The University of Akron; M.S.Ed., Indiana University, 1963.
- BORIS BLICK, *Associate Professor of History (1964)*  
B.A., Brooklyn College; M.A., Ph.D., University of Wisconsin, 1958.
- GERALD J. BLUMENFELD, *Professor of Education (1970)*  
B.A., Harris Teachers College; M.A., Ed.D., Washington University (St. Louis), 1966.
- GLORIA J. BOGGESS, *Instructor in Speech (1977)*  
B.S., Purdue University; M.A., University of Iowa, 1970.
- PERRY JANE BOMAR, *Associate Professor of Nursing (1972)*  
B.S., The University of Akron; M.S., Case Western Reserve University, 1972; R.N.
- RICHARD K. BONNELL, *Assistant to the Dean of the Evening College and Summer Sessions (August 1969)*  
B.A., M.A., The University of Akron, 1972.
- MARTHA A. BOOTH, *Assistant Director of Admissions (June 1971)*  
B.S.Ed., The University of Akron, 1971.
- ROBERT BOSSAR, *Interim Director of Staff Personnel (October 1974)*  
B.A., Kent State University, 1970.
- DONALD L. BOWLES, *Assistant to the Vice President for Planning (February 1959)*  
B.S.I.M., B.S.Ed., The University of Akron, 1959.
- ALLEN M. BOYER, *Director of Alumni Relations and Development Officer (November 1966)*  
B.A., The University of Akron, 1942.
- LARRY G. BRADLEY, *Associate Professor of Education (1969)*  
B.A., Muskingum College; M.A., West Virginia University; Ph.D., Ohio University, 1969.
- FRANK BRADSHAW, *Associate Professor of Music (1968)*  
B.A., M.A., Bob Jones University, 1950.
- IRVIN W. BRANDEL, *Counselor, Testing and Counseling Bureau (1969)*  
B.S., Bowling Green State University; M.A., Michigan State University; Ph.D., The University of Akron, 1975.
- MARKO BRDAR, *Associate Professor of Chemical Technology (1967)*  
B.S., M.A., Case Western Reserve University, 1954.
- MERLIN G. BRINER, *Professor of Law (1970)*  
B.S.B.A., University of Wichita; J.D., The University of Akron, 1966.
- DAVID R. BRINK, *Instructor in Bibliography and Research Librarian (December 1976)*  
B.A., Wabash College, B.D., University of Chicago; M.A., University of Minnesota, 1970.
- THOMAS M. BRITTAIN, *Professor of Mechanical Engineering and Professor of Mechanical Technology (February 1965)*  
B.M.E., The University of Akron; M.S., Ph.D., University of Illinois, 1966.
- ALEXANDER BROWN, *Visiting Professor of Mechanical Engineering (1977)*  
B.S., M.S., University of Nottingham, Ph.D., Queens University of Belfast, 1967.
- THOMAS O. BROWN, *Adjunct Associate Professor of Education and Director of Testing and Counseling (July 1964)*  
B.S., M.Ed., Mississippi State University; Ph.D., Kent State University, 1968.
- ANGELA ROSE BRUNO, *Associate Professor of Education (1969)*  
B.S. Seton Hill College; M.Ed., Indiana University of Pennsylvania; Ed.D., Pennsylvania State University, 1969.
- STANLEY R. BRUNS, *Assistant Professor in the Community and Technical College (1970)*  
B.S., Fort Hays Kansas State College; M.A., Central Michigan University, 1970.
- JAMES BUCHANAN, *Assistant Professor of Philosophy (1971)*  
B.A., M.A., Ohio University; Ph.D., Pennsylvania State University, 1970.
- FOSTER S. BUCHTEL, *Assistant to the President (July 1974)*  
B.A., The University of Akron; M.B.A., Western Michigan University, 1970.
- DAVID BUCHTHAL, *Associate Professor of Mathematics (1971)*  
B.S., Loyola University; M.S., Ph.D., Purdue University, 1971.
- HERMAN M. BUERSCHEN, *Adviser of Students (July 1971)*  
B.A., M.A., University of Dayton, 1968.
- DAN LEE BUIE, *Liaison Coordinator (July 1968)*  
B.S., M.S., The University of Akron, 1969.
- ARTHUR BURFORD, *Professor of Geology (1968)*  
B.A., Cornell University; M.S., University of Tulsa; Ph.D., University of Michigan, 1960.
- VICTOR BURKE, *Assistant Professor of Electrical Engineering (1975)*  
B.S., M.S., Ph.D., Case Western Reserve University, 1975.

- JERRY J. BURR, *Instructor in Dance* (1975)  
Cleveland College; studied with Robert Joffrey of New York, Audrey De Vos of London, Michele de Lutry and William Millie of Munich.
- DONALD R. BURROWBRIDGE, *Associate Professor of Coordination and Director of the Cooperative Program, College of Engineering* (July 1965)  
B.S., University of Wisconsin; M.S., Virginia Polytechnic Institute, 1965.
- JUNE K. BURTON, *Assistant Professor of History* (1971)  
B.A., M.A., Stetson University; Ph.D., University of Georgia, 1971.
- DOUGLAS R. BUTTURFF, *Associate Professor of English* (1977)  
B.A., University of Pennsylvania; M.A., Georgetown University; Ph.D., University of Illinois, 1968.
- ALBERT C. BUXTON, *Assistant Professor of Electronic Technology* (January 1975)  
B.S.E.E., M.S.E.E., Tulane University, 1952.
- DENNIS M. BYRNE, *Assistant Professor of Economics* (1975)  
B.S., Villanova University; M.A., Ph.D., University of Notre Dame, 1975.
- ALLEN MANUAL CABRAL, *Assistant Professor of Accounting* (1972)  
B.S.B.A., American International College; M.S., Kent State University; J.D., The University of Akron, 1975.
- LEONARD M. CALABRESE, *Instructor in the Community and Technical College* (1977)  
B.A., John Carroll University; M.A., Northwestern University, 1974.
- RICHARD A. CALKINS, *Adviser of Students and Instructor in the Community and Technical College* (1964)  
B.A., Westminster College (Pa.), 1961.
- KAREN S. CALVERT, *University Publications Editor* (1972)  
B.S.Ed., Mount Union College, 1969.
- DOUGLAS E. CAMERON, *Associate Professor of Mathematics* (1969)  
B.A., Miami University; M.S., The University of Akron; Ph.D., Virginia Polytechnic Institute, 1970.
- GERALD R. CAMP, *Associate Professor of Data Processing* (March 1969)  
B.A., Case Western Reserve University; M.S., The University of Akron, 1971.
- T. ALLEN CAMPBELL, *Assistant Professor in Physical Education* (August 1968)  
B.S., M.S., The University of Akron, 1970.
- MARY CAPOTOSTO, *Assistant Professor of Speech* (1968)  
B.A., The University of Akron; M.A., DePaul University, 1967.
- NATHAN F. CARDARELLI, *Associate Professor of General Technology* (1968)  
B.S., B.A., M.S., M.A., The University of Akron, 1961.
- CATHY CARON, *Instructor in Nursing* (October 1976)  
B.S.N., Russell Sage College; M.S.N., Vanderbilt University, 1976.
- LESLIE G. CARR, *Assistant Professor of Sociology* (1973)  
B.S., M.A., University of Alabama; Ph.D., University of North Carolina, 1973.
- MARILYN JEAN CARRELL, *Director of Placement* (October 1972)  
B.S., M.S.Ed., The University of Akron, 1972.
- CAESAR A. CARRINO, *Dean of the Evening College and Summer Sessions and Professor of Education* (1967)  
B.S., Baldwin-Wallace College; M.S., The University of Akron; Ph.D., Case Western Reserve University, 1965.
- ROBERT C. CARSON, *Associate Professor of Mathematics* (July 1963)  
B.S., M.S., Purdue University; Ph.D., University of Wisconsin, 1953.
- CAROL A. CARTER, *Admissions Officer, Aerospace Studies* (1976)  
B.A., M.A., University of Arkansas, 1966. Captain. USAF.
- VINCENT H. CASSIDY, *Professor of History* (1969)  
B.A., M.A., Ph.D., University of North Carolina, 1957.
- DANA F. CASTLE, *Assistant to the Dean of the School of Law and Lecturer in Law* (March 1974)  
B.S., Cornell University; J.D., The University of Akron, 1973.
- STEPHEN S. CASTLE, *Professor of Marketing* (1967)  
B.A., Hillsdale College; M.B.A., University of Michigan; Ph.D., Michigan State University, 1964.
- GEORGE F. CELLA, JR., *Assistant Director of Purchasing* (July 1973)  
B.A., The University of Akron, 1973.
- TOMASITA M. CHANDLER, *Associate Professor of Home Economics* (1971)  
B.A., New Mexico Highlands University; M.S., Ph.D., Texas Women's University, 1970.
- TSE-YUNG CHANG, *Associate Professor of Civil Engineering* (1970)  
B.S.C.E., National Taiwan University; M.S., Ph.D., University of California at Berkeley, 1966.
- BARBARA S. CHASE, *Assistant Law Librarian, Public Services* (1975)  
B.A., M.S.L.S., Catholic University of America, 1975.
- CHIOU-SHIUN CHEN, *Associate Professor of Electrical Engineering* (1968)  
B.S., National Taiwan University; M.S., Ph.D., University of Rochester, 1967; P.E., Ohio.
- CHUN-FU CHEN, *Associate Professor of Electrical Engineering* (February 1968)  
B.S., National Taiwan University; M.S., University of Tennessee; Ph.D., Vanderbilt University, 1968; P.E., Ohio.
- MARY ELIZABETH CHESROWN, *Assistant Director of the Institute for Civic Education* (May 1965)  
B.A., The University of Akron, 1949.
- BONNY W. CHIRAYATH, *Instructor in Home Economics* (1976)  
B.S., University of Massachusetts; M.S., Cornell University, 1967.
- GERALDINE F. CHITTY, *Assistant Registrar* (October 1967)  
B.A.Ed., The University of Akron, 1968.

- FRANK L. CHLAD, *Administrative Assistant, Department of Chemistry (January 1967)*  
B.B.A., Michigan State University, 1956.
- YONG H. CHO, *Professor of Urban Studies, Professor of Political Science and Associate Director of Center for Urban Studies (1967)*  
B.A., Seoul National University (Korea); M.P.A., Ph.D., Syracuse University, 1965.
- HUGH GENE CHRISTMAN, *Associate Professor of Education (1970)*  
B.S., Miami University; M.Ed., Ed.D., Pennsylvania State University, 1970.
- ROBERT D. CHRISTMAN, *Project Analyst-Administrative, Computer Center (1969)*  
B.S.E.E., The University of Akron, 1972.
- HARRY CHU, *Associate Professor of Physics (1969)*  
B.S., Chikung University; M.A., Ph.D., State University of New York at Stony Brook, 1969.
- MAMERTO L. CHU, JR., *Associate Professor of Mechanical Engineering (1968)*  
B.S.M.E., Iloilo City University (Philippines); M.S.M.E., Ph.D., University of Houston, 1967.
- BENJAMIN T. CHUNG, *Associate Professor of Mechanical Engineering (December 1969)*  
B.S.M.E., Taiwan Provincial Cheng-Kung University; M.S.M.E., Kansas State University; M.S. Math., University of Wisconsin; Ph.D., Kansas State University, 1968.
- STEPHEN J. CHYLINSKI, *Assistant Professor in the Community and Technical College (March 1971)*  
B.A., Cleveland State University; M.A., University of Pittsburgh, 1970.
- BARBARA CLARK, *Instructor in Bibliography and Senior Cataloger in the Library (October 1957)*  
B.A., The University of Akron, 1950.
- BLANCHE E. CLEGG, *Assistant Professor of Education (1973)*  
B.S.Ed., Wayne State University; M.Ed., University of Massachusetts; Ph.D., University of Washington, 1971.
- BARBARA E. CLEMENTS, *Assistant Professor of History (1971)*  
B.A., University of Richmond; M.A., Ph.D., Duke University, 1971.
- HELEN K. CLEMINSHAW, *Assistant Professor of Home Economics (1977)*  
B.S., Rutgers; M.A., Ph.D., Kent State University, 1977.
- BERNARD J. CLIFFORD, *Assistant Professor of Social Work (1969)*  
B.A., Western Reserve University; M.S.S.W., University of Wisconsin, 1952.
- RUTH CLINEFELTER, *Associate Professor of Bibliography and Research Librarian (June 1952)*  
B.A., M.A., The University of Akron; M.A.L.S., Kent State University, 1956.
- JOHN R. COCHRAN, *Associate Professor of Education (1969)*  
B.S., M.A., Ph.D., The Ohio State University, 1968.
- JOHN R. COLE, *Visiting Instructor in Secretarial Science (1976)*  
B.S., M.A., University of Pittsburgh; Ph.D., Kent State University, 1976.
- JOANN COLLIER, *Assistant Professor of Nursing (1974)*  
B.S., Loretto Heights College; M.S., University of Colorado, 1974.
- CHRISTOPHER COLLINS, *Producer/Director, Instructional TV (August 1975)*  
B.S., Miami University; M.S. University of Kentucky, 1974.
- ROBERT E. COLLINS, *Associate Professor of Secretarial Science (1964)*  
B.A., Glenville State Teachers College (W.Va.); M.A., West Virginia University, 1952.
- W. HENRY CONE, *Associate Professor of Education (1971)*  
B.A.E., B.S.A., M.Ed., University of Florida; Ed.D., Harvard Graduate School of Education, 1962.
- JOHN C. CONLON, *Assistant Professor of Mathematics (1977)*  
B.A., John Carroll University; M.S., Ph.D., Florida State University, 1977.
- MARTHA R. CONRAD, *Lecturer in Nursing (1977)*  
B.S.N., The Ohio State Univdrstity, 1975.
- VERNON COOK, *Associate Professor of Political Science (1965)*  
B.A., The Ohio State University, 1951.
- MADÉLINE A. COOKE, *Associate Professor of Education (1969)*  
B.S., The Ohio State University; M.A., Mexico City College; Ph.D., The Ohio State University, 1969.
- DALE E. COONS, *Associate Professor of Education and Director of Special Education (1973)*  
B.S.Ed., Butler University; M.S.Ed., Ph.D., Indiana University, 1970.
- ROBERT G. CORBETT, *Coordinator of Research and Professor of Geology (1969)*  
B.S., M.S., Ph.D., University of Michigan, 1964.
- FRANK J. COSTA, *Managing Director of Center for Urban Studies and Assistant Professor of Urban Studies (1972)*  
B.A., Kent State University; M.S., Case Western Reserve University; Ph.D., University of Wisconsin, 1974.
- DAVID F. COX, *Associate Professor of Urban Studies and of Philosophy (1970)*  
B.A., Morningside College; S.T.B., Ph.D., Boston University, 1953.
- THOMAS J. COYNE, *Associate Professor of Business Economics (1969)*  
B.B.A., Marshall University; M.B.A., Kent State University; Ph.D., Case Western Reserve University, 1967.
- WALDEN BLAIN CRABTREE, *Associate Professor of Education (1968)*  
B.A., St. Meinrad College (Indiana); M.S.Ed., Ph.D., Indiana University, 1968.
- ROGER B. CREEL, *Associate Professor of Physics (1970)*  
B.A., Kalamazoo College; Ph.D., Iowa State University, 1969.
- JAMES L. CRESS, *Assistant Professor of Accounting (1973)*  
B.S.B.A., M.B.A., Bowling Green State University, 1964.
- ROBERT J. CROYLE, *Assistant Coordinator of the Appellate Review Office and Staff Attorney, College of Law (July 1976)*  
B.A., Alfred University; J.D., The University of Akron, 1976.

- KENNETH G. CUNNINGHAM, *Instructor in Physical Education* (April 1976)  
B.S.Ed., University of Cincinnati; M.Ed., Kent State University, 1966.
- FAYE DAMBROT, *Assistant Professor of Psychology* (1967)  
B.S., Carnegie Institute of Technology; M.A., The University of Akron, 1966.
- MICHAEL F. d'AMICO, *Associate Professor of Marketing* (1972)  
B.S., Georgetown University; M.B.A., Rutgers University; D.B.A., Texas Technical University, 1975.
- SUSAN J. DANIELS, *Assistant Professor of Education* (1977)  
B.A., Marian College; M.A., Ph.D., Ball State University, 1977.
- ALEX DARBES, *Associate Professor of Psychology* (1968)  
B.A., Ph.D., Case Western Reserve University, 1951.
- STEPHEN DARLING, *Associate Professor of Chemistry* (1970)  
B.S., University of Wisconsin; M.A., Ph.D., Columbia University, 1959.
- RALPH FRANK DARR, JR., *Associate Professor of Education* (1968)  
B.S., Southeast Missouri College; M.A., Washington University; Ph.D., Southern Illinois University, 1967.
- PATRICK A. DARRAH, *Assistant Director of Placement* (August 1976)  
B.S., M.S., The University of Akron, 1976.
- PAUL A. DAUM, *Associate Professor of Theatre Arts* (1965)  
B.F.A., Wesleyan College; M.A., The University of Akron, 1964; Ph.D., The Ohio State University, 1973.
- ALEXANDER N. DAVIS, *Instructor in Theatre Arts* (1976)  
B.A., The University of Dayton; M.A., The University of Akron, 1975.
- GEORGE D. DAVIS, *Professor of Speech* (1974)  
B.S. Ed., Kent State University; M.A., Ph.D., Ohio State University, 1968.
- KATHLEEN M. DAVIS, *Special Instructor in Ballet* (1977)  
B.A., The University of Akron, 1975.
- N. F. DAVIS, *Professor of Management* (1970)  
B.S., Lincoln University; M.B.A., Washington University; Ph.D., Indiana University, 1960.
- RUSSELL K. DAVIS, III, *Assistant Professor of Business Management Technology* (1971)  
B.S.B.A., M.A., Wayne State University, 1971.
- MARY H. K. DEE, *Assistant Professor in the Community and Technical College* (1970)  
B.S., University of the East (Manila); M.A., Central Missouri State College, 1969.
- MARY DEHAVEN, *Assistant Professor of English* (1969)  
B.A., University of Wisconsin; M.A., The University of Akron; Ph.D., Case Western Reserve University, 1972.
- ROBERT DEITCHMAN, *Assistant Professor of Psychology* (1970)  
B.B.A., City College of New York; M.A., Ph.D., University of Tennessee, 1968.
- BERNARD A. DEITZER, *Professor of Management* (January 1967)  
B.A., Allegheny College; M.L.L., University of Pittsburgh; Ph.D., The Ohio State University, 1967.
- JAMES L. DENNISON, *Assistant Professor of Physical Education* (July 1965)  
B.A., College of Wooster; M.A.Ed., The University of Akron, 1968.
- HAMILTON DESAUSSURE, *Goodrich Professor of Law in International Transactions* (1970)  
B.A., Yale University; LL.B., Harvard University; LL.M., McGill Institute of International Air Law, 1953.
- IRWIN DEUTSCHER, *Professor of Sociology* (1975)  
A.B., M.S., M.A., Ph.D., University of Missouri, 1959.
- LILLIAN J. DEYOUNG, *Dean of the College of Nursing and Professor of Nursing* (1975)  
B.S., M.S., Ph.D., University of Utah, 1975.
- ROBERT L. DIAL, *Associate Professor of English* (1965)  
B.S., Central Missouri State College; M.A., Ph.D., University of Missouri, 1963.
- RICHARD M. DIENESCH, *Instructor in Business Management Technology (Wayne General and Technical College)* (1975)  
B.B.A., M.B.A., University of Michigan, 1970.
- CONSTANTIN DIMITRIU, *Instructor in Classics* (May 1970)  
Baccalaureate, University of Cluj, Romania; M.A., National University of Bucuresti; M.S.L.S., Case Western Reserve University, 1969.
- GERALD E. DIXON, *Adviser of Students* (November, 1977)  
B.A., Case Western Reserve University; M.Ed., Kent State University, 1977.
- CECIL L. DOBBINS, *Director of Special Programs* (February 1965)  
B.B.A., Cleveland State University, 1952.
- DOROTHY M. DOBRINDT, *Associate Professor of Nursing* (1969)  
R.N., St. Elizabeth Hospital School of Nursing; B.S., St. Louis University; M.Ed., Columbia University, 1965.
- SHIRLEY R. DOHERTY, *Assistant Professor of Nursing* (1975)  
B.S.M., Syracuse University; M.S.N., Wayne State University, 1968.
- DAVID T. DOLAN, *Assistant Dean of the Community and Technical College and Associate Professor of Sales and Merchandising* (1965)  
B.A., M. Ret. Adv., University of Pittsburgh, 1957; Ph.D., The University of Akron, 1973.
- HELMAR H.A. DOLLWET, *Assistant Professor of Biology* (January 1970)  
B.S., University of Michigan and Technische Hochschule, Munich; M.S., Ph.D., University of California at Riverside, 1969.
- JOSEPH J. DONATELLI, JR., *Instructor in Modern Languages* (1967)  
B.A., M.A., The University of Akron, 1968.

