The University of Akron

GENERAL BULLETIN

1985-86
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Calendar 1985-86

Fall Semester 1985

- Labor Day: Mon., Sept. 2
- Day and Evening Classes Begin: Tues., Sept. 3
- Veterans Day (classes held): Mon., Nov. 11
- "Thanksgiving" Recess: Thurs.-Sat., Nov. 28-30
- Classes Resume: Mon., Dec. 2
- Final Instruction Day: Sat., Dec. 14
- Final Examination Period: Mon.-Sat., Dec. 16-21

Spring Semester 1986

- Day and Evening Classes Begin: Mon., Jan. 20
- Founders Day (classes held): Tues., Feb. 11
- Spring Recess: Mon.-Sat., March 24-29
- "May Day": Fri., May 9
- Final Instruction Day: Sat., May 10
- Final Examination Period: Mon.-Sat., May 12-17
- Commencement: Sun., May 25

Summer 1986

- First 5- and 8-Week Sessions Begin: Mon., June 16
- Independence Day: Fri., July 4
- First 5-Week Session Ends: Fri., July 18
- Second 5-Week Session Begins: Mon., July 21
- Eight-Week Session Ends: Fri., Aug. 8
- Second 5-Week Session Ends: Fri., Aug. 22

*University Closed
*University closed from Wednesday, November 27 at 2 p.m. until Monday, December 2 at 7 a.m.
*Classes suspended from 5:00 p.m.

Inquiries

Address Inquiries Concerning:

Admissions information, campus tours and housing, transfer of credits to the Office of Admissions, 166 Fr. Hill (216) 375-7100.

Financial aids, scholarships, loans and student employment to the Office of Student Financial Aid and Employment, Spicer Hall, (216) 375-7032.

Athletics to the Athletic Director, Memorial Hall, (216) 375-7080.

Registration, scheduling, residency requirements