- JAMES E. DOVERSPIKE, *Professor of Education* (1960)  
B.S., Indiana State College; M.Ed., Ed.D., Pennsylvania State University, 1961.
- ROBERT L. DOWDY, *Instructor in Physical Education* (August 1974)  
B.A., M.S., Indiana University, 1973.
- WILLIAM M. DOYLE, (November 1973)  
B.S.B.A., Kent State University, 1949.
- CLARENCE B. DRENNON, *Associate Professor of Civil Engineering* (1975)  
B.S., Colorado School of Mines, M.E., Texas A & M, Ph.D., Iowa State University, 1972.
- MILAN F. DUBRAVIC, *Associate Professor of Chemical Technology* (January 1968)  
Ingenieur of Chemistry, University of Zagreb; Ph.D., University of Massachusetts, 1968.
- MARGARET M. DUFALA, *Senior Academic Programmer/Analyst* (January 1975)  
B.S., M.S., The University of Akron, 1969.
- R. WAYNE DUFF, *Vice President for Business and Finance* (May 1963)  
B.A., Oberlin College; LL.B., Cleveland-Marshall Law School, 1951.
- THEODORE DUKE, *Distinguished Professor of Latin and Greek* (1946)  
B.A., The University of Akron; M.A., Case Western Reserve University; Ph.D., Johns Hopkins University, 1946.
- PAUL H. DUNHAM, *Assistant Professor of Industrial Technology* (1955)  
B.A., Case Western Reserve University; M.B.A., Kent State University, 1960.
- JAMES F. DUNLAP, *Professor of Theater Arts* (1955)  
B.S.Ed., Wilmington College; M.A., Ph.D., The Ohio State University, 1954.
- JAMES W. DUNLAP, *Dean of the College of Business Administration and Professor of Finance* (1963)  
B.B.A., Memphis State University; M.B.A., Ph.D., University of Arkansas, 1963.
- JOSEPH J. DUNN, *Director of Special Events — Athletics* (March 1976)  
B.S., Kent State University, 1974.
- KENNETH A. DUNNING, *Associate Professor of Management* (1973)  
B.S.E.E., North Carolina State; M.B.A., Ph.D., University of Pittsburgh, 1972.
- DAVID R. DURST, *Associate Professor of Finance* (1968)  
B.S., Kent State University; M.B.A., D.B.A., Georgia State University, 1972.
- ASHOK DUTT, *Professor of Geography and Professor of Urban Studies* (1968)  
B.A., M.A., Ph.D., Patna University (India), 1961.
- CHARLES MYRON DYE, *Associate Professor of Education* (1972)  
A.B., Harris Teachers College; M.A., Ph.D., Washington University, 1971.
- JOSEPH A. EDMINISTER, *Associate Professor of Electrical Engineering and Assistant to the Dean of the College of Engineering* (May 1957)  
B.E.E., M.S.E.; J.D., The University of Akron, 1974, P.E., Ohio.
- JAMES J. EGAN, *Associate Professor of English* (1971)  
B.A., St. Joseph's College; M.A., Ph.D., University of Notre Dame, 1971.
- JANICE L. ELEY, *Instructor in Food Service Management* (1976)  
B.A., Manchester College; M.A., Indiana University, 1974.
- ROBERT K. ELEY, *Assistant Professor of Education* (1975)  
B.S.Ed., M.Ed., Ball State University; Ed.D., Indiana University, 1975.
- DANIEL L. ELY, *Assistant Professor of Biology* (1976)  
B.A., M.S., Ph.D., University of Southern California, 1971.
- JAMES R. EMORE, *Instructor in Accounting* (1973)  
B.A.Ed., M.S.Acct., The University of Akron, 1973.
- ELIZABETH B. ERICKSON, *Assistant Professor of Economics* (1969)  
B.S., M.S., University of Western Australia; Ph.D., University of Illinois, 1972.
- EARL L. ERTMAN, *Associate Professor of Art* (1967)  
B.S., University of Southern Mississippi; M.A., Case Western Reserve University, 1967.
- BERNARD L. ESPORITE, *Associate Professor of Education* (1970)  
B.S.Ed., M.Ed., Ph.D., Miami University, 1971.
- CHARLOTTE ESSNER, *Associate Professor of Speech* (1965)  
B.A., Hunter College; M.A., The University of Akron, 1964.
- WALTER LEE EVEGE, JR., *Assistant Director of Admissions* (July 1970)  
B.S., Tougaloo College, 1964.
- JUDITH L. EVERETT, *University Artist* (October 1968)  
B.F.A., Kent State University, 1968.
- FRED W. FANNING, *Assistant Professor of Education* (1972)  
B.S., M.A., Ph.D., The Ohio State University, 1972.
- STEPHEN FARIA, JR., *Instructor in Modern Languages* (1967)  
B.A., Harvard University; M.A., Cornell University, 1965.
- MICHAEL F. FARONA, *Professor of Chemistry* (1964)  
B.S., Case Western Reserve University; M.S., Ph.D., The Ohio State University, 1964.
- LEONA W. FARRIS, *Director of the Community Involvement Component of Home Economics* (1969)  
B.S., The Ohio State University; M.A., Kent State University, 1969.
- ALI M.I. FATEMI, *Professor of Economics* (1965)  
B.S., Farleigh Dickinson University; M.A., Ph.D., New School for Social Research (New York), 1967.

- RICHARD M. FAWCETT, Assistant Professor in the Community and Technical College (1969)  
B.A., M.Ed., Kent State University, 1959.
- JAMES V. FEE, Professor of Mass Media-Communication (1967)  
B.S.Ed., M.S.Ed., Southern Illinois University; Ph.D., The Ohio State University, 1964.
- ROBERT E. FERGUSON, Professor of Education (1965)  
B.S.Ed., M.A. Kent State University; Ed.D., Case Western Reserve University, 1965.
- D.G. FERTIS, Professor of Civil Engineering (1966)  
B.S., B.S.C.E., M.S.C.E., Michigan State University; Ph.D., Eng., National Technical University (Athens, Greece), 1964.
- LEWIS J. FETTERS, Professor of Chemistry and Professor of Polymer Science (1967)  
B.A., College of Wooster; Ph.D., The University of Akron, 1962.
- RONALD H. FEWKES, Assistant Professor Geology (1977)  
B.S., California State College; Ph.D., Washington State University, 1976.
- JOHN P. FINAN, Professor of Law (1967)  
B.A., Fordham University; J.D., Columbia University, 1961.
- JUDITH L. FITZGERALD, Instructor in Bibliography and Cataloger in the Library (July 1969)  
B.A., West Virginia Wesleyan University; M.S.L.S., Case Western Reserve University, 1976.
- CHARLES W. FLAGG, Instructor in Business Management Technology (1977)  
B.A., Ohio University, 1969.
- THOMAS M. FLAHERTY, JR., Instructor in Physical Education (February 1974)  
B.S.Ed., M.S.Ed., The University of Akron, 1974.
- ALICE M. FLAKSMAN, Associate Professor Music (1965)  
B.A., Hunter College; M.A., Columbia University, Teachers College; Ph.D., The University of Akron, 1972.
- EUGENE FLAUMENHAFT, Associate Professor of Biology (1963)  
B.A., Adelphi College; M.S., Ph.D., University of Chicago, 1958.
- WILLIAM S. FLEMING, Associate Professor in the Community and Technical College (1966)  
B.S., Rutgers University; M.A., University of Pennsylvania; Ph.D., Kent State University, 1970.
- LAWRENCE G. FOCHT, Associate Professor of Chemical Engineering (1968)  
B.S. Ch.E. University of Iowa; M.S.Ch.E., Ph.D., Louisiana State University, 1969. P.E., Ohio.
- T. HENRY FORSYTH, Associate Professor of Chemical Engineering and Research Associate in the Institute of Polymer Science (1970)  
B.S.C.E., University of Kentucky; M.S., Ph.D., Virginia Polytechnic Institute, 1967. P.E., Ohio.
- HAROLD M. FOSTER, Assistant Professor of Education (1976)  
B.A., Indiana University of Pennsylvania; M.A.T., University of Pittsburgh; Ph.D., University of Michigan, 1976.
- JAMES G. FRANCE, Professor of Law (1966)  
B.A., Brown University; LL.B., Yale Law School, 1941.
- WILLIAM A. C. FRANCIS, Assistant Professor of English (1966)  
B.A., M.A., Duquesne University; Ph.D., Case Western Reserve, 1975.
- RICHARD FRANKLIN, Assistant Professor of Political Science (1970)  
B.A., Bryan College; M.A., Michigan State University; Ph.D., University of Kentucky, 1976.
- PAUL C. FRANKS, Professor of Geology (1971)  
B.A., Cornell University; M.S., Ph.D., University of Kansas, 1966.
- PAULINE FRANKS, Associate Professor of Bibliography and Associate University Librarian (April 1950)  
B.S.Ed., Kent State University; B.S.L.S., Case Western Reserve University, 1940.
- J.E. FREDERICK, Associate Professor of Chemistry, Associate Professor of Polymer Science (1966)  
B.S.Ch., Glenville State College; Ph.D., University of Wisconsin, 1964.
- LAVERNE M. FRIBERG, Assistant Professor of Geology (March 1976)  
B.S., University of Wisconsin; M.A., Ph.D., Indiana University, 1976.
- JOHN L. FROLA, Assistant Professor of Biology (1971)  
B.S., Waynesburg College; M.S., Ph.D., West Virginia University, 1970.
- BILL S. FRYE, Associate Professor of Education (1971)  
B.S., M.S., Indiana State University; Ph.D., The Ohio State University, 1971.
- STEPHEN S. FUGITA, Assistant Professor of Psychology (1971)  
B.S., The Ohio State University; M.A., Ph.D., University of California at Riverside, 1969.
- BARBARA M. FUSZARD, Associate Professor of Nursing (1976)  
B.E., Colorado State University; M.A., Ph.D., University of Iowa, 1973.
- DONNA J. GABOURY, Assistant Professor of Home Economics (1977)  
B.A., College of Saint Catherine; M.A., Smith College; Ph.D., University of Massachusetts, 1973.
- ROBERT GAEBEL, Assistant Professor of Classics (1970)  
B.A., M.A., University of Buffalo; Ph.D., University of Cincinnati, 1968.
- THOMAS J. GALLAGHER, Associate Director of Physical Plant (July 1977)  
B.A., Saint John's University, 1962.
- JULIE ANN GAMMON, Instructor in Bibliography and Acting Head Library Serials Department (August 1973)  
B.A., University of Florida; M.L.S., University of Pittsburgh, 1967.
- ROBERT N. GANDEE, Assistant Professor of Physical Education (1973)  
B.S., M.S., The University of Akron; Ph.D., Ohio State University, 1972.
- JAMES L. GANO, Assistant Professor of Military Science (1976)  
A.B., M.A., Eastern Kentucky University, M.S., University of Southern California, 1975. Captain, Military Intelligence.

- REBECCA ANN GANYARD, Adviser of Students (August 1971)  
B.A., M.S., Indiana University, 1971.
- T. NEAL GARLAND, Associate Professor of Sociology (1969)  
B.A., M.A., University of North Dakota; Ph.D., Case Western Reserve University, 1971.
- ROBERT M. GARLOW, Assistant Professor of Aerospace Studies (August 1974)  
B.A., Slippery Rock State College; M.B.A., Southern Illinois University, 1974. Major, USAF.
- PAUL D. GARN, Professor of Chemistry (1963)  
B.S., M.S., Ph.D., The Ohio State University, 1952.
- JANICE M. GARVER, Assistant Director of Student Financial Aids (October 1976)  
B.A., Adelphi University, 1976.
- DALE J. GAYDOS, Assistant in General Studies Speech Program (January 1976)  
B.A., M.A., The University of Akron, 1976.
- ALAN N. GENT, Professor of Polymer Physics and Assistant Director of the Institute of Polymer Science (April 1961)  
B.S., (General) B.S., (Special Physics), Ph.D., University of London, 1955.
- PHILLIP M. GERHART, Associate Professor of Mechanical Engineering (1971)  
B.S.M.E., Rose Polytechnic Institute; M.S.M.E., Ph.D., University of Illinois, 1971. P.E., Ohio.
- DON R. GERLACH, Professor of History (1962)  
B.S.Ed., M.A., Ph.D., University of Nebraska, 1961.
- THOMAS E. GETZINGER, University Auditor and Assistant to the Vice President for Business and Finance (1969)  
B.S.B.A., The University of Akron; M.B.A., Kent State University, 1966; C.P.A.
- C. EDWARD GIBNEY, Associate Professor of Nursing (1970)  
St. Agnes School of Nursing; B.S., University of Baltimore; M.S., University of Maryland, 1969; R.N.
- RUSSELL N. GIERSCH, Director of the Physical Plant (1969)  
B.M.E., Cleveland State University, 1954.
- RICHARD J. GIGLIOTTI, Associate Professor of Sociology (1972)  
B.a., St. John Fisher College; M.A., Ph.D., Michigan State University, 1972.
- KRISTINE GILL, Instructor in Nursing (1976)  
B.S.N., St. John College, Cleveland, 1970; R.N.
- PETER J. GINGO, Associate Professor of Mathematics (1969)  
B.S., The University of Akron; M.A., Ph.D., University of California at Los Angeles, 1966.
- BERTRAM C. GIRE, Associate Professor of Law, Law Librarian (July 1970)  
B.S., LL.B., University of Minnesota; M.S.L.S., University of Michigan, 1970.
- ELTON A. GLASER II, Assistant Professor of English (1972)  
B.A., M.A., Louisiana State University; M.F.A., University of California, 1972.
- MARIANNE L. GLAZER, Assistant Professor of Nursing (1971)  
B.S., The University of Akron; M.Ed., University of Pittsburgh, 1975; R.N.
- WILLIAM M. GLAZIER, Associate Professor of Surveying and Construction Technology (1958) (1967)  
B.S.C.E., Michigan Technical University; M. S.C.E., University of Michigan, 1956; P.E., Ohio, Michigan and District of Columbia.
- THEODORE L. B. GLOECKLER, Assistant Professor of Education (1972)  
B.A., Lycoming College; M.A., University of Northern Colorado; Ph.D., University of Michigan, 1973.
- PATRICIA P. GODFREY, Associate Professor of Nursing (January 1969)  
B.S., M.A.Ed., Case Western University, 1964; R.N.
- LATHARDUS GOGGINS, Assistant Professor of Geography (1969)  
B.A., Central State University; M.A., The Ohio State University; Ph.D., St. John's University, 1973.
- CECIL V. GOLD, Assistant Professor of Music (1976)  
B.M.E., University of Nebraska, M.M., University of Idaho, 1972.
- LAWRENCE G. GOLDEN, Assistant Professor of Sales and Merchandising (1968)  
B.S., Case Western Reserve University; M.B.A., Wharton School of Finance and Commerce, 1968.
- MARY T. GOLETZ, Instructor in Nursing (1976)  
B.S.N., The University of Akron, 1976; R.N.
- TOM A. GOOSBY, Assistant Director of the Gardner Student Center (July 1970)  
B.A., Baldwin-Wallace College, 1963.
- C. PETER GOPLERUD, Assistant Professor of Law (1977)  
B.A., J.D., University of Kansas, 1974.
- DENNIS GORDON, Professor of Accounting (1946)  
A.B., M.B.A., University of Chicago, 1938; C.P.A., Ohio.
- DAVID A. GOSHEN, Advisor of Students (October 1972)  
B.A., The University of Akron, 1972.
- GEORGE R. GRAHAM, Assistant Head of Electronic Systems Engineering (June 1977)  
B.S., The University of Akron, 1973.
- JANICE E. GRAHAM, Counselor (August 1977)  
B.A., M.S., Eastern Michigan University, 1973.
- H. ROGER GRANT, Associate Professor of History (1970)  
B.A., Simpson College; M.A., Ph.D., University of Missouri, 1970.
- RICHARD L. GRANT, Professor of Law (1967)  
B.S., University of Pennsylvania; J.D., Stanford University; L.L.M., Georgetown University, 1967.
- HOWARD L. GREENE, Professor of Chemical Engineering (1965)  
B.Ch.E., M.Ch.E., Ph.D., Cornell University, 1966.

- C. FRANK GRIFFIN, *Professor of Physics* (1967)  
B.S., M.S., Texas Technological College; Ph.D., The Ohio State University, 1964.
- CLAIBOURNE E. GRIFFIN, *Dean of the Buchtel College of Arts and Sciences and Professor of Chemistry* (July 1974)  
B.A., Princeton University; M.S., Ph.D., University of Virginia, 1955.
- NORMAN M. GRIGGS, JR., *Associate Professor of Education* (1969)  
B.A., M.A., DePaul University, Ph.D., The Ohio State University, 1968.
- EDNA P. GRIST, *Associate Professor of Nursing* (January 1968)  
B.S.N.Ed., M.S.Ed., The University of Akron, 1967, R.N.
- RICHARD J. GROSS, *Associate Professor of Mechanical Engineering* (1967)  
B.S.M.E., University of Pittsburgh; M.S.M.E., Ph.D., Carnegie Institute of Technology, 1967, P.E. Ohio.
- FRANK J. GRUCCIO, JR., *Assistant Professor in the Community and Technical College* (1966)  
B.A., M.A., The University of Akron, 1967.
- ROBERT GRUMBACH, *Associate Professor of Electrical Engineering and Assistant to the Director of Cooperative Program in the College of Engineering* (1961)  
B.S.E.E., Case Western Reserve University; M.S.E.E., West Virginia University, 1951
- BARBARA GSELLMAN, *Instructor in Mechanical Technology* (1967)  
B.M.E., The University of Akron, 1950.
- VIRGINIA L. GUNN, *Assistant Professor of Home Economics* (January 1974)  
B.S., Kansas State University; M.S., Syracuse University, 1972.
- MARGARET B. GUSS, *Assistant Professor of Bibliography and Research Librarian* (December 1976)  
B.A., Oberlin College; M.L.S., University of Oregon, 1968.
- JOHN F. GWINN, *Assistant Professor of Biology* (1970)  
B.A., Manchester College; M.S., Purdue University; Ph.D., Kent State University, 1972.
- LISA P. GWYTHHER, *Instructor in Social Work* (1977)  
B.A., M.S., Case Western Reserve University, 1969.
- SCOTT D. HAGEN, *Associate Professor of Biology (Wayne General and Technical College)* (1966)  
B.S., Kansas State University; M.S., Kansas State Teachers College, 1964.
- GORDON A. HAGERMAN, *Assistant to the Dean of the Evening College and Summer Sessions* (July 1941)  
B.A., The University of Akron, 1941.
- ROBERT D. HAHN, *Director of Student Financial Aids* (July 1969)  
B.S., M. Ed., Kent State University, 1969.
- DONALD E. HALL, *Assistant Professor of Speech and Director of the Speech and Hearing Center* (1974)  
B.S.Ed., Indiana University of Pennsylvania; M.Ed., Westminster College; Ph.D., Ohio University, 1971.
- DONALD V. HALLOCK, *Professor of Military Science* (August 1975)  
B.S., University of Wisconsin; M.Ed., Eastern University, 1969; Graduate of the U.S. Army Command and General Staff College Lt. Col., Infantry.
- RICHARD L. HANSFORD, *Vice President and Dean of Student Services-Civilian Coordinator of the Reserve Officers Training Corps* (August 1949)  
B.A.Ed., M.A.Ed., The University of Akron, 1954.
- CHARLOTTE M. HANTEN, *Assistant Professor of Art* (1969)  
B.A., Earlham College; M.Ed., Pennsylvania State University, 1954.
- EDWARD W. HANTEN, *Professor of Geography, Professor of Urban Studies, Director, Center for Urban Studies* (1963)  
B.S., Earlham College; M.A., Ph.D., University of Pittsburgh, 1962.
- PHYLLIS HARDENSTEIN, *Associate Professor of Theatre Arts* (February 1947) (1956)  
B.A., The University of Akron; M.A., University of Wisconsin, 1951.
- VERN R. HARNAPP, *Assistant Professor of Geography* (1972)  
B.S.Ed., Concordia Teachers College; M.S.Ed., University of Pennsylvania; Ph.D., University of Kansas, 1972.
- JACK D. HARPOOL, *Assistant Professor of Data Processing* (March 1970)  
B.S., M.B.A., The University of Akron, 1968.
- ALAN HART, *Associate Professor of Philosophy* (1970)  
B.A., M.A., Syracuse University; Ph.D., University of Pennsylvania, 1965.
- DONALD E. HARVEY, *Assistant Professor of Art* (1973)  
B.A., Mankato State College; M.F.A. Temple University, 1971.
- H. JAMES HARWOOD, *Professor of Chemistry and Professor of Polymer Science* (October 1959)  
B.S., The University of Akron; Ph.D., Yale University, 1956.
- JEAN A. HASPELAGH, *Assistant Professor of Nursing* (1973)  
B.S.N., M.S.Ed., The University of Akron, 1974.
- WADE B. HATCH, *Physical Facilities Analyst* (October 1966)  
B.S.C.E., University of California at Los Angeles, 1949.
- MARLENE HATHAWAY, *Instructor in English and Assistant to the Dean of the College of Arts and Sciences* (1965)  
B.A., Kalamazoo College; M.A., The University of Akron, 1965.
- RICHARD H. HAUDE, *Associate Professor of Psychology* (1967)  
B.A., Kenyon College; M.S., Ph.D., University of Pittsburgh, 1964.
- JESS W. HAYS, *Adviser of Students* (August 1977)  
B.A., The University of Akron; M.A., Bowling Green State University, 1974.
- BARBARA J. HAZARD, *Assistant Director of Residence Halls* (1972)  
B.A., Ohio Wesleyan University; M.A., Bowling Green University, 1972.
- JOHN G. HEDRICK, *Dean of Wayne General and Technical College* (July 1967)  
B.S.Ed., Kent State University; M.A., University of Notre Dame, 1958.

- JACQUELINE HEGBAR, *Instructor in Classics* (1967)  
B.A., M.A., The University of Akron, 1967.
- WALTER H. HEINTZ, *Associate Professor of Physics* (1967)  
B.S., University of Massachusetts; M.S., Ph.D., The Ohio State University, 1962.
- BARBARA HEINZERLING, *Assistant Professor of Home Economics* (1973)  
B.S., M.S., Ohio State University, 1963.
- MARION R. HEISE, *Assistant Professor in the Community and Technical College* (1972)  
B.A., M.A., The University of Akron, 1972.
- FAITH HELMICK, *Assistant to Director of Institutional Research and Academic Personnel* (1969)  
B.A., Kent State University; M.S.T.E., The University of Akron, 1977.
- JOHN B. HENDERSON, *Visiting Assistant Professor of History* (1977)  
B.A., Duke University; Ph.D., University of California at Berkeley, 1977.
- WILLIAM S. HENDON, *Professor of Urban Studies and Professor of Economics* (1968)  
B.A., M.A., Ph.D., University of Oklahoma, 1964.
- PETER N. HENRIKSEN, II, *Associate Professor of Physics* (1970)  
B.S., Berry College; M.A., Ph.D., University of Georgia, 1968.
- RICHARD HENRY, *Associate Professor of Mechanical Technology* (1961)  
B.M.E., The Ohio State University; M.S.E., The University of Akron, 1965.
- ALBERTA R. HENSLEY, *Assistant to the Executive Director of University Relations and Development* (January 1974)  
B.S.B.A., Indiana Central College, 1969.
- THEODORE T. HERBERT, *Associate Professor of Management* (1973)  
B.B.A., M.B.A., D.B.A., Georgia State University, 1971.
- THOMAS P. HERBERT, *Associate Professor of Electronic Technology* (1968)  
B.S.E.E., University of Dayton; M.A., Pennsylvania State University, 1968.
- WALTER M. HERIP, *Instructor in Art and Instructor in Commercial Art* (1974)  
B.F.A., Cleveland Institute of Art, 1971.
- JAY R. HERSHEY, *Director of Residence Halls* (July 1967)  
B.A., Hiram College; M.Ed., University of Illinois, 1965.
- HARRIET K. HERSKOWITZ, *Instructor in Educational Technology and in Home Economics* (1973)  
B.S.Ed., Mills College; M.A., University of Connecticut, 1972.
- JAMES R. HEWIT, *Visiting Professor of Mechanical Engineering* (1977)  
B.S., University of Edinburgh; M.S., University of Wales; Ph.D., Loughborough University, 1968.
- JACK E. HIBBS, *Assistant Professor of Bibliography and Research Librarian* (October 1974)  
B.A., M.A.L.S., University of Toledo, 1969.
- ROBERT W. HIGHAM, *Assistant Professor of Criminal Justice* (1977)  
B.A., Kent State University; J.D., The University of Akron, 1969.
- KATHERINE A. HINCKLEY, *Assistant Professor of Political Science* (1972)  
B.J., University of Missouri; M.A., Ph.D., Stanford University, 1971.
- JOSEPH C. HINTZ, *Assistant Professor of Mathematics* (1977)  
B.S., Siena College; M.S., Ph.D., Syracuse University, 1975.
- JOHN J. HIRSCHBUHL, *Associate Professor of Education and Coordinator of CAI* (1971)  
B.S., M.S., Temple University; Ph.D., Pennsylvania State University, 1971.
- ELIZABETH J. HITTLE, *Professor of Speech and Director of The Educational Research and Development Center* (1950)  
B.S.Ed., The University of Akron; M.A., Kent State University; Ed.D., Case Western Reserve University, 1963.
- LOREN HOCH, *Associate Professor of Education* (1969)  
B.S., Indiana Central College; M.A., Ball State University; Ed.D., Indiana University, 1968.
- JUDY L. HODGSON, *Instructor in Home Economics* (February 1972)  
B.S., The Ohio State University; M.S., The University of Akron, 1976.
- KENNETH C. HOEDT, *Professor of Education* (1962)  
B.S., State University of New York, (Buffalo); M.S., Ph.D., University of Wisconsin, 1960.
- WILLIAM W. HOKMAN, *Assistant Professor of Mathematics* (1967)  
B.S.Ed., M.A., West Virginia University, 1958.
- R. BRUCE HOLLAND, *Assistant Professor of English* (1967)  
B.A., University of Rochester; M.A., Ph.D., University of Michigan, 1972.
- LORENA HOLSHOY, *Assistant Professor of Art* (1969)  
B.F.A., M.A., The Ohio State University, 1965.
- KATHRYN HOMEIER, *Professor of Nursing* (February 1967)  
B.S.N.E., Saint Louis University; M.S.Ed., The University of Akron, 1963; R.N.
- RICHARD B. HOSKIN, *Associate Professor in the Community and Technical College* (1967)  
B.A., Hiram College; M.E., Kent State University, 1955.
- JANICE D. HOUSER, *Instructor in Modern Languages* (1965)  
B.A., Butler University; M.A., Indiana University, 1964.
- JOHN J. HOUSER, *Associate Professor of Chemistry* (1965)  
B.S., Villanova University; Ph.D., Pennsylvania State University, 1964.
- ELMORE HOUSTON, *Assistant Professor of Mass Media-Communication* (Wayne General and Technical College) (1972)  
B.A., Purdue University; M.A., The University of Akron, 1968.
- ANTHONY E. HROMCO, *Advisor of Students* (1973)  
B.A., Kent State University; M.A.Ed., The University of Akron, 1973.

- JACK D. HUGGINS, Assistant Professor of Business Management Technology (1971)  
B.A., Saint Francis College; M.B.A., University of Colorado, 1970.
- JULIA HULL, Assistant Professor of English (1946)  
B.A., The University of Akron; M.A., Case Western Reserve University, 1950.
- EDWARD J. HUMESTON, Assistant Professor of Music (1977)  
B.A., Curtis Institute of Music; M.M., New England Conservatory of Music, 1968.
- J. MICHAEL HUNGERMAN, Counselor and Educational Programs Coordinator in the Testing and Counseling Bureau (1970)  
B.A., College of Steubenville; M.Ed., Ph.D., Kent State University, 1970.
- CARL L. HUSTON, Instructor in English (Wayne General and Technical College) (1972)  
B.S., Bowling Green State University, 1951.
- FARLEY K. HUTCHINS, Professor of Music (1957)  
M.B., Lawrence Conservatory of Music; S.M.M., S.M.D., School of Sacred Music, Union Theological Seminary, 1951.
- JAMES E. INMAN, Associate Professor of Business Law (1966)  
B.A., Baldwin-Wallace College; M.B.A., The Ohio State University; J.D., The University of Akron, 1971.
- SYS S. INMAN, Instructor in Modern Languages (1968)  
B.A., Baldwin-Wallace College; M.A., The University of Akron, 1968.
- CHARLES S. INSALAGO, Advisor of Students (August 1974)  
B.S.Ed., M.S.Ed., The University of Akron, 1971.
- JAMES L. IVY, Adviser to International Students (January, 1978)  
B.A., M.Ed., University of North Carolina; M.A., Middlebury College, 1967.
- RICHARD JACKOBOICE, Associate Professor of Music and Director of University Bands ((967)  
B.M., M.M., University of Michigan, 1965.
- DALE L. JACKSON, Professor of Biology (1961)  
B.S., Ph.D., University of Durham (England), 1959.
- DONALD M. JACKSON, Assistant Professor of Marketing (1969)  
B.A., M.B.A., Cornell University; D.B.A., Kent State University, 1976.
- JIM L. JACKSON, Assistant Professor of Geology and Director of Environmental Studies (1967)  
B.S., Kent State University; M.S., Case Western Reserve University; Ph.D., The Ohio State University, 1970.
- FRANK C. JACOBS, Assistant Professor of Music (1977)  
B.A., B.M., DePauw University; M.A., Occidental College; D.M.A., University of Illinois, 1974.
- DAVID L. JAMISON, Assistant Professor of Mass Media-Communication (1972)  
B.A., Muskingum College; M.A., J.D., University of Michigan, 1969.
- DONALD M. JENKINS, Professor of Law (1965)  
B.A., J.D., The University of Akron; LL.M., Case Western Reserve University, 1970.
- DUDLEY C. JOHNSON, JR., Director of Counseling and Advising (July 1961)  
B.S., University of Vermont; M.S.Ed., University of Southern California 1961.
- LAURA J. JOHNSON, Instructor in the Community and Technical College (January 1974)  
B.A., M.A., The University of Akron, 1975.
- WENDELL A. JOHNSON, Assistant Professor in the Community and Technical College (1969)  
A.A., North Park Junior College; B.S., University of Minnesota; M.Ed., Kent State University, 1968.
- DAVID B. JOHNSTON, Development Officer (June 1974)  
B.A., Hanover College; B.S., Butler University; M.S., Indiana University, 1963.
- JEAN JOHNSTON, Associate Professor of Secretarial Science (1965)  
B.S., Carnegie Institute of Technology; M.Ed., Ph.D., University of Pittsburgh, 1974.
- MIRIAM ANN JOLIAT, Assistant Professor of Bibliography and Systems Librarian (April 1970)  
B.S.E., St. John College; M.S., Case Western Reserve University, 1969.
- DAVID L. JONES, Associate Professor of English (February 1961)  
B.A., M.A., Ph.D., Harvard University, 1958.
- JOHN E. JONES, Assistant Director of Admissions (January 1975)  
B.S., Ohio State University, 1971.
- ROBERT H. JONES, Professor of History (1971)  
B.A., M.A., Ph.D., University of Illinois, 1957.
- JAMES F. JUNDZILO, Instructor in Transportation (1977)  
B.S., The University of Akron; M.B.A., Youngstown State University, 1975.
- ROBERT KADERLE, Accountant (December 1975)  
B.S.B.A., The University of Akron, 1975.
- SEBASTIAN KANAKKANATT, Associate Professor of General Technology (July 1965)  
B.S., Madras University (India); M.S., Ph.D., The University of Akron, 1969.
- GARY W. KANE, Associate Professor of Education (1972)  
A.A., Santa Ana College; B.S., M.Ed., State University College at New Paltz; Ed.D., University of Rochester, 1970.
- ARTHUR D. KARLIN, Associate Professor of Accounting (1971)  
B.S., New York University; M.S., Ph.D., University of Illinois, J.D., The University of Akron, 1976.
- CHAMAN N. KASHKARI, Associate Professor of Electrical Engineering (1969)  
B.A., Jammu Kashmir University; B.E., Rajasthan University; M.S.E., University of Detroit; Ph.D., University of Michigan, 1969.

- JOLITA E. KAVALIUNAS, Assistant Professor of Modern Languages (1970)  
B.A., M.A., Ph.D., Case Western Reserve University, 1972.
- AZMI KAYA, Associate Professor of Mechanical Engineering (1970)  
Diploma, Technical College for Men (Turkey); M.S.M.E., University of Wisconsin; M.S.E.E., Ph.D., University of Minnesota. 1970.
- GREGORY C. KECK, Instructor in Social Science Technology (Wayne General and Technical College) (January, 1978)  
B.A., The University of Akron; M.S.S.A., Case Western Reserve University, 1973.
- ORVILLE R. KEISTER, JR., Professor of Accounting (1966)  
B.S., M.B.A., The Ohio State University; Ph.D., University of Illinois, 1964.
- ROGER F. KELLER, JR., Professor of Biology, Chairman of the Division of Natural Sciences and Chairman of the Division of Allied Health Programs (1954)  
B.S., University of New Hampshire; Ph.D., Michigan State University (1953).
- JAMES M. KELLY, Assistant Professor of Military Service (1977)  
B.A., Cameron University, 1974. Major, Artillery.
- MARTIN L. KEMP, Business Manager of Wayne General and Technical College (July 1972)  
B.S.Ed., Ashland College; M.S.Ed., Kent State University, 1970.
- FRANK J. KENDRICK, Associate Professor of Urban Studies and Associate Professor of Political Science (1971)  
B.A., Grinnell College; M.A., Ph.D., University of Chicago, 1962.
- JOSEPH P. KENNEDY, Professor of Polymer Science and Professor of Chemistry (April 1970)  
B.S., University of Budapest; M.B.A., Rutgers University; Ph.D., University of Vienna, 1954.
- JOYCE D. KIERST, Instructor of Nursing (1977)  
B.S., M.S., Rutgers, 1976.
- NANCY C. KILBANE, Instructor in Nursing (1977)  
B.S.M., Saint John College Cleveland, M.S.N., University of Colorado, 1975.
- THORA S. KILLE, Assistant Professor of Secretarial Science (1975)  
B.A., M.Ed., Bowling Green State University, 1961.
- DENNIS L. KIMMELL, Associate Professor of Accounting (1976)  
B.S., University of Wisconsin; M.S., Southern Illinois University; D.B.A., Kent State University, 1974.
- JAMES C. KING, Professor of Education (1969)  
B.A., Mount Union College; M.Ed., Kent State University; Ed.D., Indiana University, 1969.
- LILLIAN KING, Assistant Professor of Education (1966)  
B.S.Ed., The University of Akron; M.Ed., Kent State University, 1965.
- KEITH A. KLAFEHN, Associate Professor of Management (1970)  
B.S., M.S., Clarkson College of Technology; D.B.A., Kent State University, 1973.
- DENNIS A. KLEIDON, Assistant Professor of Art and Assistant Professor of Commercial Art (1969)  
B.F.A., Illinois Wesleyan University; M.S., Illinois State University, 1967.
- ROSE A. KLEIDON, Assistant Professor in the Community and Technical College (1970)  
B.A., Illinois Wesleyan University; M.A., University of Illinois, 1968.
- MICHAEL KLEIN, Senior Academic Programmer and Analyst in the Computer Center (1964)  
B.S., M.S., The University of Akron, 1968.
- GEORGE W. KNEPPER, Professor of History (1948-49), (August, 1954)  
B.A., The University of Akron; M.A., Ph.D., University of Michigan, 1954.
- BRUCE U. KNIGHT, Assistant Professor of Economics (1977)  
B.S., M.S., State University of New York, 1975.
- NANCY A. KNIGHT, Assistant Professor of Bibliography and Assistant Librarian for Research Services (1967)  
B.A., University of Idaho; M.S.L.S., Louisiana State University, 1966.
- KATHRYN E. KOCH, Assistant Professor of Home Economics (1970)  
B.S.Ed., M.S., Kent State University, 1970.
- WILLIAM G. KOFRON, Professor of Chemistry (1965)  
B.S., University of Notre Dame; Ph.D., University of Rochester, 1961.
- CHARLES L. KOHL, JR., Assistant Professor of Military Science (1977)  
B.A., Valparaiso University; M.B.A., Adelphi University, 1974. Captain, Transportation.
- KAREN M. KOHN, Adviser of Students (July 1976)  
B.A., Rutgers; M.A., The Ohio State University, 1976.
- MARTIN F. KOHN, Program Associate in the Department of Special Programs (1973)  
B.S.Ed., The Ohio State University, 1971.
- ROSE MARIE KONET, Instructional Programmer-Liaison, CAI Center (July 1976)  
B.S., The University of Akron, 1975.
- MARGERY B. KOUSED, Assistant Professor of Law (1974)  
B.S.Ed., Miami University; J.D., Case Western Reserve University, 1974.
- DENNIS P. KOPPER, Instructor in Management (1977)  
B.S., The University of Akron, 1974.
- VINCENT P. KOPY, Assistant Professor of Accounting (1975)  
B.B.A., M.B.A., Case Western Reserve University, 1959.

- ALBERT KORSOK, Associate Professor of Geography (1968)  
B.S., Case Western Reserve University; M.A., Northern University; Ph. D., University of Illinois, 1960.
- GERALD F. KOSER, Associate Professor of Chemistry (1969)  
B.S., The Ohio State University; M.S., Ph.D., University of Illinois, 1968.
- JANKO P. KOVACEVICH, Associate Professor of Education (1969)  
B.S. Baylor University; M.A., The University of Akron; Ph.D., Case Western Reserve University, 1970.
- MARY K. KRATER, Instructor in Nursing (January 1977)  
B.S.N., Saint Louis University; M.A., New York University, 1976.
- PATRICIA B. KRICOS, Assistant Professor of Speech (1976)  
B.A., University of Texas; M.A., Ph. D., The Ohio University, 1973.
- ALAN G. KRIGLINE, Assistant Professor of Management (1973)  
B.I.E., University of Florida; M.B.A., Ph.D., Georgia State University, 1977.
- ALAN F. KRIVIS, Associate Professor of Chemistry (1966)  
B.A., M.A., Columbia University; M.S.Ch., Ph.D., University of Michigan, 1958.
- LAWRENCE C. KRUEGER, Associate Director of Residence Halls (July 1971)  
B.S., Wisconsin State University; M.S., Indiana University, 1971.
- WARREN F. KUEHL, Professor of History and Director of the Center for Peace Studies (1964)  
B.A., Rollins College; M.A., Ph.D., Northwestern University, 1954.
- ERNEST A. KUEHLS, Associate Professor of Mathematics (1965)  
B.S.Ed., M.Ed., Miami University; Ph.D., The University of Akron, 1971.
- MILTON L. KULT, Associate Professor of Electrical Engineering (June 1954)  
B.S.E.E., M.S., University of Illinois, 1952; P.E., Illinois, Ohio.
- A. W. GERHARD KUNZE, Assistant Professor of Geology (1974)  
B.S., Ph.D., Pennsylvania State University, 1973.
- HENRY A. KUSKA, Associate Professor of Chemistry (1965)  
A.A., Morton College; B.A., Cornell College (Iowa); Ph.D., Michigan State University, 1965.
- DAVID E. KYVIG, Assistant Professor of History and Director of American History Research Center (1971)  
B.A., Kalamazoo College; Ph.D., Northwestern University, 1971.
- MARGHERITA D. LABSON, Instructor in Nursing (1976)  
B.S.N., Duquesne University, 1975.
- JOSEPH LACAMERA, JR., Counselor, Testing and Counseling Bureau (October 1972)  
B.A., Hiram College; M.A., Ed.D., University of Colorado, 1970.
- MARCIA T. LADD, Acting Research Librarian and Instructor in Bibliography (1977)  
B.A., The University of Akron; M.A., Ohio University; M.L.S., Western Michigan University, 1977.
- JOHN A. LAGUARDIA, Associate Director of Alumni Relations (1970)  
B.A., M.A., The University of Akron, 1974.
- LOUIS LANE, Adjunct Professor of Music  
B.M., University of Texas; M.M., Eastman School of Music, 1947.
- GORDON LARSON, Associate Professor of Physical Education and Director of Athletics (February 1961)  
B.S.Ed., M.E., Kent State University, 1954.
- RALPH LARSON, Assistant Director of Purchasing (July 1960)  
B.S.Ed., M.Ed., Kent State University, 1953.
- EDWARD B. LASHER, Assistant Professor of Education (1972)  
B.S., State University College at Oneonta; M.S., Ed.S., Indiana University; Ed.D., University of North Dakota, 1971.
- ELAINE Z. LASKY, Professor of Speech (1972)  
B.S., M.A., Ph.D., Case Western Reserve University, 1971.
- JOSEPH C. LATONA, Associate Professor of Management and Director of Bureau of Organizational Development (1961) (1971)  
B.A., The University of Akron; M.B.A., D.B.A., Kent State University, 1970.
- DIANE L. LAZZERINI, Adviser of Students (July 1970)  
B.A., M.A., The University of Akron, 1970.
- NOEL L. LEATHERS, Vice President and Provost and Professor of History (July 1972)  
B.S., M.A., Oklahoma State University; Ph.D., University of Oklahoma, 1963.
- NADA LEDINKO, Professor of Biology (1971)  
B.S., The Ohio State University; M.S., Pennsylvania State University; Ph.D., Yale University, 1952.
- RICHARD GREGG LeFEVRE Associate Professor of Urban Studies and Associate Professor of Sociology (1973) B.A., Swarthmore College; M.A., Duke University; Ph.D., University of Pennsylvania, 1962.
- WALTER D. LEHRMAN, Assistant Professor of English (1956)  
B.S., M.A., Columbia University; Ph.D., Case Western Reserve University, 1972.
- JAMES V. LENA VITT, Assistant Professor of Art (1969)  
B.F.A., M.F.A., Ohio University, 1969.
- JOHN P. LENCZYK, Associate Professor of Chemical Engineering (1970)  
B.S., M.S., Ph.D., State University of New York at Buffalo, 1970.
- JOSEPH R. LENTINI, Associate Professor of Criminal Justice (1969)  
B.A., State College at Bridgewater (Massachusetts); M.S., The University of Akron, 1971.

- ARNO K. LEPKE, *Professor of Modern Language (1961) and Master, University Honors Program*  
University of Greifswald (Germany); Ph.D., University of Marburg (Germany), 1947.
- JOSEPH F. LESTINGI, *Professor of Civil Engineering (1967)*  
B.C.E., Manhattan College; M.S., Virginia Polytechnic Institute; Ph.D., Yale University, 1966; P.E., Ohio, New Jersey.
- GERALD H. LEVIN, *Professor of English (1960)*  
M.A., University of Chicago; Ph.D., University of Michigan, 1956.
- RUTH B. LEWIS, *Professor of Mass Media-Communication (1966)*  
B.S., Wittenberg University; M.A., Ph.D., The Ohio State University, 1961.
- MARTHA CATHERINE LEYDEN, *Associate Professor of Education (1971)*  
B.S., St. John College; M.Ed., Kent State University; Ed.D., Columbia University 1971.
- ALBERT H. LEYERLE, *Assistant Professor of Law (1974)*  
B.S., The Ohio State University; J.D., Case Western Reserve University, 1960.
- ALVIN H. LIEBERMAN, *Assistant Professor of Accounting (1969)*  
B.S., J.D., M.B.A., The University of Akron, 1969.
- CARL LIEBERMAN, *Associate Professor of Political Science (1967)*  
B.A., Temple University; M.A., Ph.D., University of Pittsburgh, 1969.
- MARTHA LIERHAUS, *Assistant Professor of Mathematics (January 1967)*  
B.A., B.S.Ed., M.A., Kent State University, 1963.
- HUGO LIJERON, *Professor of Modern Languages and Director of the Latin American Studies Program (1963)*  
B.A., LaSalle University (Bolivia); LL.D., Universidad San Francisco Xavier de Chuquisaca (Bolivia); M.A., Middlebury College; Ph.D., University of Madrid (Spain), 1965.
- LUNG-HO LIN, *Assistant Professor of Economics (January 1978)*  
B.A., M.A., National Chengchi University (Taiwan); M.A., Ph.D., University of Notre Dame, 1974.
- JOY S. LINDBECK, *Associate Professor of Education (1967)*  
B.S., Carnegie Institute of Technology; M.S.Ch., M.Ed., D.Ed., University of Pittsburgh, 1964.
- SHELDON B. LISS, *Professor of History (1967)*  
B.A., American University; M.A., Duquesne University; Ph.D., American University, 1964.
- DALE A. LISTON, *Lecturer in Physical Education (March 1977)*  
B.A.Ed., Heidelberg College, 1966.
- MICHAEL P. LITKA, *Professor of Business Law (1971)*  
B.A., Grinnell College; M.A., J.D., University of Iowa, 1958.
- MIRIAM G. LITT, *Instructor in Home Economics (1974)*  
B.S., M.P.H.N., Case Western Reserve University, 1953.
- EDWIN L. LIVELY, *Professor of Sociology (1963)*  
B.A.Ed., Fairmont State College (W.Va.); M.A., Ph.D., The Ohio State University, 1959.
- HELEN P. LIVINGSTON, *Assistant Professor of Bibliography and Assistant Librarian for Public Service (February 1970)*  
B.A., Bishop's University; M.S., Simmons College, 1954.
- KRIEMHILDE I. R. LIVINGSTON, *Instructor in Modern Language (1968)*  
Diploma, University of Munich (Germany); Diploma, Bavarian Interpreter School (Germany), 1947.
- ROBERT G. LORD, *Assistant Professor of Psychology (1974)*  
B.A., University of Michigan; M.S., Ph.D., Carnegie-Mellon University, 1975.
- MARIAN LOTT, *Associate Professor of Music (1967)*  
B.M., M.M., Chicago Musical College, 1951.
- DAVID J. LOUSCHER, *Assistant Professor of Political Science (1970)*  
B.A., Morningside College; M.A., American Univer; M.A., Ph.D., University of Wisconsin, 1972.
- DAVID P. LOYD, *Associate Professor of Marketing (1977)*  
B.A., Ashland College; M.B.A., Ph.D., The Ohio State University, 1962.
- LLOYD B. LUEPTOW, *Professor of Sociology (1967)*  
B.S., M.S., Ph.D., University of Wisconsin, 1964.
- DEBORAH D. LUMLEY, *Instructor in Nursing (1976)*  
B.S.N., M.S.N., The Ohio State University, 1975; R.N.
- RICHARD C. LUTZ, *Associate Professor of Management (January 1973)*  
B.S., M.S., Southern Illinois University; D.B.A., Texas Technical University, 1972.
- WILLIAM D. LYON, *Assistant Professor of Chemistry (1967)*  
B.S. Chem., University of Illinois; Ph.D., University of Wisconsin, 1967.
- LAURENCE J. C. MA, *Associate Professor of Geography (1971)*  
B.A., National Taiwan University; M.A.L.S., George Peabody College; M.A., Kent State University; Ph.D., University of Michigan, 1971.
- MARY JO MACCRACKEN, *Instrutor in Physical Education (1968)*  
B.A., College of Wooster; M.A., The University of Akron, 1969.
- ALICE MACDONALD, *Instructor in English (1969)*  
B.A., M.A., The University of Akron, 1969.
- JOHN A. MACDONALD, *Professor of Music (1959)*  
B.M.Ed., Oberlin College; M.A., Ph.D., University of Michigan, 1964.
- KENNETH E. MACDONALD, *Director of Sports Information (January 1965)*  
B.S., The University of Akron, 1963.
- BARBARA J. MACGREGOR, *Assistant Professor of Music (January 1970)*  
B.M., The University of Akron; M.M., Cleveland Institute of Music, 1967.

- IAN R. MACGREGOR, *Vice President for Planning and Professor of Chemistry and Secretary of the Board of Trustees* (1961)  
 B.A., M.S., Ph.D., University of Cincinnati, 1945.
- LAZARUS W. MACIOR, *Professor of Biology* (1967)  
 B.A., M.A., Columbia University; Ph.D., University of Wisconsin, 1959.
- THEODORE MACKIOW, *Professor of Modern Languages and Director of the Soviet Area Studies Program* (1962)  
 Ph.D., University of Frankfurt (Germany), 1950.
- BOYD A. MACKUS, *Instructor in Music* (1977)  
 A.B., Calvin College; M.A., Michigan State University; M.M., University of Illinois, 1977.
- JUDITH E. MAFFETT, *Assistant Professor of Physical Education* (1968)  
 B.S., M.Ed., Kent State University, 1962.
- EUGENE MAIO, *Associate Professor of Modern Languages* (1970)  
 B.A., Ph.L., M.A., S.T.L., St. Louis University; Ph.D., University of California at Los Angeles, 1967.
- COLEMAN J. MAJOR, *Dean of the College of Engineering and Professor of Chemical Engineering* (1964)  
 B.S., University of Illinois; Ph.D., Cornell University, 1941; P.E., Ohio, California.
- GEORGE J. MAKAR, *Associate Professor in the Community and Technical College* (1973)  
 B.S., Pennsylvania State University; M.Ed., Duquesne University; Ed.D., University of Pittsburgh, 1973.
- YOGENDRA K. MALIK, *Professor of Political Science* (1969)  
 B.A., M.A., Punjab University; M.A., Ph.D., University of Florida, 1966.
- TED A. MALLO, *Director of University Legal Services* (July 1969)  
 B.S., M.S., J.D., The University of Akron, 1972.
- ANDREW MALUKE, *Associate Professor of Physical Education* (February 1946)  
 B.S.Ed., The University of Akron; M.A., Kent State University, 1949.
- EUGENE R. MANCINI, *Associate Professor of Music* (1967)  
 B.M., M.M., Cleveland Institute of Music, 1953.
- WILLIAM R. MANGUN, *Visiting Professor of Urban Studies* (1977)  
 A.B., Syracuse University; B.A., The University of Akron; M.A.P.A., University of Oklahoma; Ph.D., Indiana University, 1977.
- GEORGE P. MANOS, *Associate Professor of Civil Engineering* (1957)  
 B.Ch.E., The Ohio State University; M.S.E., West Virginia University; Ph.D., University of Cincinnati, 1971; P.E., Ohio.
- PHILIP S. MANTHEY, *Systems Analyst and Staff Assistant to the Vice President and Provost* (November 1965)  
 B.A., Kent State University; M.B.A., The University of Akron, 1960.
- JOHN L. MAPLES, *Adviser of Students* (July 1972)  
 B.A., M.A., The University of Akron, 1974.
- JOANNE M. MARCHIONE, *Associate Professor of Nursing* (1973)  
 B.S.N., Case Western Reserve University; M.A., University of Washington; M.A.Ed., University of Santa Clara, 1965.
- LAWRENCE J. MARKS, *Instructor in Marketing* (1977)  
 B.S., M.B.A., The University of Akron, 1973.
- JESSE F. MARQUETT, *Associate Professor of Political Science* (1971)  
 B.A., M.A., Ph.D., University of Florida, 1971.
- RODNEY S. MARSHALL, *Acting Manager of Academic Systems and Programming* (1972)  
 B.S.B.A., Bowling Green State University, 1965.
- SPENCER MARSTON, JR., *Assistant Director of Gardner Student Center* (November 1972)  
 B.S.L.E., M.S., The University of Akron, 1976.
- LAWRENCE T. MARTIN, *Assistant Professor of English* (1977)  
 A.B., Saint Francis Seminary; M.A., Ph.D., University of Wisconsin, 1977.
- ROBERTA B. MARTIN, *Adviser of Students* (July 1968)  
 B.S., M.A., The Ohio State University, 1968.
- JOHN P. MARWITT, *Associate Professor of Anthropology* (1971)  
 B.S., Florida State University; Ph.D., University of Utah, 1971.
- KENNETH E. MAST, *Assistant Professor of Marketing* (1970)  
 B.A., M.B.A., The Ohio State University, 1960.
- WILLIAM MAVRIDES, *Assistant Professor of Education and Director, Learning Resources Center* (July 1960)  
 B.A., The University of Akron; M.A., Peabody College for Teachers, 1958.
- ARMOLENE J. MAXEY, *Assistant Professor of Sociology (Wayne General and Technical College)* (1972)  
 B.S., University of Nebraska; M.A., Kent State University, 1967.
- MARY E. MAXWELL, *Instructional Assistant in the Department of Mathematics* (January 1975)  
 B.S., Ashland College; M.S., The University of Akron, 1974.
- THOMAS H. MAXWELL, *Associate Professor of Education* (1969)  
 B.A., College of the Holy Cross; M.Ed., Ed.D., University of Rochester, 1970.
- EDWARD P. MAZAK, *Professor of Aerospace Studies* (July 1974)  
 B.S., The University of Akron; M.S.A.E., Air Force Institute of Technology; M.B.A., The George Washington University, 1963. Colonel, USAF.
- SUSAN McBRIDE, *Visiting Instructor of Education* (1976)  
 B.S.Ed., M.S.Ed., The University of Akron, 1972.
- McKEE J. McCLENDON, *Associate Professor of Sociology* (1972)  
 B.A., M.A., Ph.D., University of Kansas, 1972.

- KENNETH L. J. McCORMICK, Assistant Professor of Criminal Justice (1973)  
B.S., Michigan State University; M.A., Central Michigan University, 1972.
- EDWARD E. McDONALD, Assistant Professor of Mechanical Technology (1972)  
B.S.M.E., M.S.T.E., The University of Akron, 1976. P.E., Ohio.
- ROBERT L. McELWEE, Coordinator of Curriculum and Advising and Assistant Professor of Political Science (Wayne General and Technical College) (1972)  
B.A., M.A., Kent State University, 1969.
- WILLIAM McGUCKEN, Associate Professor of History (1968)  
B.S., M.A., Queens University, Belfast (N. Ireland); Ph.D., The University of Pennsylvania, 1968.
- ALLAN J. McINTYRE, Associate Professor of Modern Languages (1967) (1969)  
B.A., Williams College; M.A., Columbia University; Ph.D., University of Pennsylvania, 1967.
- DONALD McINTYRE, Professor of Chemistry and Professor of Polymer Science (1966)  
B.A., Lafayette College; Ph.D., Cornell University, 1954.
- KATHLEEN A. McINTYRE, Coordinator of the Tutorial Program (1977)  
B.A., Ursuline College; M.A., The University of Akron, 1977.
- REGIS Q. McKNIGHT, Assistant Professor of Education (1972)  
B.S., M.Ed., Ed.D., Penn State University, 1971.
- MARTIN McKOSKI, Director of Developmental Programs (January 1974)  
B.A., Saint Joseph's College; M.A., The University of Akron; Ph.D., Florida State University, 1972.
- JAMES McLAIN, Professor of Economics (1946)  
B.A., The University of Akron; M.A., Western Reserve University; Ph.D., The Ohio State University, 1959.
- WILLIAM McMAHON, Associate Professor of Philosophy (1969)  
B.A., University of Notre Dame; M.A., Brown University; Ph.D., University of Notre Dame, 1970.
- ROBERT C. McNEIL, Assistant Professor of Classics (1963)  
B.A., The University of Akron; Ph.D., University of Pennsylvania, 1970.
- MARION W. McPHERSON, Associate Professor of Psychology and Associate Director of the Archives of History of American Psychology (1967)  
B.A., M.A., University of Maine; Ph.D., Indiana University, 1949.
- CLAUDE Y. MEADE, Professor of Modern Languages (1964)  
B.A., M.A., University of Minnesota; Ph.D., University of California, 1957.
- LAVERNE J. MECONI, Professor of Education (1967)  
B.S., West Chester State College (Pennsylvania); M.A., University of Pennsylvania; Ph.D., The Ohio State University, 1966.
- GARY E. MEEK, Associate Professor of Management (1971)  
B.S., Cleveland State University; Ph.D., Case Western Reserve University, 1970.
- DAVID T. MEETING, Instructor in Accounting (1976)  
B.S.B.A., Franklin University; M.B.A., University of Dayton, 1973.
- EBERHARD A. MEINECKE, Professor of Mechanical Engineering and Professor of Polymer Science (October 1963)  
D. Eng., Braunschweig Institute of Technology (Germany), 1960.
- WARNER D. MENDENHALL, Associate Professor of Political Science (Wayne General and Technical College) (1972)  
B.S., Davidson College; M.A., Duke University, 1960.
- STANLEY P. MENGEL, Director, Center for Economic Education, Holder of the Firestone Tire and Rubber Company Chair of Economic Education, and Assistant Professor of Education (January 1975)  
B.A., University of Missouri; M.A., Stanford University, 1965.
- JACK F. MERCER, Associate Professor in the Community and Technical College (1965)  
B.A., Ohio University; M.A., Case Western Reserve University, 1958.
- R. PAUL MERRIX, Associate Professor of English (1966)  
B.A., M.A., Butler University; Ph.D., University of Cincinnati, 1966.
- RUTH MESSENGER, Assistant Professor of English (1968)  
B.A., Wellesley College; M.A., The University of Akron; M.A., Ph.D., Case Western Reserve University, 1976.
- DONALD J. METZGER, Associate Professor of Sociology (1968)  
B.A., Youngstown University; Ph.D., University of Pennsylvania, 1968.
- CHRISTOPHER P. MEYER, Assistant Professor of Art (1972)  
B.A., Washington and Lee University; M.F.A., Ohio State University, 1972.
- DENNIS MEYER, Assistant Professor of Art (1969)  
B.A., St. Norbert College; M.F.A., Ohio University, 1969.
- FRITZ M. MEYER, Instructor in Physical Education (1973)  
B.S.Ed., University of Cincinnati; M.A.Ed., Xavier University, 1970.
- JOSEPH MIGDEN, Assistant Director of Student Financial Aids (July 1975)  
B.B.A., M.Ed., Kent State University, 1973.
- THOMAS T. MILES, Assistant Professor of Mass Media-Communication and Director of Instructional Media (October 1972)  
B.S., M.S., Ed.A., Indiana State University; Ph.D., University of Iowa, 1973.
- ANN LEE MILLER, Adviser of Students (April 1971)  
B.A., Hanover College; M.A., The University of Akron, 1970.
- JOHN V. MILLER, JR., Assistant Professor of Bibliography, Director of Archival Services and Associate Curator for the Hower House (July 1972)  
B.A., Franklin and Marshall College; M.A., University of Delaware, 1965.

- RODNEY N. MILLER, Assistant Professor of Music (1973)  
B.M., Birmingham Southern College; M.M., University of Illinois, 1973.
- TIM W. MILLER, Assistant Director of Alumni Relations (1977)  
B.A., M.Ed., The University of Akron, 1976.
- WILLIAM I. MILLER, Assistant Professor of Modern Languages (1970)  
B.A., Wittenberg University; Ph.D., University of Florida, 1970.
- JOYCE E. MIRMAN, Instructor in Data Processing (1977)  
B.S., The University of Akron, 1976.
- ALOYSIUS E. MISKO, Professor of Business Management Technology and Director of the Office for Career Planning in the Community and Technical College (1962)  
B.S., Central Michigan University; MS., Ed.D., University of Michigan, 1962.
- ELIZABETH K. MISKO, Instructor in Nursing (1976)  
B.S.N.Ed., Catholic University of America; M.S.Ed., The University of Akron, 1974.
- SHIRLEY S. MITCHELL, Counselor (1974)  
B.S.Ed., M.S.Ed., Youngstown State University; Ph.D., The University of Akron, 1976.
- JOHN B. MONROE, Associate Professor in the Community and Technical College (1966)  
B.A., College of Wooster; M.A., Rutgers University, 1963.
- BEATRICE MONTGOMERY, Assistant Professor of Bibliography and Head of Library Cataloging (December 1972)  
B.A., Randolph Macon Woman's College; B.A.L.S., Emory University; M.S.L.S., University of North Carolina, 1957.
- CHARLES K. MOORE, JR., Associate Professor of Accounting (January 1973)  
A.A., Angelo State University; B.B.A., M.B.A., D.B.A., Texas Technical University, 1973. C.P.A., 1967.
- MARVIN M. MOORE, Professor of Law (July 1960)  
B.A., Wayne State University; LL.B., LL.M., J.S.D., Duke University, 1968.
- CHERYL H. MORGAN, Instructor in Nursing (1977)  
B.S.N., M.S.N., University of Cincinnati, 1977.
- MAURICE MORTON, Regents' Professor of Polymer Chemistry and Director of the Institute of Polymer Science (October 1948)  
B.S., Ph.D., McGill University (Canada), 1945.
- DOROTHY C. MOSES, Visiting Instructor in Biology (1977)  
B.S., Bates College; M.A., Mount Holyoke College, 1959.
- RICHARD MOSTARDI, Associate Professor in Biology (1967)  
B.S.Ed., M.Ed., Kent State University; Ph.D., The Ohio State University, 1968.
- JUDITH MOWERY, Assistant Professor of Bibliography and Research Librarian (May 1967)  
B.A., Ohio University; M.S.L.S., Case Western Reserve University; M.A., The University of Akron, 1972.
- FREDERICK W. MOYER, Professor of Finance (March 1970)  
B.S., M.A., Ph.D., The Ohio State University, 1949.
- ROBERT J. MRAVETZ, Associate Professor of Physical Education (1970)  
B.S.Ed., Miami University; M.Ed., Ohio University; Ph.D., The Ohio State University, 1970.
- SAMUEL A. MUELLER, Associate Professor of Sociology (1973)  
B.A., Valparaiso University; M.A., Roosevelt University; Ph.D., Northwestern University, 1970.
- BEVERLY MUGRAGE, Assistant Professor of Mathematics (Wayne General and Technical College) (1972)  
B.S., Kent State University; M.S., The University of Akron, 1970.
- JOHN MULHAUSER, Assistant Professor of Geography (1966)  
B.A., M.A., Kent State University; J.D., The University of Akron, 1976.
- FRED L. MULLEN, Associate Professor of Electronic Technology (1967)  
B.S.E.E., Case Western Reserve University; M.S.E., The University of Akron, 1966. P.E., Ohio.
- JOSEPH C. MULLIN, Assistant Professor of Criminal Justice (1970)  
B.S., Delta State College; M.S.Ed., The University of Akron, 1974.
- JOHN MUMPER, Instructor of Community Services Technology (1977)  
B.A., The University of Akron; M.S.S.W., University of Louisville, 1975.
- MARTIN D. MURPHY, Assistant Professor of Psychology (1975)  
B.A., Dartmouth College; M.S., Ph.D., University of Illinois, 1975.
- MARGARET A. MURRAY, Assistant Professor of Military Science (1975)  
B.S., Virginia State University, 1969. Captain, Signal Corps.
- RUTH C. MURRAY, Rubber Division Literature Chemist (July 1970)  
B.S., Chatham College, 1944.
- JEROME MUSHKAT, Professor of History (1962)  
B.A., M.A., D.S.S., Syracuse University, 1964.
- ROBERT H. MYERS, Professor of Education (1966)  
B.S.Ed., M.A., Ph.D., The Ohio State University, 1964.
- THOMAS NASH, Associate Professor of Geography (1967)  
B.A., M.A., Ph.D., Kent State University, 1973.
- RICHARD NEAL, Affirmative Action Officer and Deputy Equal Employment Opportunity Officer (March 1970)  
B.S., The University of Akron, 1961.
- DANIEL NELSON, Professor of History (1970)  
B.A., Ohio Wesleyan University; M.A., The Ohio State University; Ph.D., University of Wisconsin, 1967.
- WILLIAM E. NEMEC, Assistant Professor of Education (1974)  
B.S.S.S., John Carroll University; M.Ed., Ohio University; Ph.D., The Ohio State University, 1974.

- HENRY NETTLING, *Controller* (February 1964)  
B.S.B.A., The University of Akron, 1959.
- WILLIAM A. NEUMANN, *Associate Professor of Art* (1970)  
B.F.A., Cleveland Institute of Art; M.F.A., Syracuse University, 1970.
- VIRGINIA B. NEWBERN, *Assistant Professor of Nursing* (1976)  
B.S.N., Old Dominion University, M.P.H., University of North Carolina, Chapel Hill, 1971.
- DANIEL M. NEWLAND, *Student Development Coordinator* (1971)  
B.A., Coe College (Iowa), M.S., Indiana University, 1971.
- ISADORE NEWMAN, *Associate Professor of Education* (1971)  
B.A., University of Miami; M.A., New School for Social Research (New York); Ph.D., Southern Illinois University, 1971.
- KYLE S. NICEWARNER, *Assistant Law Librarian, Technical Services* (August 1977)  
B.A., Capital University; M.L.S., Kent State University, 1977.
- DAVID L. NICHOLS, *Assistant Professor of Accounting* (1971)  
B.B.A., M.B.A., University of Houston; Ph.D., University of Arkansas, 1978; C.P.A., 1954.
- ALLEN G. NOBLE, *Professor of Geography* (1964)  
B.A., Syracuse University; M.A., University of Maryland; Ph.D., University of Illinois, 1957.
- JUDITH A. NOBLE, *Associate Professor of Education* (1970)  
B.S., M.A., Central Michigan University; Ph.D., Michigan State University, 1971.
- KATHLEEN A. NOBLE, *Instructor in Secretarial Science (Wayne General and Technical College)* (1977)  
B.S., The University of Akron, 1974.
- RICHARD F. NOKES, *Associate Professor of Biology* (January 1962)  
B.S., D.V.M., Michigan State University, 1958.
- WALLACE NOLIN, *Professor of Music* (1969)  
B.S., Muskingum College; M.M.Ed., Kent State University; Ph.D., The Ohio State University, 1969.
- JAMES W. NOLTE, *Assistant Professor of Business Management Technology* (1972)  
B.A., M.A., The University of Akron, 1972.
- CLINTON E. NORTON, *Managing Director of the E.J. Thomas Performing Arts Hall* (July 1973)  
B.M., University of Rochester, 1950.
- DOROTHY M. NUNN, *Associate Professor of Biology* (1967)  
B.S., Med. Tech., Ph.D., University of Cincinnati, 1962.
- DAVID J. O'BRIEN, *Associate Professor of Sociology* (1972)  
B.A., Boston College; M.A., University of Notre Dame; Ph.D., Indiana University, 1972.
- OLIVER OCASEK, *Professor of Education* (January 1961)  
B.S.Ed., M.A., Kent State University, 1950.
- ANNE T. O'CONNOR, *Instructor in Nursing* (1977)  
B.S.N., M.S.N., Boston College, 1977.
- JOHN H. OLIVE, *Associate Professor of Biology* (1970)  
B.S., The Ohio State University; M.A., Ph.D., Kent State University, 1964.
- GRACE B. OLMSTEAD, *Advisor of Students* (October, 1977)  
B.A., Wilberforce University, M.Ed., Kent State University, 1972.
- MARY O'NEIL, *Director of University News Service* (February 1971)  
B.A., University of Nebraska, 1942.
- MICHAEL T. ORAVECZ, *Assium Professor in the Community and Technical College* (1968)  
B.A., Ed., M.A.Ed., The University of Akron; Ed.D., Western Michigan University, 1975.
- F. SCOTT ORCUTT, JR., *Assistant Professor of Biology* (1971)  
B.S., M.S., Ph.D., Cornell University, 1969.
- SARAH ORLINOFF, *Associate Professor of Education* (1963)  
B.A., M.A., Ed., The University of Akron; Ph.D., Case Western Reserve University, 1963.
- JAMES O. OSWALD, *Director of University Publications* (1971)  
B.S.Ed., Central State University; B.A., Cedarville College, 1967.
- DONALD W. OTT, *Assistant Professor of Biology* (1974)  
B.S., Southeastern Louisiana University; Ph.D., University of North Carolina, 1973.
- JOHN W. OWEN, *Director of Admissions* (June 1965)  
B.A., John Hopkins University; M.A., The University of Akron, 1973.
- MARC C. OZANICH, *Assistant Professor of Dance* (1973)  
A.A., Bakersfield College; B.A., University of California at Santa Barbara; M.A., University of California at Los Angeles, 1968.
- JOSEPH PADOVAN, *Associate Professor of Mechanical Engineering* (1970)  
B.S.M.E., M.S.M.E., Ph.D., Polytechnic Institute of Brooklyn, 1969.
- ARTHUR L. PALACAS, *Assistant Professor of English* (1976)  
B.A., Harvard University; Ph.D., Indiana University, 1970.
- MARY C. PAOLUCCI, *Coordinator of Writing Laboratory* (1975)  
B.A., The University of Akron, 1964.
- JEFFREY A. PARNES, *Assistant Professor of Law* (1976)  
B.A., Colby College; J.D., University of Chicago, 1974.
- JUDITH PEARCE, *Visiting Instructor of Education* (1977)  
B.S. Ed., M.S. Ed., The University of Akron, 1977.

- D'ORSAY PEARSON, *Associate Professor of English* (1966)  
B.A., University of North Carolina; M.A., University of Florida; Ph.D., Kent State University, 1969.
- JON ROBERT PESKE, *Assistant Professor in the Community and Technical College* (1969)  
B.A., M.A., The University of Akron, 1969.
- ISOBEL L. PFEIFFER, *Professor of Education* (1966)  
B.A., Manchester College (Indiana); M.S., Indiana University; Ph.D., Kent State University, 1966.
- ALICE PHILLIPS, *Coordinator of Developmental Reading* (July 1975)  
B.A., The University of Akron; M.Ed., Kent State University, 1971.
- MARVIN E. PHILLIPS, *Coordinator of Public Services and Director of the Institute for Civic Education* (July 1972)  
A.A. Flint Community College; B.A., Albion College; M.A., Michigan State University, 1952.
- JOHN S. PHILLIPSON, *Associate Professor of English* (1961)  
B.A., University of Rochester; M.A., Ph.D., University of Wisconsin, 1952.
- FRANK T. PHIPPS, *Professor of English* (1953)  
B.A., M.A., Miami University; Ph.D., The Ohio State University, 1953.
- MARIO J. PICCONI, *Associate Professor of Finance* (1975)  
B.S., Iona College; M.B.A., University of Chicago; Ph.D., Rutgers University, 1974.
- IRJA PIIRMA, *Associate Professor of Polymer Science* (1963)  
Diploma in Chemistry, Technische Hochschule of Darmstadt (Germany); M.S., Ph.D., The University of Akron, 1960.
- ROBIN D. PINKNEY, *Project Leader Administrative Systems and Programming, Computer Center* (August 1974)  
B.A., Grove City College; M.B.A., The University of Akron, 1975.
- HARRY T. PINNICK, *Associate Professor of Physics* (1964)  
B.A., Southwestern College (Kansas); Ph.D., University of Buffalo, 1955.
- JOHN C. PITTS, *Associate Director, Student Financial Aids* (July 1971)  
B.A., The University of Akron, 1968.
- JOHN C. PIZOR, *Assistant Professor in the Community and Technical College* (1966)  
B.S., Grove City College; M.Ed., University of Pittsburgh, 1946.
- ELLEN SUE POLITELLA, *Assistant Professor of History* (Wayne General and Technical College) (1972)  
B.A., Kent State University; M.A., Oberlin College, 1960.
- ARTHUR R. POLLOCK, JR., *Associate Professor in the Community and Technical College* (1967)  
B.S.Ed., Indiana University of Pennsylvania; M.A., Case Western Reserve University, 1968.
- MARGARET POLOMA, *Associate Professor of Sociology* (1970)  
B.A., Notre Dame College of Ohio; M.A., Ph.D., Case Western Reserve University, 1970.
- ROBERT F. POPE, JR., *Assistant Professor of English* (1977)  
B.A., University of California, Berkeley; M.A., California State University, San Diego; M.F.A., University of Iowa, 1976.
- JOHN A. POPPLESTONE, *Professor of Psychology and Director of the Archives of the History of American Psychology* (1961)  
B.A., University of Michigan; M.A., Wayne State University; Ph.D., Washington University, 1958.
- CHARLES F. POSTON, *Professor of Finance and Director of Institutional Research and Academic Personnel* (1959)  
B.A., Eastern Illinois State College; M.A., University of Illinois; Ph.D., University of North Carolina, 1959.
- EFTHIMIOS POURNARAKIS, *Professor of Economics* (1967)  
B.A., Athens Graduate School of Economics and Business Science (Greece); M.A., Ph.D., University of Kansas, 1967.
- THOMAS E. PRICE, *Assistant Professor of Mathematics* (1976)  
B.S., M.S., Ph.D., University of Georgia, 1976.
- MINNIE C. PRITCHARD, *Instructor in Surveying and Construction Technology* (1971)  
B.S.C.E., The University of Akron, 1955.
- JAMES C. PRODAN, *Assistant Professor of Music* (1975)  
M.M., Catholic University of America; B.S., D.M.A., The Ohio State University, 1976.
- GEORGE E. PROUGH, *Assistant Professor of Marketing* (1968)  
B.A., The University of Akron; M.A., Michigan State University; D.B.A., Kent State University, 1977.
- GERALD F. PYLE, *Associate Professor of Geography, and Associate Professor of Urban Studies* (1970)  
B.A., Kent State University; M.A., Ph.D., University of Chicago, 1970.
- NEAL C. RABER, *Assistant Professor of Mathematics* (1972)  
B.S.Ed., Kent State University; M.S., Ph.D., Ohio State University, 1972.
- MALCOM R. RAILEY, *Associate Professor of Electrical Engineering* (1970)  
B.S.E.E., M.S.E.E., Ph.D.E.E., University of Texas, 1970. P.E., Texas.
- ALBERT RAKAS, *Associate Dean of the School of Law and Professor of Law* (July 1971)  
B.A., University of Michigan; B.S.L., St. Paul's College; J.D., John Marshall Law School, 1960.
- JONATHON S. RAKICH, *Professor of Management* (1972)  
B.A., Oakland University; M.B.A., The University of Michigan; Ph.D., Saint Louis University, 1970.
- JOHN H. RAMEY, *Associate Professor of Social Work* (1969)  
B.A., M.A.S.A., The Ohio State University, 1950. A.C.S.W., C.S.W., (Illinois).
- D. NICHOLAS RANSON, *Assistant Professor of English* (1973)  
B.A., M.A., Emmanuel College; Ph.D., Case Western Reserve University, 1974.
- GEORGE E. RAYMER, *Director of Radio and Television Information* (August 1961)  
B.A., Kent State University; B.A.Ed., M.A.Ed., The University of Akron, 1968.
- JANEANE A. REAGAN, *Instructor in Psychology* (Wayne General and Technical College) (1972)  
B.A., M.A., Kent State University, 1970.
- DONNA JEAN RECTOR, *Accountant* (March 1976)  
B.S.B.A., Kent State University, 1962.

- HOWARD S. REINMUTH, JR., Associate Professor of History (1966)  
B.A., M.A., Ph.D., University of Minnesota, 1958.
- JANET R. REUTER, Assistant Professor of Education (1975)  
B.A., M.A., Ohio University; Ph.D., University of Toledo, 1975.
- DICK I. RICH, Professor of Education and Director of Graduate Studies in Education (1965)  
B.A., Otterbein College; M.Ed., Kent State University; Ed.D., Columbia University Teachers College, 1961.
- VINCENT A. RICH, Assistant Director of the Gardner Student Center (July 1969)  
B.S., The University of Akron, 1968.
- ALVIN M. RICHARDS, JR., Professor of Civil Engineering (1949)  
B.C.E., The University of Akron; M.S., Harvard University; Ph.D., University of Cincinnati, 1968. P.E., Ohio.
- JAMES F. RICHARDSON, Professor of History and Professor of Urban Studies (1967)  
B.A., Iona College; Ph.D., New York University, 1961.
- PAUL RICHERT, Assistant Law Librarian, Acquisitions and Reference (July 1977)  
A.B., M.S., University of Illinois; J.D., Tulane University of Louisiana, 1977.
- KATHLEEN A. RICKS, Instructor in Art (1976)  
B.A., University of South Florida; M.F.A., University of Nebraska, 1976.
- DAVID C. RIEDE, Professor of History (1955)  
B.A., M.A., Ph.D., University of Iowa, 1957.
- RICHARD J. RIEGNER, Systems Programmer and Technical Analyst, Computer Center (March 1975)  
B.S.E.E., the University of Akron, 1975.
- RICHARD S. ROBERTS, Professor of Accounting (1964)  
B.B.A., University of Cincinnati; M.B.A., Ph.D., The Ohio State University, 1966, C.P.A., Ohio.
- ROBERT W. ROBERTS, Robert Iredell Professor of Chemical Engineering and Research Associate in the Institute of Polymer Science (1966)  
B.S.Ch.E., Washington University; M.S., Ph.D., University of Iowa, 1962.
- RUTH SEMELS ROBERTS, Associate Professor of Education (1971)  
B.A., Hunter College; M.Ed., Ph.D., Kent State University, 1975.
- DAVID J. ROBINSON, Assistant Professor of Electronic Technology (January 1970)  
B.S.E.E., The University of Akron; M.S.E., Case Western Reserve University; J.D., The University of Akron, 1975.
- LOUIS D. RODABAUGH, Associate Professor of Mathematics (1964)  
B.A., Miami University; M.A., Ph.D., The Ohio State University, 1938.
- LINDA J. RODDA, Assistant Professor of Secretarial Science (1967)  
B.S., M.A., The University of Akron, 1969.
- LOUIS E. ROEMER, Professor of Electrical Engineering (1968)  
B.S., M.S.E.E., Ph.D., University of Delaware, 1967. P.E., Ohio.
- WILLIAM A. ROGERS, Executive Dean of Continuing Education and Public Services, Associate Professor Education and Equal Employment Officer (1957)  
B.A., Ed. M., Ed. D., State University of New York at Buffalo, 1967.
- MICHAEL F. ROLPH, Instructor in Accounting (1974)  
B.S., M.B.A., The University of Akron, 1973.
- WILLIAM ROOT, Professor of Education and Director of Teacher Placement and Educational Field Experience (1968)  
B.S., M.A., Ph.D., The Ohio State University, 1958.
- HENRY ROSENQUIST, Associate Professor of Psychology (1965)  
B.S., M.A., Columbia University; Ph.D., Tulane University, 1964.
- MICHAEL B. ROSS, Assistant Professor of Education (1973)  
B.S.Ed., Shippensburg State College; M.Ed., Ed. D., University of Pennsylvania, 1974.
- MARION ALBERT RUEBEL, Dean of the General College and Associate Professor of Education (1970)  
B.A., M.A., University of Northern Iowa; Ph.D., Iowa State University, 1969.
- HENRY J. RUMINSKI, Assistant Professor of Mass Media-Communication (1975)  
B.S., M.S., Ph.D., Ohio University, 1972.
- HELEN LENORE RYAN, Instructor in Modern Languages (1968)  
B.A., Ohio Wesleyan University; M.A., in Spanish Middlebury College, 1967; M.A., in French Middlebury College, 1973.
- ROGER N. RYAN, University Architect (May 1976)  
B.S., University of Cincinnati, 1958.
- RICHARD W. RYMER, Counselor, Testing and Counseling Bureau (August 1970)  
B.S., M.A., Kent State University, 1961.
- DONALD E. SABATINO, Director of the Gardner Student Center (1963)  
B.A., M.A.Ed., The University of Akron, 1968.
- ARJAN T. SADHWANI, Professor of Accounting (1970)  
B.A., B.Com., M.Com., Bombay University; Ph.D., Michigan State University, 1971.
- SURINDER K. SAHAI, Assistant Professor of Geology (1977)  
B.S., Punjab University, India; M.S., Ph.D., University of Wyoming, 1974.
- CHARLES T. SALEM, Assistant Professor in the Community and Technical College (1965)  
B.S., in S.S., M.A., John Carroll University, 1965.
- STANLEY A. SAMAD, Dean of the School of Law and Professor of Law (1959)  
B.A., J.D., University of Cincinnati; LL.M., Case Western Reserve University, 1959; LL.M., J.S.D., New York University, 1968.
- RAY H. SANDEFUR, Dean of the College of Fine and Applied Arts and Professor of Speech (1950)  
B.A., B.S.Ed., Emporia State Teachers College; M.A., University of Colorado; Ph.D., State University of Iowa, 1950.

- RAYMOND E. SANDERS, Assistant Professor of Psychology (1969)  
B.A., M.A., Ph.D., University of Arizona, 1969.
- EVERETT SANTEE, JR., Manager of the NMR Center and Research Associate in the Institute of Polymer Science (1966)  
B.S., West Virginia State College, 1962.
- SIMSEK SARIKELLE, Associate Professor of Civil Engineering (1967)  
B.S., Robert College; M.S., Ph.D., West Virginia University, 1966; P.E., Ohio, West Virginia.
- RITA S. SASLAW, Assistant Professor of Education (1975)  
B.S., Western Reserve University; M.A., Ph.D., Case Western Reserve University, 1971.
- JOHN M. SCARPITTI, Senior Accountant in Controller's Office (November 1976)  
B.S.B.A., M.B.A., The University of Akron, 1973.
- BLIN B. SCATTERDAY, Professor in the Community and Technical College (1964)  
B.A., M.A.Ed., The University of Akron, 1963.
- RUDOLPH J. SCAVUZZO, JR., Professor of Mechanical Engineering (1973)  
B.S.M.E., Lehigh University; M.S.M.E., Ph.D., University of Pittsburgh, 1962. P.E. Ohio.
- BEVERLY L. SCHERBA, Instructor in Bibliography and Cataloger in the Library (August 1970)  
B.A., M.A.L.S., University of Wisconsin, 1952.
- PHILLIP H. SCHMIDT, Assistant Professor of Mathematics (1972)  
B.S., M.S., Ph.D., Purdue University, 1972.
- ROBERT G. SCHMIDT, Associate Professor of Sociology (1967)  
B.A., Illinois College; M.A.T., Harvard University; Ph.D., Washington University, 1955.
- RONALD E. SCHNEIDER, Associate Professor of Physics (1962)  
B.S., The University of Akron; M.S., Polytechnic Institute; M.S., John Carroll University; Ph.D., Case Western Reserve University, 1964.
- H. PAUL SCHRANK, JR., Associate Professor of Bibliography, University Librarian and Curator for the Hower House (January 1965)  
B.S., Ohio University; M.S., University of Illinois, 1963.
- FREDERICK M. SCHULTZ, Associate Professor of Education (1969)  
B.S., M.S., Ph.D., Indiana University, 1959.
- SUSAN SCHUNK, Instructor of Modern Languages (1971)  
B.S.Ed., Indiana University of Pennsylvania; M.A., The Ohio State University, 1968.
- HAROLD M. SCHWARZ, Director of Health Services (1977)  
B.S., University of South Carolina; M.D., Saint Louis University, 1950.
- MARGARET E. SEENO, Assistant Professor of Nursing (1976)  
B.S.N., University of Pittsburgh; M.A., Kent State University; M.S.N., Case Western Reserve University, 1976.
- JOAN G. SEIFERT, Associate Professor of Education (1967)  
B.S., M.Ed., Ph.D., Kent State University, 1967.
- GARY E. SELLERS, Assistant Professor of Economics (1976)  
B.A., Shippensburg State College; M.A., Ph.D., University of Cincinnati, 1977.
- MICHAEL D. SERMERSHEIM, Legal Assistant in the Office of Student Services (December 1976)  
B.A., J.D., The University of Akron, 1973.
- GAYLE A. SEYMOUR, Academic Programmer Analyst, Computer Center (December 1976)  
B.A., The University of Akron, 1968.
- JAMES SHANAHAN, Assistant Professor of Urban Studies (1970)  
B.B.S., M.A., West Virginia University; Ph.D., Wayne State University, 1972.
- DOUGLAS V. SHAW, Assistant Professor of Urban Studies (1972)  
B.A., Lebanon Valley College; M.A., Brown University; Ph.D., University of Rochester, 1972.
- ROBERT J. SHERDLARZ, Assistant Professor of Business Law (1972)  
B.A., New York University; J.D., Notre Dame Law School, 1972.
- WALTER ALVIN SHEPPE, Associate Professor of Biology (1968)  
B.S., College of William and Mary; M.A., Ph.D., University of British Columbia, 1958.
- ELDONNA M. SHIELDS, Assistant Professor of Nursing (1977)  
B.S.N., The Ohio State University; M.S.N., Duke University, 1972.
- KARL A. SHILLIFF, Professor of Management (1967)  
B.S.Ch.E., Pennsylvania State University; M.B.A., The University of Akron; Ph.D., Pennsylvania State University, 1971.
- RICHARD SHIREY, Associate Professor of Music (1967)  
B.M., Oberlin College; M.M., University of Illinois, 1965.
- MARTIN H. SIEGEL, Assistant Professor of Sales and Merchandising (1972)  
B.F.A., M.A., Hunter College, 1965.
- KENNETH T. SILOAC, Associate Professor of Speech (1971)  
B.S., M.Ed., Ph.D., Wayne State University, 1971.
- ANDREW L. SIMON, Professor of Civil Engineering and Executive Director of Institute for Technological Assistance (1965)  
C.E. Diploma, Technical University of Budapest; Ph.D., Purdue University, 1962, P.E., Ohio, West Virginia, Indiana.
- FRANK L. SIMONETTI, Professor of Management (February 1942)  
B.S., The University of Akron; M.B.A., Boston University; D.B.A., Indiana University, 1954.
- PAMELA G. SKORMAN, Instructor in Nursing (1976)  
B.S.N., Boston University, 1974.
- ROBERT B. SLANEY, Assistant Professor of Psychology (1977)  
B.A., College of Wooster; M.A., Ph.D., The Ohio State University, 1973.

- RAYMOND SLATTERY, JR., *Manager-Plant Engineering* (February 1968)  
B.S., Case Institute of Technology; M.S.T.E., The University of Akron, 1977; P.E., Ohio.
- HOWARD K. SLAUGHTER, *Professor of Theatre Arts* (1967)  
B.A., University of California; M.A., University of Hawaii, Ph.D., University of Pittsburgh, 1966.
- SALLY KENNEDY SLOCUM, *Associate Professor of English* (1966)  
B.A., Columbia College; M.A., Ph.D., University of Tennessee, 1968.
- DANIEL J. SMITH, *Assistant Professor of Chemistry* (1977)  
B.S., Wisconsin State University, Ph.D., University of California-Berkeley, 1974.
- FORREST J. SMITH, *Instructor in Biology* (Wayne General and Technical College) (January 1975)  
B.A., Hiram College; M.S., Purdue University, 1974.
- FREDERIK N. SMITH, *Associate Professor of English* (1976)  
B.S., Loyola College; M.A., Ph.D., University of Virginia, 1970.
- HENRY P. SMITH, *Associate Professor of Music* (1947)  
B.M., Illinois Wesleyan University; M.A., Carnegie Institute of Technology; Ed.D., Columbia University, Teachers College, 1949.
- HERBERT W. SMITH, JR., *Professor of Modern Languages* (1956)  
B.A., Brigham Young University; M.A., Ph.D., University of Wisconsin, 1956.
- LARRY D. SNIDER, *Assistant Professor of Music* (1977)  
B.S., Illinois State University; M.M.E., North Texas University, 1971.
- GLENN H. SNYDER, *Instructor in the Community and Technical College* (1973)  
B.A.Ed., The University of Akron; M.Ed., Kent State University, 1972.
- MARK E. SOPPELAND, *Instructor in Art* (1976)  
B.F.A., University of Colorado; M.F.A., Ohio State University, 1976.
- ROBERT SOVCHIK, *Assistant Professor of Education* (1973)  
B.S., Kent State University; M.A., Cleveland State University; Ph.D., Kent State University, 1974.
- NORMA L. SPENCER, *Assistant Professor of Education* (1970)  
B.S., M.S., The University of Akron, 1970.
- SAMUEL SPINAK, *Assistant Professor of Music* (1968)  
Licentiate, King's College in Sussex (England), 1929; Fellowship, Trinity College in London.
- GARY N. SPONSELLER, *Academic Programmer/Analyst* (July 1977)  
B.A., The University of Akron, 1977.
- SUSAN J. STEARNS, *Assistant Professor of Nursing* (1974)  
B.S.N., Saint John's College; M.S.N., Catholic University of America, 1963.
- RAMON F. STEINEN, *Professor of Education* (1969)  
B.A., M.A., Montclair State College; Ph.D., The Ohio State University, 1966.
- JANE M. STEINER, *Associate Professor in the Community and Technical College* (1968)  
B.A., The University of Akron; M.A., Western Reserve University, 1945.
- RICHARD J. STEINLE, *Editor, University News Service* (January 1975)  
B.A., University of Notre Dame, 1966.
- WILLIAM B. STEIS, *Associate Professor of Mass Media-Communication* (1971)  
B.A., University of Notre Dame; M.A., University of Florida; Ph.D., The Ohio State University, 1969.
- HOWARD L. STEPHENS, *Professor of Chemistry, Professor of Polymer Science and Manager of Applied Research and Executive Officer in the Institute of Polymer Science* (1950)  
B.S., M.S., Ph.D., The University of Akron, 1960.
- WALLACE STERLING, *Associate Professor of Theatre Arts* (1966)  
B.A., M.A., University of Florida; Ph.D., Southern Illinois University, 1966.
- HARVEY L. STERNS, *Assistant Professor of Psychology* (1971)  
B.A., Bard College; M.A., State University of New York at Buffalo; Ph.D., West Virginia University, 1971.
- DONALD P. STORY, *Assistant Professor of Mathematics* (1976)  
B.A., Ph.D., MA., University of Florida, 1976
- WARREN P. STOUTAMIRE, *Associate Professor Biology* (1966)  
B.S., Roanoke College; M.S., University of Oregon; Ph.D., Indiana University, 1954.
- ARCHIE M. STRIMEL, *Instructor in Physical Education* (July 1974)  
B.E., M.E., Miami University, 1972.
- MARION STROUD, *Assistant Professor, of Education* (1975)  
B.S., The University of Akron; M.A., Ph.D., Kent State University, 1976.
- FREDERICK JOHN STURM, *Assistant to the Dean of the Community and Technical College and Instructor in the Community and Technical College* (August 1968)  
B.A., M.A., The University of Akron, 1968.
- PHILLIP STUYVESANT, *Assistant Professor of Modern Languages* (1966)  
B.A., Thiel College; M.A., Ph.D., Western Reserve University; 1970.
- LINDA ELLISON SUGARMAN, *Assistant Professor of Accounting* (1970)  
B.B.A., M.S.Ed., Hofstra University, 1968; C.P.A., New York State.
- MICHAEL N. SUGARMAN, *Associate Professor of Education* (1970)  
B.S., M.Ed., University of Buffalo; Ed.D., State University of New York at Buffalo, 1966.
- RONALD C. SUICH, *Associate Professor of Mathematics* (1970)  
B.B.A., John Carroll University; M.S., Western Reserve University; Ph.D., Case Western Reserve University, 1968.

- DENNIS K. SULLIVAN, Assistant Professor of Industrial Technology (1977)  
B.S.B.A., M.S.T.E., The University of Akron, 1974.
- ROBERT C. SULLIVAN, Assistant Director of Placement (July 1976)  
B.S., M.Ed., Kent State University, 1976.
- THOMAS SUMNER, Professor of Chemistry and Academic Counselor (1950)  
B.S., Ph.D., Yale University, 1951.
- LUCI A. SWABB, Editor, University Publications (1973)  
B.A., M.A., The University of Akron, 1976.
- L. JOEL SWABB, JR., Associate Professor of Mass Media-Communication (1970)  
B.A., Muskingum College; M.A., Ph.D., The Ohio State University, 1971.
- JOHN C. SWARTZ, Business Manager, E.J. Thomas Performing Arts Hall (1973)  
B.S., College of Steubenville, 1970.
- GERARD M. SWEENEY, Associate Professor of English (1971)  
B.S., Manhattan College; M.A., New York University; Ph.D., University of Wisconsin, 1971.
- LEONARD SWEET, Professor of Mathematics (1959)  
B.A.Ed., The University of Akron; M.Ed., Kent State University; Ph.D., Case Western Reserve University, 1970.
- JAMES D. SWITZER, Assistant Professor in the Community and Technical College (1965)  
B.A., College of Wooster; M.A., Kent State University, 1965.
- JOHN D. SZABO, Assistant Professor of Geology (1975)  
B.S., University of Notre Dame; Ph.D., University of Iowa, 1975.
- GEORGE L. SZOKE, Assistant Professor of Mathematics (1963)  
B.S.M.E., Polytechnical University of Budapest; M.S.E., The University of Akron, 1963.
- JAMES W. TAGGART, Associate Professor of Business Management Technology (1969)  
B.S., Youngstown State University; M.B.A., Pennsylvania State University; J. D., The University of Akron, 1974.
- JOSEPH A. TAKACS, Assistant Professor of Electronic Technology (1973)  
B.S.E.E., M.S.E.E., The University of Akron, 1961.
- CATHRYN TALIAFERRO, Assistant Professor of English (October 1961)  
B.A., The University of Akron; M. A., Radcliffe College, 1940.
- VIRGINIA J. TAPPENDEN, Associate Professor of Home Economics (1969)  
B.S., Indiana University of Pennsylvania; M.Ed., Pennsylvania State University, 1962.
- JOHN L. TARTER, Assistant Professor of Aerospace Studies (April 1976)  
B.S. ED., Miami University; M.B.A., University of Wyoming, 1972. Captain, USAF.
- HOWARD L. TAYLOR, Professor of Management (1963)  
B.S., The University of Akron; M.S., Ph.D., Iowa State College, 1958.
- PATRICIA TAYLOR, Assistant Professor of Physical Education (1962)  
B.S.Ed., The University of Akron; M.A., Kent State University, 1972.
- RONALD TAYLOR, Associate Professor of Art (1964)  
B.F.A., M.A., The Ohio State University, 1963.
- TIMOTHY D. TAYLOR, Assistant Director, Computer Assisted Instruction (1973)  
B.A. Ed., M.A. Ed., Ph.D., The University of Akron, 1976.
- JAMES W. TEETER, Professor of Geology (1965)  
B.S., M.S., McMaster University; Ph.D., Rice University, 1966.
- STUART M. TERRASS, Assistant to the Director of Institutional Research and Academic Personnel (December 1957)  
B.A., B.S., M.A., The University of Akron, 1965.
- ROBERT M. TERRY, Professor of Sociology (1971)  
B.A., M.A., Ph.D., University of Wisconsin, 1965.
- EDWIN THALL, Assistant Professor of Chemistry (Wayne General and Technical College) (1974)  
B.S., Pratt Institute; M.S., New Mexico Tech; Ph.D., The University of Akron, 1972.
- GARY R. THAYER, Visiting Instructor in Economics (1976)  
B.A., M.A., The University of Akron, 1976.
- FRANCIS B. THOMAS, Director of Computer Services (1970)  
B.S., University of Cincinnati; M.A., Kent State University, 1966.
- LINDON C. THOMAS, Associate Professor of Mechanical Engineering (1967)  
B.S.M.E., Tulsa University; Ph.D., Kansas State University, 1968.
- BONNIE J. THOMAS-MOORE, Assistant Professor of Food Service Management (1969)  
B.A., M.A., Kent State University, 1969.
- JACK E. THOMPSON, Instructor in Business Management Technology (January 1974)  
B.S.B.A., Kent State University; M.S., The University of Akron, 1975.
- STEPHEN J. THOMPSON, Assistant Professor of Education (1973)  
B.S., University of Wisconsin; M.A., University of Northern Colorado, Ph.D., Syracuse University, 1973.
- DONALD C. THORN, Professor of Electrical Engineering (1967)  
B.S.E.E., Texas A & M College; M.S.E.E., Ph.D., University of Texas, 1958. P.E., New Mexico, Ohio.
- DAVID H. TIMMERMAN, Associate Professor of Civil Engineering (1962) (1967)  
B.S.C.E., M.S., Ohio University; Ph.D., Michigan State University, 1969.
- GENE TISDALE, Accountant in Controller's Office (1969)  
B.S.B.A., Kent State University, 1953.
- SANDRA K. TOPA, Coordinator of Developmental English (May 1975)  
B.A., M.A., The University of Akron, 1975.

- ARLENE TOTH, Instructor in English (1969)  
B.A., M.A., The University of Akron, 1969.
- JAMES P. TRESSEL, Instructor in Physical Education (April 1976)  
B.A., Baldwin-Wallace College; M.A., The University of Akron, 1977.
- BRUCE A. TRIER, JR., Manager-Administrative Systems/Programming (February 1971)  
B.S., Kent State University; M.S., The University of Akron, 1977.
- MARY ANN TRIPODI, Instructor in Physical Education (1971)  
B.S., M.Ed., Kent State University, 1970.
- ROBERT B. TUFTS, Associate Registrar (July 1973)  
B.A., Cleveland State University; M.A., Case Western Reserve University, 1972.
- RICHARD J. TUREK, Assistant Professor of Mathematics (1972)  
B.S., M.A., Ph.D., University of New Mexico, 1972.
- GENEVIEVE H. TURLIK, Instructor in Secretarial Science (1971)  
B.A., The University of Akron, 1953; R.N.
- KAREN B. TURNER, Instructor in Speech (April 1971)  
B.S., Kent State University; M.S.Ed., The University of Akron, 1974.
- STEPHEN J. TURNER, Assistant Professor of Management (1976)  
B.S., M.A., University of Maine; Ph.D., University of Massachusetts, 1976.
- PAUL UHLINGER, Professor of Philosophy (1968)  
B.A., Youngstown University; B.D., Oberlin College; Ph.D., Boston University, 1953.
- SHERMAN D. VANDER ARK, Associate Professor of Music (1973)  
A.B., Calvin College; M.A., Ph.D., The Ohio State University, 1970.
- KATHRYN VEGSO, Assistant to Vice President and Dean of Student Services (February 1959)  
B.S., University of Illinois; M.S.Ed., The University of Akron, 1964.
- WILBUR P. VEITH, Assistant Professor of Mathematics (1971)  
B.S., Cleveland State University; M.S., Ph. D., The Ohio State University, 1971.
- VICTOR VELEZ, Assistant Director of Student Financial Aids (July 1977)  
B.A., M.A., University of Tampa, 1977.
- RANDALL F. VOLPE, Editor — University News Service (January 1976)  
B.S., Kent State University, 1971.
- ERNST D. VON MEERWALL, Associate Professor of Physics (1971)  
B.S., M.S., Northern Illinois University; Ph.D., Northwestern University, 1970.
- ANNA M. VOORHEES, Associate Professor of Bibliography and Assistant Librarian for Technical Services (1971)  
B.S.Ed., B. Mus., The Ohio State University; M.A., Kent State University, 1964.
- DIANE VUKOVICH, Coordinator of Developmental Mathematics (1973)  
B.S., Youngstown State University; M.Ed., Kent State University; Ph.D., The University of Akron, 1975.
- THOMAS J. VUKOVICH, Adviser of Students (July 1972)  
B.S., Ohio Northern University; M.Ed., Kent State University, 1971.
- MARTHA W. VYE, Instructor in Secretarial Science (1973)  
B.S., Appalachian State University; M.Ed., Bowling Green State University, 1965.
- MELVIN C. VYE, Assistant Professor of Electronic Technology (1972)  
B.S.E.E., Ohio University; M.E., Pennsylvania State University, 1969.
- CHARLES F. WADDELL, Assistant Professor of Music (1974)  
B.S., Muskingum College; M. M., University of Cincinnati, 1974.
- EDWIN E. WAGNER, Professor of Psychology (1959)  
B.A., M.A., Ph.D., Temple University, 1959.
- JANET WAISBROT, Assistant Professor of Modern Languages (1965)  
B.A., Western Reserve University; M.A., Kent State University, 1966.
- WINIFRED J. WALTER, Assistant Professor of Nursing (January, 1978)  
B.S.N., St. Louis University; M.S.N., Case Western Reserve University, 1972.
- JOSEPH M. WALTON, Associate Dean of Graduate Studies and Research and Associate Professor of Education (1970)  
B.S., University of Cincinnati; M.Ed., Xavier University; Ph.D., The Ohio State University, 1970.
- JOAN E. WARNER, Assistant Professor of Secretarial Science (1975)  
B.S., M.S.Ed., The University of Akron, 1966.
- THOMAS D. WARNER, Instructional Programmer, CAI Center (July 1976)  
B.S., Walsh College; M.S., The University of Akron, 1976.
- VIRGINIA J. WATKINS, Associate Professor in the Community and Technical College (1967)  
B.A.Ed., M.A.Ed., Arizona State University, 1953.
- LLOYD J. WATSON, Assistant Professor of Biology (1970)  
B.S., Wheaton College; M.S., Northern Illinois University; M.A., Southern Illinois University; Ph.D., University of Arkansas, 1968.
- WINIFRED WATSON-FLORENCE, Instructor in Speech (1976)  
B.A., M.A., Wichita State University, 1972.
- JOHN STEWART WATT, Assistant Provost and Professor of Education (1956)  
B.A., The University of Akron; M.A., Ph.D., University of Chicago, 1950.
- THOMAS DEWITT WEBB, Assistant Professor of Art (1970)  
B.F.A., M.F.A., University of Michigan, 1970.
- WILLIAM V. WEBB, Assistant Professor in the Community and Technical College (1968)  
B.A., University of Notre Dame; M.S., John Carroll University, 1960.

- WYATT M. WEBB, Assistant Professor of Physical Education (1967)  
B.S., The University of Akron; M.S.Ed., University of Cincinnati; Ph.D., The Ohio State University, 1967.
- PAUL A. WEIDNER, Professor of Political Science (1960)  
B.A., M.A., University of Cincinnati; Ph.D., University of Michigan, 1959.
- RUSSELL WEINGARTNER, Associate Professor of Modern Languages (1970)  
B.A., University of Cincinnati; M.A., Ph.D., Princeton University, 1968.
- EDITH K. WEINSTEIN, Assistant Professor in the Community and Technical College (1969)  
B.A., M.A.Ed., The University of Akron, 1968.
- DAVID M. WEIS, Professor of Education (1967)  
B.A., Loras College; M.Ed., Ohio University; Ph.D., The Ohio State University, 1967.
- JOHN T. WELCH, JR., Associate Professor of Electrical Engineering (1973)  
B.S., M.S., Ph.D., North Carolina State University, 1964.
- FRANCIS J. WERNER, Instructor in Psychology and Testing Services Coordinator (June 1951)  
B.A., M.A., The University of Akron, 1952.
- ANNE H. WEST, Associate Professor of Secretarial Science (1971)  
B.S., Salem College; M.S.Ed., Madison College, 1965.
- KENNETH N. WEXLEY, Associate Professor of Psychology (1969)  
B.A., State University of New York at Buffalo; M.A., Temple University; Ph.D., University of Tennessee, 1969.
- ROBERT C. WEYRICK, Dean of the Community and Technical College and Associate Professor in the Community and Technical College (February 1965)  
B.E.E., The University of Akron; M.S., Case Institute of Technology, 1965, P.E., Ohio.
- JOHN WIANDT, Assistant Controller (July 1967)  
B.S. Bus. Ed., Kent State University, 1965.
- LAWRENCE P. WILKINS, Assistant Professor of Law (1974)  
B.A., The Ohio State University; J.D., Capital University, 1973.
- J. GREGORY WILLIAMS, Assistant Professor of Sociology (1972)  
B.A., M.A., Miami University; Ph.D., University of Texas, 1972.
- JEAN WILLIAMS, Assistant Professor of Home Economics and Assistant Director University Nursery School (January 1973)  
B.S., Iowa State University; M.S., The University of Akron, 1972.
- JOHN D. WILLIAMS, Associate Professor of Finance (1969)  
B.S., Westminster College; M.B.A., D.B.A., Kent State University, 1971.
- MAURICE G. WILLIAMS, Professor of Education (1966)  
B.A., The University of Akron; M.E., Kent State University; EdD., Western Reserve University, 1962.
- RICHARD A. WILLIAMS, Associate Professor of Electrical Engineering (1968)  
B.S., M.S., Ph.D., The Ohio State University, 1965, P.E., Ohio.
- MAX S. WILLIS, JR., Professor of Chemical Engineering (1968)  
B.S., Pennsylvania State University; M.S., Ph.D., Iowa State University of Science and Technology, 1962.
- CHARLES W. WILSON, III, Professor of Physics, Professor of Polymer Science and Research Associate in the Institute of Polymer Science (1965)  
B.S.E., M.S., University of Michigan; Ph.D., Washington University, 1952.
- ERNEST LEE WILSON, Instructor in Business Management Technology (Wayne and Technical College) (1976)  
B.S.B.A., The Ohio State University; M.B.A., The University of Akron, 1969.
- JOHN WESLEY WILSON, Director of Black Cultural Center and Instructor in Education (July 1970)  
B.S., Albany State College; M.S.Ed., The University of Akron, 1970.
- PAUL S. WINGARD, Associate Dean of Buchtel College of Arts and Sciences, and Professor of Geology (February 1966)  
A.B., M.S., Miami University; Ph.D., University of Illinois, 1960.
- DAVID WINKLER, Research Associate, Institute of Polymer Science (October 1969)  
B.S., Ashland College; M.S., The University of Akron, 1972.
- JAMES L. WITHEROW, Assistant Professor of Physical Education (1972)  
B.S., M.Ed., Kent State University, 1956.
- MARY O. WITWER, Assistant Professor of Secretarial Science (1971) (1972)  
B.S., The University of Akron; M.E., Ohio University, 1951.
- WARREN A. WOLF, Professor of Art (1977)  
B.S., University of Oregon; M.F.A., Kansas City Art Institute, 1950.
- NEAL WOLFE, Instructor in Electronic Technology (July 1966)  
B.S., The University of Akron, 1965.
- CHARLES L. WOOD, Associate Professor of Education (1966)  
B.A., Simpson College; M.A., Ph.D., University of Iowa, 1966.
- ELIZABETH A. WRIGHT, Instructor in Education and Director of the Special Education Materials Center (1975)  
B.S., M.S., Kent State University, 1972.
- HELEN A. WRIGHT, Instructor in Nursing (1976)  
B.S.N.Ed., The University of Akron, 1969.
- W. RICHARD WRIGHT, Assistant to the President-Off-Campus (June 1967)  
B.A., The University of Akron, 1937.
- ISAAC YETIV, Professor of Modern Languages (1975)  
B.A., Hebrew University of Jerusalem; Ph.D., University of Wisconsin, 1970.

WALTER H. YODER, JR., *Associate Professor of Education and Assistant to Dean of College of Education* (1971)

B.A., Tufts University; M.A., New York University; Ed. D., Indiana University, 1971.

LAVERNE C. YOUSEY, *Instructor in Respiratory Therapy Technology* (1976)

B.A., Goshen College, 1970.

EDWARD A. ZADROZNY, *Instructor in Music* (1977)

B.M.E., The Ohio State University; M.M., University of Illinois, 1975.

ROBERT L. ZANGRANDO, *Associate Professor of History* (1971)

B.A., Union College; M.A., Ph.D., University of Pennsylvania, 1963.

HANS ZBINDEN, *Assistant Professor of Modern Languages* (1965)

B.A., Wittenberg University; M.A., University of Pennsylvania; Ph.D., Penn State University, 1971.

DONALD A. ZIMMERMAN, *Assistant Professor of Sales and Merchandising* (1973)

B.S.B.A., Defiance College; M.B.A., University of Pennsylvania, 1968.

# Full-Time Teaching Faculty by College, School and Department and the University Library

## General College

### GENERAL STUDIES

Head: Professor David C. Riede; Course Directors: John Bee, William A. C. Francis, Jim L. Jackson, Andrew Maluke, Robert C. McNeil, Sarah Orlinoff, Douglas V. Shaw.

## Community and Technical College

### DIVISION OF ALLIED HEALTH TECHNOLOGY

Chairman: Professor Roger Keller; Instructor: Laverne C. Yousey.

### DIVISION OF ENGINEERING AND SCIENCE TECHNOLOGY

Chairman: Professor Michael Bezbatchesko; Professor: Thomas M. Brittain; Associate Professors: Ronnie G. Adams, Marko Brdar, Nathan F. Cardarelli, Milan F. Dubravcic, William M. Glazier, Richard L. Henry, Thomas P. Herbert, Sebastian V. Kanakkanatt, Fred L. Mullen, Robert C. Weyrick; Assistant Professors: Albert C. Buxton, Paul H. Dunham, Edward E. McDonald, David J. Robinson, Dennis K. Sullivan, Joseph A. Takacs, Melvin C. Vye; Instructors: John Arendt, Barbara A. Gsellman, Minnie C. Pritchard, Neal E. Wolfe.

### DIVISION OF ASSOCIATE STUDIES

Chairman: Professor Blin B. Scatterday; Associate Professors: William S. Fleming, Richard B. Hoskin, Jack F. Mercer, John B. Monroe, Arthur R. Pollock, Jr., Jane M. Steiner; Assistant Professors: Anna P. Barnum, Eugene M. Benedict, Stanley R. Bruns, Stephen J. Chylinski, Jr., Richard M. Fawcett, Frank J. Gruccio, Jr., Marion R. Heise, Wendell A. Johnson, Dennis A. Kleidon, Rose A. Kleidon, Michael T. Oravec, Jon R. Peske, Charles T. Salem, James D. Switzer, William V. Webb,

Edith K. Weinstein; Instructors: Michael S. Bennett, Richard A. Calkins, Leonard M. Calabrese, Walter M. Herip, Laura J. Johnson, John Mumper, Glenn H. Snyder, Frederick J. Sturm.

### DIVISION OF BUSINESS AND OFFICE TECHNOLOGY

Chairman: Associate Professor George J. Makar; Professors: Frank V. Baldo, Aloysius E. Misko; Associate Professors: Gerald R. Camp, Robert E. Collins, David T. Dolan, Mary J. Johnston, James W. Taggart, Virginia J. Watkins, Anne H. West; Assistant Professors: James D. Bell, Russell K. Davis, Mary K. Dee, Lawrence G. Golden, Jack D. Harpool, Jack D. Huggins, Thora S. Kille, James W. Nolte, John C. Pizor, Linda J. Rodda, Martin H. Siegel, Bonnie J. Thomas-Moore, Joan E. Warner, Mary C. Witwer, Donald A. Zimmerman; Instructors: John R. Cole, Janice, L. Eley, Charles W. Flagg, James F. Jundzilo, Joyce E. Mirman, Jack E. Thompson, Genevieve H. Turlik, Martha W. Vye.

### DIVISION OF PUBLIC SERVICE TECHNOLOGY

Harriet K. Herskowitz, Robert W. Higham, Joseph R. Lentini, Kenneth L. McCormick, Joseph C. Mullin, John Mumper, Glenn H. Snyder.

## Buchtel College of Arts and Sciences

### BIOLOGY

Head: Professor Dale L. Jackson; Professors: Roger F. Keller, Nada Ledinko, Lazarus Macior; Associate Professors: Eugene Flaumenhaft, Richard Mostardi, Richard F. Nokes, Dorothy Nunn, John H. Olive, Walter Sheppe, Warren P. Stoutamire; Assistant Professors: Helmar H. E. Dollwet, Daniel L. Ely, John L. Frola, John F. Gwinn, F. Scott Orcutt, Jr., Donald W. Ott, Lloyd J. Watson; Instructor: Dorothy C. Moses.

### CHEMISTRY

Acting Head: Professor Michael F. Farona, Professors: Paul D. Garn, Claibourne E. Griffin, H. James Harwood, Joseph P. Kennedy, William G. Kofron, Ian R. MacGregor, Donald McIntyre, Maurice Morton, Howard L. Stephens, Thomas Summer; Associate Professors: Ste-

phen Darling, Lewis Feters, John E. Frederick, John J. Houser, Gerald F. Koser, Alan F. Krivis, Henry A. Kuska; Assistant Professors: William D. Lyon, Daniel J. Smith.

### CLASSICS

Head: Distinguished Professor Theodore T. Duke; Assistant Professors: Robert E. Gaebel, Robert C. McNeil; Instructors: Constantin Dimitriu, Jacqueline Hegbar.

### ECONOMICS

Head: Professor Ali Fatemi, Professors: William S. Hendon, James McLain, Efthimios Pournarakis; Associate Professors: Lascelles F. Anderson, Robert R. Black; Assistant Professors: Dennis M. Byrne, Elizabeth Erick-

son, Bruce U. Knight, Lung-Ho Lin, Gary E. Sellers: Instructor: Gary R. Thayer.

#### ENGLISH

Head: Associate Professor Frederik N. Smith; Professors: Gerald H. Levin, Frank T. Phipps; Associate Professors: Douglas R. Butturff, Robert L. Dial, James J. Egan, David L. Jones, R. Paul Merrix, D'Orsay W. Pearson, John S. Phillipson, Sally K. Slocum, Gerard M. Sweeney; Assistant Professors: Mary A. DeHaven, William A. Francis, Elton A. Glaser, R. Bruce Holland, Julia A. Hull, Walter D. Lehrman, Lawrence T. Martin, Ruth L. Messenger, Arthur L. Palacas, Robert F. Pope, David N. Ranson, Cathryn C. Taliferro; Instructors: Jutta T. Bendremer, Marlene C. Hathaway, Alice MacDonald, Arlene A. Toth.

#### GEOGRAPHY

Head: Professor Allan G. Noble; Professors: Ashok Dutt, Edward W. Hanten; Associate Professors: Albert J. Korsok, Laurence J. C. Ma, Thomas L. Nash, Gerald F. Pyle; Assistant Professors: Lathardus Goggins, Vern R. Har-napp, John E. Mulhauser.

#### GEOLOGY

Head: Professor Arthur E. Burford; Professors: Robert C. Corbett, Paul C. Franks, James W. Teeter, Paul S. Wingard; Associate Professor: Roger Bain; Assistant Professors: Ronald H. Fewkes, Laverne M. Friberg, Jim L. Jackson, A. W. Kunze, Surinder K. Sahai, John P. Szabo.

#### HISTORY

Head: Professor Robert H. Jones; Professors: Vincent H. Cassidy, Don R. Gerlach, George W. Knepper, Warren F. Kuehl, Noel L. Leathers, Sheldon B. Liss, Jerome Mushkat, Daniel Nelson, James F. Richardson, David C. Riede; Associate Professors: J. Wayne Baker, Boris Blick, H. Roger Grant, William McGucken, Howard S. Reinmuth, Jr., Robert L. Zangrando; Assistant Professors: Guy S. Alitto, June Burton, Barbara E. Clements, John B. Henderson, David E. Kyvig.

#### MATHEMATICS AND STATISTICS

Head: Professor William H. Beyer; Professor: Leonard Sweet; Associate Professors: David Buchthal, Douglas E. Cameron, Robert C. Carson, Peter J. Gingo, Ernest A. Kuehls, Louis D. Rodabaugh, Ronald C. Suich; Assistant Professors: John C. Conlon, Joseph C. Hintz, William W. Hokman, Martha Lierhaus, Thomas E. Price, Neal C. Raber, Phillip H. Schmidt, Donald P. Story, George L. Szoke, Richard J. Turek, Wilbur P. Veith.

#### MODERN LANGUAGES

Head: Professor Isaac Yetiv; Professors: Arno K. Lepke, Hugo Lijeron, Theodore Mackiw, Claude Y. Meade, Herbert W. Smith, Jr.; Associate Professors: Eugene A. Maio, Allan McIntyre, Russell Weingartner; Assistant

Professors: Jolita Kavaliunas, William I. Miller, Phillip Stuyvesant, Janet Waisbrot, Hans O. Zbinden; Instructors: Joseph J. Donatelli, Stephen A. Faria, Janice Houser, Sys Inman, Kriemhilde Livingston, Helen Ryan, Susan Schunk; Lecturer: Faraj Ardalan.

#### PHILOSOPHY

Acting Head: Associate Professor Alan Hart; Professor: Paul J. Uhlinger; Associate Professors: David F. Cox, William McMahon; Assistant Professor: James H. Buchanan.

#### PHYSICS

Head: Professor Charles W. Wilson, III; Professors: Alan N. Gent, C. Frank Griffin; Associate Professors: Harry T. Chu, Roger B. Creel, Walter H. Heintz, Peter N. Henriksen, II, Harry T. Pinnick, Ronald E. Schneider, Ernest D. von Meerwall.

#### POLITICAL SCIENCE

Head: Associate Professor Carl Lieberman; Professors: Yong H. Cho, Yogendra Malik, Paul A. Weidner; Associate Professors: Vernon F. Cook, Frank J. Kendrick, Jesse F. Marquette; Assistant Professors: Richard Franklin, Katherine Hinckley, David J. Louscher.

#### POLYMER SCIENCE

Head: Professor Maurice Morton; Professors: Lewis J. Fetters, Alan N. Gent, H. James Harwood, Joseph P. Kennedy, Donald McIntyre, Eberhard A. Meinecke, Howard L. Stephens, Charles W. Wilson III; Associate Professors: John E. Frederick, Irja Piirma.

#### PSYCHOLOGY

Head: Professor Gerald V. Barrett; Professors: Alexis M. Anikeeff, John A. Popplestone, Edwin E. Wagner; Associate Professors: Alex Darbes, Richard H. Haude, Marion W. McPherson, Henry Rosenquist, Kenneth N. Wexley; Assistant Professors: Ralph Alexander, Faye Dambrot, Robert Deitchman, Stephen S. Fugita, Robert G. Lord, Martin D. Murphy, Raymond Sanders, Robert B. Slaney, Harvey L. Sterns.

#### SOCIOLOGY

Acting Head: Associate Professor Carl A. Bersani; Professors: Charles M. Barresi, Irwin Deutscher, Edwin L. Lively, Lloyd B. Lueptow, Robert M. Terry; Associate Professors: T. Neal Garland, Richard J. Gigliotti, John P. Marwitt, McKee J. McClendon, Donald J. Metzger, Samuel A. Mueller, David J. O'Brien, Margaret Poloma, Robert G. Schmidt, Richard Sterne; Assistant Professors: Leslie Carr, J. Gregory Williams.

#### URBAN STUDIES

Acting Head: Professor William S. Hendon; Professors: Yong H. Cho, Ashok Dutt, Edward W. Hanten; Associate Professors: David F. Cox, Frank J. Kendrick, Gerald F. Pyle, Richard S. Sterne; Assistant Professors: Frank Costa, William R. Mangun, James L. Shanahan, Douglas V. Shaw.

## **College of Engineering**

### **CHEMICAL ENGINEERING**

Acting head: Professor Howard L. Greene; Professors: Glenn A. Atwood, Coleman J. Major, Robert W. Roberts, Max S. Willis, Jr.; Associate Professors: Lawrence G. Focht, T. Henry Forsyth, John P. Lenczyk.

### **CIVIL ENGINEERING**

Head: Professor Andrew L. Simon; Professors: D. G. Fertis, Joseph F. Lestingi, Alvin M. Richards, Jr.; Associate Professors: Tse-Yung Chang, Clarence B. Drennon, George P. Manos, Simsek Sarikell, David M. Timmerman.

### **ELECTRICAL ENGINEERING**

Head: Professor Donald C. Thorn; Professor: Louis E.

Roemer; Associate Professors: Chiou-Shiun Chen, Chu-Fu Chen, Joseph A. Edminister, Robert S. Grumbach, Chaman N. Kashkari, Milton L. Kult, Malcolm R. Railey, John T. Welch, Jr., Richard A. Williams; Assistant Professor: Victor Burke.

### **MECHANICAL ENGINEERING**

Head: Professor Rudolph Scavuzzo; Professors: Michael Bezbatchenko, Thomas M. Brittain, Alexander Brown, James R. Hewit, Eberhard A. Meinecke; Associate Professors: Maurice L. Adams, Donald R. Burrowbridge, Mamerto L. Chu, Jr., Benjamin T. F. Chung, Philip M. Gerhart, Richard J. Gross, Azmi Kaya, Joseph Padovan, Lindon C. Thomas.

## **College of Education**

### **COUNSELING AND SPECIAL EDUCATION**

Head: Professor Kenneth C. Hoedt; Professors: James E. Doverspike, Robert H. Myers, David M. Weis; Associate Professors: William J. Arn, John R. Cochran, Dale Coons, Gary W. Kane, Janko Kovacevich, Sarah Orlinoff, Ruth Roberts, Joseph M. Walton; Assistant Professors: Fred W. Fanning, Theodore L. B. Gloeckler, William E. Nemece, Michael Ross, Marion Stroud; Instructor: Elizabeth A. Wright.

### **EDUCATIONAL ADMINISTRATION**

Head: Professor Don Birdsell; Professors: James C. King, Isobel L. Pfeiffer, Dick I. Rich, William Root; Associate Professors: W. Henry Cone, Norman M. Griggs, Jr., William A. Rogers, Charles L. Wood.

### **EDUCATIONAL FOUNDATIONS**

Head: Professor Gerald J. Blumenfeld; Professors: H. Kenneth Barker, Ralph O. Blackwood, D. J. Guzzetta, John S. Watt; Associate Professors: Abdul Amir Al-Rubaiy, Walden B. Crabtree, Ralph Darr, Jr., Charles M. Dye, Thomas H. Maxwell, Isadore Newman, Frederick Schultz; Assistant Professors: Edward B. Lasher, William A. Mavrides, Rita S. Saslaw; Instructor: C. Robert Blankenship.

### **ELEMENTARY EDUCATION**

Head: Associate Professor Bernard L. Esprite; Profes-

sors: Caesar A. Carrino, Robert E. Ferguson, LaVerne J. Meconi, Ramon F. Steinen, Maurice G. Williams; Associate Professors: Walter E. Arms, David G. Barr, Angela R. Bruno, Hugh G. Christman, Loren L. Hoch, Martha C. Leyden, Judith A. Noble, Joan C. Seifert; Assistant Professors: Mary Ellen Atwood, Blanche Clegg, Susan J. Daniels, Regis Q. McKnight, Janet R. Reuter, Robert Sovchik, Norma Spencer; Instructors: June M. Alleman, Susan McBride, Judith Pearce, John W. Wilson.

### **PHYSICAL EDUCATION**

Head: Associate Professor Andrew W. Maluke; Associate Professors: J. Thomas Adolph, Gordon Larson, Robert J. Mravetz; Assistant Professors: Thomas A. Campbell, James L. Dennison, Robert N. Gandee, Judith E. Maffett, Patricia J. Taylor, Wyatt M. Webb, James L. Witherow; Instructors: Alexander L. Adams, Kenneth G. Cunningham, Robert L. Dowdy, Thomas M. Flaherty, Jr., Mary J. MacCracken, Fritz M. Meyer, Archie M. Strimel, Mary A. Tripodi; Lecturers: Dale Liston, James P. Tressel.

### **SECONDARY EDUCATION**

Head: Associate Professor Larry G. Bradley; Professor: Oliver Ocasek; Associate Professors: Madeline A. Cooke, Bill J. Frye, John J. Hirschbuhl, Joy S. Lindbeck, Marion A. Ruebel, Michael N. Sugarman, Walter H. Yoder; Assistant Professors: Robert K. Eley, Harold M. Foster, Lillian M. King, Stanley P. Mengel, Stephen J. Thompson.

## **College of Business Administration**

### **ACCOUNTING**

Head: Professor Dennis Gordon; Professors: Hobart W. Adams, Orville R. Keister, Jr., Richard S. Roberts, Arjan T. Sadhwani; Associate Professors: Donald K. Berquist,

Arthur D. Karlin, Dennis L. Kimmell, Charles K. Moore, Jr.; Assistant Professors: Allen M. Cabral, James L. Cress, Vincent P. Kopy, Alvin H. Lieberman, David L. Nichols, Linda Sugarman; Instructors: James R. Emore, David T. Meeting, Michael F. Rolph.

**FINANCE**

Acting Head: Professor Arpad F. Banda; Professors: James W. Dunlap, Michael P. Litka, Frederick W. Moyer, Charles F. Poston; Associate Professors: Thomas J. Coyne, David R. Durst, James E. Inman, Mario J. Picconi, John D. Williams; Assistant Professors: Edward L. Baxter, Robert J. Shedlarz.

**MANAGEMENT**

Head: Professor Frank L. Simonetti; Professors: N. F. Davis, Bernard A. Deitzer, Jonathon S. Rakich, Karl A. Shilliff, Howard L. Taylor; Associate Professors: Ken-

neth A. Dunning, Theodore T. Herbert, Keith A. Klafehn, Joseph C. Latona, Richard C. Lutz, Gary E. Meek; Assistant Professors: Donald E. Becker, Alan G. Krigline, Stephen J. Turner; Instructor: Dennis P. Kopper.

**MARKETING**

Head: Professor Stephen S. Castle; Professor: Frank V. Baldo; Associate Professors: Michael F. d'Amico, David P. Loyd; Assistant Professors: Donald M. Jackson, Kenneth E. Mast, George E. Prough; Instructor: Lawrence J. Marks.

**College of Fine and Applied Arts****ART**

Head: Professor Warren A. Wolf; Professor: Irving A. Achorn; Associate Professors: Earl L. Ertman, William A. Neumann, Ronald D. Taylor; Assistant Professors: Bruce R. Armstrong, Charlotte M. Hanten, Donald E. Harvey, Lorena M. Holshoy, Dennis A. Kleidon, James V. Lenavitt, Christopher P. Meyer, Dennis A. Meyer, Thomas D. Webb; Instructors: Walter M. Herip, Kathleen A. Ricks, Mark E. Soppeland.

**HOME ECONOMICS AND FAMILY ECOLOGY**

Head: Professor Barbara N. Armstrong; Associate Professors: Tomasita Chandler, Virginia Tappenden; Assistant Professors: Doris J. Aldrich, Mary Ellen Atwood, Helen K. Clemenishaw, Donna J. Gaboury, Virginia L. Gunn, Barbara Heinzerling, Kathryn E. Koch, Jean R. Williams; Instructors: Bonney W. Chirayath, Harriet K. Herskowitz, Judy L. Hodgson, Miriam G. Litt.

**MASS MEDIA — COMMUNICATION**

Acting Head: Professor Ruth B. Lewis; Professor: James V. Fee; Associate Professors: John D. Bee, William B. Steis, L. Joel Swabb, Jr.; Assistant Professors: David L. Jamison, Thomas T. Miles, Henry J. Ruminski.

**MUSIC**

Acting Head: Associate Professor Frank V. Bradshaw; Professors: Farley K. Hutchins, John A. MacDonald, Wal-

lace Nolin; Associate Professors: Alice Flaksman, Richard Jackoboice, Marian Lott, Eugene R. Mancini, Richard N. Shirey, Henry P. Smith, Sherman D. Vander Ark; Assistant Professors: David S. Bernstein, Paul M. Biss, Cecil V. Gold, Edward J. Humeston, Frank C. Jacobs, Barbara J. MacGregor, Rodney N. Miller, James C. Prodan, Larry D. Snider, Samuel Spinak, Charles F. Waddell; Instructors: Boyd A. Mackus, Edward A. Zadrozny.

**SPEECH PATHOLOGY AND AUDIOLOGY**

Head: Professor George D. Davis; Professor: Elaine Z. Lasky; Associate Professors: Charlotte L. Essner, John H. Ramey, Kenneth T. Siloac; Assistant Professors: Anitra S. Barkley, Patsy B. Blackwell, Mary Capotosto, Bernard J. Clifford, Donald E. Hall, Patricia B. Kricos; Instructors: Gloria J. Boggess, Lisa P. Gwyther, Karen B. Turner, Winifred Watson-Florence.

**THEATRE ARTS AND DANCE**

Head: Professor James F. Dunlap; Professors: Elizabeth Hittle, Ray H. Sandefur, Howard K. Slaughter; Associate Professors: Paul A. Daum, Phyllis Hardenstein, Wallace S. Sterling; Assistant Professors: Marc C. Ozanich, Instructors: Jerry J. Burr, Alexander N. Davis, Kathleen M. Davis.

**College of Nursing**

Dean: Professor Lillian J. DeYoung; Professor: Kathryn M. Homeier; Associate Professors: Marian L. Bauer, Perry Jane Bomar, Dorothy M. Dobrindt, Barbara M. Fuszard, C. Edward Gibney, Patricia P. Godfrey, Edna P. Grist, Joanne Marchione; Assistant Professors: Barbara S. Anandam, JoAnn Collier, Shirley R. Doherty, Marianne L. Glazer, Jean A. Haspeslagh, Virginia B. Newbern, Margaret E. Seeno, Eldonna M. Shields, Susan J.

Stearns, Winifred J. Walter; Instructors: Mary A. Arenella, Cathy Caron, Kristine M. Gill, Mary T. Goletz, Joyce D. Kierst, Nancy C. Kilbane, Mary K. Krater, Margherita D. Labson, Deborah D. Lumley, Elizabeth K. Misko, Cheryl H. Morgan, Anne T. O'Connor, Pamela G. Skorman, Helen-Agnes Wright; Lecturer: Martha R. Conrad.

## **School of Law**

Dean: Professor Stanley A. Samad; Professors: Merlin G. Briner, Hamilton DeSaussure, John P. Finan, James G. France, Richard L. Grant, Donald M. Jenkins, Marvin M. Moore, Albert S. Rakas; Associate Professors: Ronald E.

Alexander, Hollis Allan, Bertram C. Gire; Assistant Professors: C. P. Goplerud, Margery B. Koosed, Albert H. Leyerle, Jeffrey A. Parness, Lawrence P. Wilkins; Lecturers: Richard L. Aynes, Dana F. Castle.

## **Wayne General and Technical College**

Dean: John G. Hedrick; Business Manager: Martin Kemp; Associate Professors: Scott D. Hagen, Warner D. Mendenhall; Assistant Professors: R. Diane Arnold, Donald E. Baker, Elmore J. Houston, Armolene J. Maxey,

Robert L. McElwee, Beverly J. Mugrage, Ellen Sue Politella, Edwin Thall; Instructors: Richard M. Dienesch, Carl L. Huston, Gregory C. Keck, Kathleen A. Noble, Janeane A. Reagan, Forrest J. Smith, E. Lee Wilson.

## **University Library**

University Librarian: Associate Professor H. P. Schrank, Jr.; Associate Professors: Ruth Clinefelter, Pauline Franks, Anna M. Voorhees; Assistant Professors: Virginia L. Allanson, Margart B. Guss, Jack E. Hibbs, Jr., Miriam A. Joliat, Nancy A. Knight, Helen Livingston,

John V. Miller, Beatrice Montgomery, Judith K. Mowery; Instructors: David R. Brink, Barbara L. Clark, Judith L. Fitzgerald, Julie A. Gammon, Marcia T. Ladd, Beverly L. Scherba.

## **Reserve Officers' Training Corps**

Richard L. Hansford, Vice President and Dean of Student Services  
Civilian Coordinator  
December 1977

### ARMY

- DONALD V. HALLOCK, *Professor of Military Science* (August 1975)  
B.S., University of Wisconsin; M.Ed., Eastern Michigan University, 1969; Graduate of the U.S. Army Command and General Staff College, Lt. Col., Infantry.
- JAMES L. GANO, *Assistant Professor of Military Science* (1976)  
A.B., M.A., Eastern Kentucky University; M.S., University of Southern California, 1975, Captain, Military Intelligence.
- JAMES M. KELLY, *Assistant Professor of Military Science* (1977)  
B.A., Cameron University, 1974, Major, Artillery.
- CHARLES L. KOHL, JR., *Assistant Professor of Military Science* (1977)  
B.A., Valparaiso University; M.B.A., Adelphi University, 1974, Captain, Transportation.
- MARGARET A. MURRAY, *Assistant Professor of Military Science* (1975)  
B.S., Virginia State University, 1969, Captain, Signal Corps.
- PAUL LEWIS, *Chief Enlisted Instructor* (1976)  
Sergeant Major.
- AUGUST BROOKS, *Operations NCO* (1977)  
Sergeant First Class.
- EDWIN SHUTTE, *Supply Supervisor* (1974)  
Staff Sergeant.

### AIR FORCE

- EDWARD P. MAZAK, JR., *Professor of Aerospace Studies* (June 1974)  
B.S., The University of Akron; M.S.A.E., Air Force Institute of Technology; M.B.A., The George Washington University, 1963. Colonel, USAF.
- CAROL A. CARTER, *Admissions Counselor—Northern Ohio* (September 1976)  
B.A., M.A., University of Arkansas; M.A., Troy State University, 1976. Captain USAF.
- ROBERT M. GARLOW, *Assistant Professor of Aerospace Studies* (August 1974)  
B.S., Slippery Rock State College; M. S., Southern Illinois University at Edwardsville, 1974, Major, USAF.
- JOHN L. TARTAR, *Assistant Professor of Aerospace Studies* (April 1976)  
B.S., Miami University; M.B.A., University of Wyoming, 1972. Captain, USAF.
- FRED W. BEER, *NCOIC Cadet Personnel* (September 1975)  
Technical Sergeant, USAF.
- DONALD E. HAZLETT, *NCOIC Administration* (September 1975)  
Technical Sergeant, USAF.
- THOMAS E. WHITMYER, *Detachment NCOIC* (June 1977)  
Staff Sergeant, USAF.

## **Institute of Polymer Science**

December 1977

- MAURICE MORTON, *Director of the Institute of Polymer Science and Regents Professor of Polymer Chemistry* (October 1948)  
B.S., Ph.D., McGill University, 1945.
- ALAN N. GENT, *Assistant Director of the Institute of Polymer Science and Professor of Polymer Physics* (April 1961)  
B.S., Ph.D., University of London, 1955.
- LEWIS J. FETTERS, *Associate Professor of Polymer Science and Associate Professor of Chemistry* (1971)  
B.A., College of Wooster; Ph.D., The University of Akron, 1962.
- T. HENRY FORSYTH, *Research Associate, Associate Professor Chemical Engineering* (1970)  
B.S.C.E., University of Kentucky; M.S., Ph.D., Virginia Polytechnic Institute, 1967, P.E., Ohio.
- JOHN E. FREDERICK, *Associate Professor of Polymer Science and Associate Professor of Chemistry* (1966)  
B.S., Glenville State College; Ph.D., University of Wisconsin, 1964.

- H. JAMES HARWOOD, *Professor of Polymer Science and Professor of Chemistry (October 1959)*  
B.S., The University of Akron; Ph.D., Yale University, 1956.
- JOSEPH P. KENNEDY, *Professor of Polymer Science and Professor of Chemistry (1970)*  
B.Sc., University of Budapest; Ph.D., University of Vienna; M.B.A., General Business, Rutgers University, 1961.
- DONALD MCINTYRE, *Professor of Polymer Science and Professor of Chemistry (1966)*  
B.A., Lafayette College; Ph.D., Cornell University, 1954.
- EBERHARD A. MEINECKE, *Professor of Polymer Science and Professor of Mechanical Engineering (October 1963)*  
D. Eng., Institute of Technology (Braunschweig, Germany), 1960.
- IRJA PIIRMA, *Associate Professor of Polymer Science (December 1952)*  
Diploma in Chemistry, Technische Hochschule of Darmstadt; M.S., Ph.D., The University of Akron, 1960.
- EVERETT SANTEE, JR., *Manager of the NMR Center, Research Associate (1966)*  
B.S., West Virginia State College, 1962.
- HOWARD L. STEPHENS, *Executive Officer, and Manager of Applied Research, Institute of Polymer Science, Professor of Polymer Science and Professor of Chemistry (1950)*  
B.S., M.S., Ph.D., The University of Akron, 1960.
- CHARLES W. WILSON, III, *Research Associate, Professor of Physics and Professor of Polymer Science (1965)*  
B.S.E., M.S., University of Michigan Ph.D., Washington University, 1952.
- DAVID WINKLER, *Research Associate (1969)*  
B.S., Ashland College; M.S., The University of Akron, 1972.

## **Presidents of Buchtel College**

*S. H. Mc Colleston, D.D., Litt. D. ....	1872-1878
*E. L. Rexford, D.D. ....	1878-1880
*Orello Cone, D.D. ....	1880-1896
*Charles M. Knight, D.Sc. (ad interim) ....	1896-1897
*Ira A. Priest, D.D. ....	1897-1901
*A. B. Church, D.D., LL.D. ....	1901-1912
*Parke R. Kolbe, Ph.D., LL.D. ....	1913-1914

## **Presidents of The University of Akron**

*Parke R. Kolbe, Ph.D., LL.D. ....	1914-1925
*George F. Zook, Ph.D., LL.D. ....	1925-1933
*Hezzleton E. Simmons, M.S., D.Sc., LL.D. ....	1933-1951
Norman P. Auburn, B.A., D.Sc., Litt.D., L.H.D., LL.D. ....	1951-1971
D. J. Guzzetta, Ed. D., LL.D., D.S.Sc., L.H.D. ....	1971-

## **Deans of the Colleges of The University of Akron**

### THE BUCHTEL COLLEGE OF ARTS AND SCIENCES

*Albert I. Spanton, M.A., Litt.D. ....	1913-1938
*Charles Bulger, Ph.D., Litt. D. ....	1938-1948
Ernest H. Cherrington, Jr., Ph.D. ....	1948-1960
Thomas Sumner, Ph.D. ....	1960-1962
George Knepper, Ph.D. ....	1962-1967
Don A. Keister, Ph.D. ....	1967-1969
John Bachmann, Ph.D. (acting) ....	1969-1970
Robert A. Oetjen, Ph.D. ....	1970-1977
Claibourne E. Griffin, Ph.D. ....	1977-

### THE COLLEGE OF ENGINEERING

*Frederic E. Ayer, C.E., D. Eng. ....	1914-1946
R. D. Landon, C.E., M.S. ....	1946-1963
*W. M. Petry, M.S.M.E. (acting) ....	1963-1964
*Michael J. Rzasa, Ph.D. ....	1964-1970
Coleman J. Major, Ph.D. ....	1970-

\*Deceased

THE COLLEGE OF EDUCATION

*W. J. Bankes, M.A. ....	1921-1931
*Albert I. Spanton, M.A., Litt.D. (acting).....	1931-1933
*Howard R. Evans, Ph.D. ....	1933-1942
Hjalmer W. Distad, Ph.D. (acting).....	1942-1944
*Howard R. Evans, Ph.D. ....	1944-1958
D. J. Guzzetta, Ed.D., LL.D., D.S.Sc., L.H.D. (acting).....	1958-1959
Chester T. McNerney, Ph.D., LL.D. ....	1959-1966
H. Kenneth Barker, Ph.D. ....	1966-

THE COLLEGE OF BUSINESS ADMINISTRATION

*Warren W. Leigh, Ph.D. ....	1953-1962
Richard C. Reidenbach, Ph.D. ....	1962-1967
*Arthur K. Brintall, Ph.D. (acting).....	1967-1968
*Wilbur Earle Benson, Ph.D. ....	1968-1970
James W. Dunlap, Ph.D. ....	1970-

THE SCHOOL OF LAW

Stanley A. Samad, J.S.D. ....	1959-
-------------------------------	-------

THE GRADUATE SCHOOL

*Charles Bulger, Ph.D., Litt.D. (Dean of Graduate Work).....	1933-1951
Ernest H. Cherrington, Jr., Ph.D. (Director of Graduate Studies).....	1955-1960
Ernest H. Cherrington, Jr., Ph.D. (Dean of the Division).....	1960-1967
Arthur K. Brintall, Ph.D.(Dean of Graduate Studies and Research).....	1967-1968
Edwin L. Lively, Ph.D. (Dean of Graduate Studies and Research).....	1968-1974
Claibourne E. Griffin, Ph.D. (Dean of Graduate Studies and Research).....	1974-1977
Joseph M. Walton, Ph.D. (Associate Dean of Graduate Studies and Research).....	1977-

THE GENERAL COLLEGE

D. J. Guzzetta, Ed.D., LL.D., D.S.Sc., L.H.D. ....	1959-1962
Thomas Sumner, Ph.D. ....	1962-1977
Paul S. Wingard, Ph.D. (acting).....	1977-1978
Marion A. Ruebel, Ph.D. ....	1978-

THE EVENING COLLEGE

L. L. Holmes, M.A. (Director).....	1932-1934
Leslie P. Hardy, M.S.Ed., L.H.D. (Director).....	1934-1953
E. D. Duryea, Ed.D. (Dean).....	1953-1956
D. J. Guzzetta, Ed.D., LL.D., D.S.Sc., L.H.D. (Dean).....	1956-1959
William A. Rogers, Ed. D. (Dean).....	1959-1967
Charles V. Blair, M.A. (Dean).....	1967-1970
John G. Hedrick, M.A. (Dean).....	1970-1974
Caesar A. Carrino, Ph.D. (Dean).....	1974-

THE COMMUNITY AND TECHNICAL COLLEGE

W. M. Petry, M.S.M.E. ....	1964-1974
Robert C. Weyrick, M.S. ....	1974

THE COLLEGE OF FINE AND APPLIED ARTS

Ray H. Sandefur, Ph.D. ....	1967-1978
Gerard L. Knieter, Ph.D. ....	1978-

THE COLLEGE OF NURSING

Estelle B. Naes, Ph.D. ....	1967-1975
Lillian J. DeYoung, Ph.D. ....	1975-

## WAYNE GENERAL AND TECHNICAL COLLEGE

Marvin E. Phillips, M.A. (Acting Director).....	1972-1974
John G. Hedrick, M.A. (Director).....	1974-1974
John G. Hedrick, M.A. (Dean).....	1974-

\*Deceased

## **Current Members of College and School Advisory Committees**

DECEMBER 1977

## THE BUCHEL COLLEGE OF ARTS AND SCIENCES

Hon. John S. Ballard, Rev. David Burnham, Mrs. Sam Dupree, Dr. William H. Falor, Mr. David Ginaven, Mrs. Richard Irvin, Mr. W. P. Keith, Jr., Mr. Donald Kaufman, Mrs. G. Paul Kempel, Mr. Perth Killinger, Mr. Vern Odom, Dr. Robert Oetjen, Mr. Justin Rogers, Mrs. S.O. Schumacher, Dr. Charles Stem.

## THE COLLEGE OF ENGINEERING

Mr. Robert M. Arnold, Mr. Harold Baker, Mr. G. L. Bruggemeier, Mr. Elza E. Hopkins, Mr. Morris Jobe, Mr. John David Jones, Mr. J. Robert Kessler, Mr. Robert B. Knill, Mr. Thomas A. Knowles, Mr. Wendell R. LaDue, Mr. Vern Oldham, Mr. Karl Rohrer, Mr. William Ruhlin, Mr. Theodore S. Sprague, Mr. Harry Warner.

## THE COLLEGE OF EDUCATION

Mrs. Jonas Barenholtz, Judge Myron T. Breneman, Mr. Ralph Gillman, Dr. Henry P. Kurdziel, Mr. Leland McFarren, Mr. Thomas Minter, Mr. Conrad Ott, Dr. Milan Pavkov, Dr. Willa Player, Dr. William Pletzer, Mr. E. H. Strobel, Mrs. David J. Towell, Mrs. Gene Waddell, Dr. Harold Wilson.

## THE COLLEGE OF BUSINESS ADMINISTRATION

Mr. David C. Corbin, Mr. George Daverio, Mr. Willis Else, Mr. John L. Feudner, Mr. Arlin H. Greber, Mr. J. W. Keener, Jr., Mr. Clarence Kelley, Mr. John McCarter, Mr. James H. Miller, Mr. H. L. Mollenkopf, Mr. Howard A. Palmer, Mr. James Parshall, Mr. O. D. Taliaferro, Mr. H. Vernon Wolfe, Dr. Robert V. Yohe.

## THE COLLEGE OF FINE AND APPLIED ARTS

Mrs. Fred I. Albrecht, Dr. James L. Berk, Mrs. L. A. Graham, Mrs. E. V. K. Jaycox, Mrs. Walter Keith, Dr. E. Gates Morgan, Mr. Louis Myers, Dr. Leon Neiman, Mr. Irving J. Olson, Mrs. John Renner, Dr. Bruce Rothmann, Mrs. Henry Saalfeld, Mrs. Sol Sacks, Mrs. Guido Stempel, Mrs. Walter Wojno.

## THE COLLEGE OF NURSING

Mr. Kenneth Cox, Miss Patricia Donley, Mr. Harold Funk, Mr. S. H. Mountcastle, Miss Martha Nelson, Mrs. Alfred Nicely, Dr. R. R. Pliskin, Mr. Earl Raymer, Dr. John Schlemmer, Mr. Roger Sherman, Mr. Paul J. Stitzel, Mrs. Barbara Venesy, Judge Willaim Victor, Mrs. Jason Wade.

## SCHOOL OF LAW

Mr. Randolph Baxter, Judge Sam H. Bell, Judge James Bierce, Mr. John F. Floberg, Judge Joyce George, Mr. Marion F. Graven III, Mr. Kean Grosenbaugh, Mr. Karl Hay, Mr. Duane L. Isham, Mr. Robert T. Jarmusch, Mr. Marvin G. Manes, Mr. C. Blake McDowell, Sr., Mr. Frederick Myers, Judge John Reece, Mr. Bernard Winick.

## THE GRADUATE SCHOOL

Dr. S. L. Aggarwal, Dr. Glen Alliger, Dr. James D. D'Ianni, Mr. D. Eugene Dominic, Mr. Bill E. Giermann, Dr. Elbert E. Gruber, Dr. C. William Keck, Mr. Wallace Markert, Jr., Mr. John W. Moore, Mr. Burton D. Morgan, Mr. Frank Steerer, Jr., Dr. Guido Stempel, Dr. Franklin Strain, Mr. Thomas Strouble, Mr. William H. Wells.

## THE EVENING COLLEGE

Mrs. Tom B. Babcox, Mr. Stanton H. Brightman, Mr. Eugene A. DeChellis, Mr. Richard Heidman, Mrs. Charles Herberich, Mr. Ralph Iula, Mr. Philip G. Karam, Miss Celeste McIntyre, Mr. Edward Naher, Dr. Martha Nelson, Judge Thomas Powers, Mr. John Rebenack, Mr. John Scherba, Mr. Thomas Shuber, Mr. Philip H. Young.

## THE COMMUNITY AND TECHNICAL COLLEGE

Mr. James Garber, Dr. Robert J. George, Mr. Ronald Glosser, Mrs. Barbara Hiney, Mr. Robert N. Hughey, Mr. William Hulbert, Mr. G. J. Lambillotte, Mr. Phil Leonard, Mr. P. W. Perdriau, Miss Faye Rafferty, Mr. Bruce Robertson, Judge Joseph Roulhac, Mr. Robert H. Schmidt, Mrs. Bertha Strasser, Mr. Robert Williamson.

## THE WAYNE GENERAL AND TECHNICAL COLLEGE

Mrs. Norma Amstutz, Mrs. Samuel W. Anthony, Mr. William Baer, Mr. R. Victor Dix, Dr. E. J. Feltes, Mr. Ralph Fisher, Mr. Carl Goldring, Mr. David Goldsberry, Mr. Robert Gumz, Mr. Donald L. Jones, Mr. Bruce Schantz, Mr. Richard N. Seaman, Mr. Sterling G. Sechrist, Mr. Gene Sklorman, Mr. David Sprang.

## Directory of Student Organizations

### GROUPS FOR THE PERFORMING ARTS

Chamber Ballet  
Forensic Union  
University Marching Band

University Orchestra  
University Singers  
University Theatre Guild

### ATHLETIC CLUBS

Archery Club  
Intramurals  
Mens  
Womens  
Karate Club (Tae Kwon Do)

Rugby Club  
Ski Club  
Water Polo Club  
Women's Recreation Association  
Women's Synchronized Swimming Club

### PERSONAL INTEREST

Advertising Club  
African Student Association  
American Congress on Surveying and Mapping  
Arab Students Organization  
Associated Student Government  
Associaed Women Students  
The Black Scholar  
Black United Students  
Campus Girl Scouts  
Center for Concern  
Cheerleaders  
Chess Club  
College Republicans  
Council for International Relations  
and United Nations Affairs

Esoteric Self-Study Group  
Gospel Chorus  
Independent Student Association  
International Students Club  
Outing Club  
Photography Club  
Pre-Law Club  
Residence Hall Council  
Residence Hall Program Board  
Senior Class  
Students International Meditation  
Society  
Survival Center  
Young Democrats Club

### COMMUNICATIONS AND PUBLICATIONS

Akron Law Review  
Amateur Radio Club  
Arete  
Buchtelite  
Nite Life

Radio and Television Workshop  
Tel-Buch  
WAUP-FM  
WRHA  
YAWP

### DEPARTMENTAL ORGANIZATIONS

Accounting Association  
Administrative Management Society  
(Collegiate Chapter)  
American Chemical Society  
Chapter of Student Affiliates  
American Institute of Chemical Engineers  
American Society for Personnel Administration  
American Society of Civil Engineers  
American Society of Mechanical Engineers  
Collegiate Nursing Students  
Council for Exceptional Children  
Der Deutsche Studentenklub  
Economics Association  
Finance Club  
Geology Club  
Institute of Electronic and Electrical Engineers  
Instrument Society of America, Student Chapter

Johnson Club  
LaComunidad Hispanica  
LeCercle Francais Universitaire  
"Life" (formerly Biology Club)  
Marketing Action Council, Collegiate  
Chapter of American Marketing  
Association  
Mathematics Club  
Medical Technology Club  
Office Education Association  
Philosophy Club  
Psychology Club  
Slavic Studies Club  
Society of American Military Engineers  
Society of Physics Students  
Sociology Club  
Student Art League

### PROFESSIONAL FRATERNITIES

Alpha Chi Sigma — Chemistry — Men and  
Women  
Beta Alpha Psi — Accounting  
Delta Nu Alpha  
Delta Sigma Pi — Business Administration  
Lambda Alpha Epsilon — Criminal Justice

National Student Speech and Hearing  
Association — Speech Pathology and Audiology  
Phi Chi Theta — Women  
in Business & Economics  
Phi Delta Kappa — Education  
Pi Lambda Theta — Education

## ASSOCIATION OF COLLEGE HONOR SOCIETY MEMBERS

Alpha Kappa Delta — Sociology	Phi Sigma — Biological Sciences
Alpha Lambda Delta — Freshman Scholarship	Phi Sigma Tau — Philosophy
Eta Kappa Nu — Electrical Engineers	Pi Delta Phi — French
Kappa Omicron Phi — Home Economics	Pi Omega Pi — Business Education
Mortar Board — Student Leaderships	Pi Sigma Alpha — Political Science
National Collegiate Players — Dramatics	Psi Chi — Psychology
Omicron Delta Epsilon — Economics	Sigma Delta Pi — Spanish
Omicron Delta Kappa — Leadership	Society of Physics Students — Physics (Sigma Pi Sigma)
Phi Alpha Theta — History	Tau Beta Pi — Engineering
Phi Eta Sigma — Freshman Scholarship	

## OTHER HONOR SOCIETIES

Alpha Beta Delta — Graduate Students	Phi Sigma Alpha — Liberal Arts Scholastic
Alpha Epsilon — Evening Students	Phi Theta Kappa — Community & Technical College
Alpha Sigma Lambda — Scholarship and Services	Pi Mu Epsilon
Beta Gamma Sigma — Business Administration	Sigma Xi — Scientific Research
Kapp Delta Pi — Education	Tau Kappa Phi — Home Economics

## RECOGNITION SOCIETIES

Alpha Phi Omega — Men's Service	Pi Kappa Delta — Forensics
Delta Phi Alpha — German	Society for Collegeiate Journalists Journalism
Gamma Theta Upsilon — Geography	Iau Beta Sigma — Women in Band
Kappa Kappa Psi — Men in Band	

## MILITARY RECOGNITION SOCIETIES

Angel Flight	Pathfinders
Arnold Air Society	Pershing Rifles
Association of the United States Army	Scabbard and Blade
Beta Corps (formerly Army Sponsors)	Valkyrie Drill Team

## RELIGIOUS ORGANIZATIONS

Brothers and Sisters in Christ	Intervarsity Christian Fellowship
Christian Science Organization	Kappa Phi Club
The Hillel (B'nai B'rith Foundation)	Students for Christ
	The Way

## EVENING COLLEGE GROUPS

AWARE (Association of Women for Awareness, Recognition and Enterprise)	Beta Gamma Sigma — Business Administration
Alpha Beta Delta — Graduate Students	Chi Sigma Nu — Social Fraternity
Alpha Epsilon — Honor Society	Evening Student Council
Alpha Sigma Lambda — Scholarship and Service	Gamma Beta — Sorority
	Sigma Gamma Rho-Social Service

## GRADUATE STUDENT GROUPS

Chinese Student Association	Psychology Graduate Student Association
Graduate Student Council	

## SCHOOL OF LAW GROUPS

Arete	Delta Theta Phi
Association of Student International Law Societies	National Lawyer's Guild
Black American Law Students Association	Phi Alpha Delta
Bracton's Inn	Student Bar Association

# THE UNIVERSITY OF AKRON

## UNIVERSITY CALENDAR 1978-79

### SUMMER SESSION I, 1978

June 19, Monday	Day and Evening Classes Begin
*July 4, Tuesday	Independence Day
July 21, Friday	End of Summer Session I

### SUMMER SESSION II, 1978

July 24, Monday	Day and Evening Classes Begin
August 25, Friday	End of Summer Session II
*University Closed	

### FALL SEMESTER 1978

*September 4, Monday	Labor Day
September 5, Tuesday	Day and Evening Classes Begin
November 10, Friday	Veterans Day (classes held)
*November 23-25, Thursday-Saturday	Thanksgiving Recess
November 27, Monday	Classes Resume
December 16, Saturday	Final Instructional Day
December 18-22, Monday-Friday	Final Examination Period

### SPRING SEMESTER 1979

January 22, Monday	Day and Evening Classes Begin
*March 26-31, Monday-Saturday	Spring Recess
April 2, Monday	Classes Resume
May 12, Saturday	Final Instructional Day
May 14-18, Monday-Friday	Final Examination Period
May 27, Sunday	Commencement
*May 28, Monday	Memorial Day

### SUMMER SESSION 1979

	<b>Summer I</b>
June 11, Monday	First 5-Week Session Begins
*July 4, Wednesday	Independence Day
July 13, Friday	First 5-Week Session Ends

	<b>Summer II</b>
July 16, Monday	Second 5-Week Session Begins
August 17, Friday	Second 5-Week Session Ends

### FALL SEMESTER 1979

September 4, Tuesday	Day and Evening Classes Begin
----------------------	-------------------------------



## ***VIII. Index***

**A**

Academic Offerings	8
Accounting	113, 290
Accreditation	7
Administration Officers	322
Admission Procedure	27
Advanced Study	10, 139
Aerospace Studies	82
Afro-American Studies	131, 210
Air Force ROTC	208
Allied Health Program	79, 218
Anthropology	260
Applied Mathematics	94
Applied Music	304
Army ROTC	209
Art	118, 296
Art Education	120
Ceramics	119
Drawing	119
History of Art (BA)	118
Metalsmithing	119
Painting	119
Photography	119
Printmaking	118
Sculpture	118
Studio Art (BA)	118
Graphic Design	119
Arts and Sciences,	
Buchtel College of	9, 88, 149, 223
Degree Requirements	89
Divisions of Instruction	90
Objectives	88
Arts, Associate Program	71
Associate Degree Programs	8, 69
Associate Studies	211
Attendance	28
Audio-Visual Services	15
Auditing Courses	36

**B**

Baccalaureate Degree Programs	8
Ballet (Dance)	124
Biology	90, 223
Board of Trustees	321
Botany	90
Buildings	11
Business Management Technology	73, 214
Business Administration,	
College of	9, 112, 171, 290
Admissions	112
Courses	290
Degree Requirements	113
Objectives	112
Transfer of Courses	113

**C**

Calendar	361
Campus Map	13
Cartographic Program	131
Certificate Programs	9, 131
Changes in Requirements	
Chemical Engineering	100, 263
Chemical Technology	77, 218
Chemistry	91, 225
Child Development	71
Civic Education, Institute for	199
Civil Engineering	101, 265
Classics	91, 228
Commercial Art	72, 213
Commercial Aviation	76
Communication and Rhetoric	123
Community and Technical	
College	8, 70, 86, 211
Baccalaureate Programs	70
Graduation Requirements	71
Goals	70
Programs	86
Community Services Technology	73, 213
Computer Center	17
Computer Science	94, 133, 270
Construction Technology	103, 274
Continuing Education and	
Public Services	198
Counseling and Advising	22, 28
Course Listings	203
Course Numbering System	68, 205
Credit by Examination	30
Credit/Non-Credit Optional	30
Criminal Justice Technology	72, 211
Cytotechnology	76

**D**

Data Processing	74, 215
Departmental Numbering System	68, 205
Developmental Programs	138
Developmental Program Courses	205
Dietetics	120
Directory	321
Discipline	31
Dismissal	32
Doctor of Philosophy Degrees	
Chemistry	149
Education	161
Engineering	159
History	149
Polymer Science	150
Psychology	150
Sociology	151
Doctor of Education Degree	161
Dual Teaching Certification	161

**E**

Ecology	90
Economics	92, 228
Education, College of	9, 104, 161
Admission	104
Courses	275
Degree Requirements	105
Objectives	104
Student Advisers	105
Student Teaching	105
Educational Foundations	275
Educational Guidance and Counseling	283
Educational Technology	71, 211, 219, 289
Elementary Aide	71
Elementary Education	106, 276
Electrical Engineering	101, 268
Electronic Technology	77, 86
Engineering, College of	9, 99, 159
Admission	99
B.S. in Engineering	102
Courses	263
Cooperative Plan	99
Degrees	100
Graduation Requirements	100
Objectives	99
English	92, 230
English Language Institute	28
Entrance Requirements (Undergraduate)	26
Environmental Studies	134, 210
Evening College	10, 138
Executive Secretary	75
Extracurricular Activities	19

**F**

Family & Child Development	120
Fees and Expenses	34
Finance	114, 291
Financial Aids	22, 40
Fine and Applied Arts, College of	9, 117, 176, 296
Admission	117
Courses	296
Degrees	117
Degree Requirements	117
Majors	118
Objectives	117
Fire Science Technology	72, 212
Foods & Nutrition	121
Food Service Management	73, 213
Foreign Language Teaching	107
French	94, 243

**G**

Gardner Student Center	14
General College	8, 81
General Engineering	101, 263
General Speech	123, 179
General Studies	81, 206
Geography	92, 233
Geology	92, 235
German	94, 244
University Goals & Purposes	5
Grades	31
Graduate School	10, 140
Admission	141
Fees	144
Financial Assistance	145
Grades	144
Graduate Council	141
Objectives	140
Qualifying Examination	144
Registration	144
Student Classifications	142
Transfer Students	144
Master's Degree Requir.	145
Doctoral Degree Requir.	146
Graduation Requirements	32
Greek	91, 228

**H**

Health Education	283
Health Services	23
History	93, 237
Home Economics & Family Ecology	120, 299
Honors	32
Honors Program	9, 129, 210
Humanities Major	97

**I**

Industrial Accounting	115
Industrial Technology	77, 220
Inner-City Education	287
Instructional Television Center	15
Instrumentation Technology	78, 221
Interdisciplinary Programs	131, 210
International Programs, Center of	195
International Secretary	75
International Student Program	27, 195
Italian	94, 245
Institute for Civic Education	199

**J****K**

Kindergarten, Primary and Elementary Education	106
---	-----

<b>L</b>			Geography	153
Laboratories			Geology	153
Language	17		History	154
Structure Materials and Mechanics	17		Home Economics and Family Ecology	176
Labor Economics	92		Local Superintendent	164
Latin	91, 228		Management	175
Latin American Studies Program	135		Mass Media	188
Law Courses	317		Mass Media Communication	179
Law, School of	10, 184		Mathematics and Statistics	155
Admission	185		Mechanical Engineering	160
Associations	188		Multicultural Education	166
Auditors	186		Music	177
Bar Admission	187		Music Education	177
Clinical Training	190		Composition	177
Curriculum	191		Performance	178
Degree Requirements	186		Music History and Literature	178
Fees	187		Nursing	181
Honor System	187		Outdoor Education	167
Law Review	188		Philosophy	156
Library	187		Physics	156
Loans	187		Physical Education	167
Objectives	184		Political Science	156
Pre-Legal Education	184		Polymer Science	156
Legal Secretary	75		Psychology	157
Library Aide	71		Reading Specialist	169
Library, Bierce	12		School Psychology	168
Lifespan Development and Gerontology Institute	200		School Superintendent	169
Location, How to Get There	11		School Supervisor	164
			Secondary Education	162
			Secondary School Principal	163
			Sociology	157
<b>M</b>			Spanish	158
Management	114, 292		Special Education	165
Marketing	115, 294		General Speech	179
Mass Media			Speech Pathology and Audiology	178, 307
Communication	122, 123, 305		Technical Education	167
Masters Degree Programs	152		Theatre Arts	180
Accounting	174		Urban Studies	158
Administrative Specialist	169		Visiting Teacher	166
Applied Mathematics	155		Mathematics	93, 240
Biology	152		Mechanical Engineering	102, 271
Business Administration	172		Mechanical Technology	78, 86, 90, 292
Chemistry	152		Medical Assisting	75, 217
Chemical Engineering	159		Medical Studies	210
Civil Engineering	159		Medical Technology	90
Communication and Rhetoric	180		Microbiology	91
Counseling	164		Military Science	84, 209
Economics	152		Mission of the University	4
Education	161		Modern Languages	94, 243
Electrical Engineering	160		Music	121, 301
Elementary Education	162		Performance	121
Elementary School Principal	163		Theory and Composition	122
Engineering	160		Music Education	122
English	152		Musical Organizations	304
French	153			

**N**

Natural Sciences Major	97
Northeast, Ohio Univs. College of Medicine	201
Nursing, College of	9, 26, 181
Admission and Continuation	127
Courses	314
Graduation Requirements	127
Philosophy	126
Agencies	128
Nursing Program, Diploma	79

**O**

Off-Campus Academic Programs	10
Office Services Technology	75
Orientation	28
Outdoor Education	283

**P**

Peace Studies Certificate Program	135, 210
Peace Studies, Center for	196
Peace Studies Department	196
Performing Arts	20
Philosophy	94, 247
Physical Education	280
Physics	95, 249
Physiology and Pre-Professional	91
Placement Office	22
Planning Certificate Program	136
Political Science	96, 252
Political Science/Criminal Justice	96
Polymer Science Courses	260
Polymer Science, Institute of	194
Probation	32
Psychology	97, 254

**Q**

Quality Point Requirements	33
----------------------------	----

**R**

Reading	278
Real Estate	73, 137
Reassessment, Academic	30
Re-Examination	30
Refunds	38
Registration	28
Religious Guidance	24
Repeating Courses	30
Research	194
ROTC	82, 208, 209
Residence Halls	14, 22
Residency Requirements	36
Respiratory Therapy Technology	76, 218
Russian	94, 245

**S**

Sales and Merchandising	74, 215
Schedule Changes	29
Scholarships, Fellowships and Grants	41
School Administration	287
School Psychology	286
Secondary Education	108, 278
Secretarial Science	74, 216
Social Organizations (Student)	21
Social Work	123, 309
Sociology	97, 256
Sociology/Anthropology	97
Soviet Area Studies Program	137
Spanish	94, 246
Special Programs	199
Special Education	109, 285
Special Educational Programs	289
Speech and Hearing Clinic	17
Speech Pathology and Audiology	123
Sports Activities	21
Statistics	94, 242
Student Legal Programs	23
Student Organizations	361
Student Publications	20
Student Services	21
Summer Sessions	10, 138
Surgical Assisting	217
Surveying & Construction Technology	78, 221

**T**

Teaching Certification	106
Teaching Faculty	352
Teaching Fields	109
Technical and Vocational Education	279
Technical Education	111, 167
Testing and Counseling Bureau	23
Textiles & Clothing	120
Theatre Arts	125
Theatre Arts and Dance	124, 310
Transfer Credit	29
Transient Student	29
Transportation	75, 216
Types of Students	25

**U**

Urban Studies, Center for	196
Urban Studies Department	261

**V**

Veteran's Expenses	36
--------------------	----

**W, X, Y, Z**

WAUP-FM Radio Station	16
Wayne General and Technca College	10, 80
Withdrawal	29
Zoology	91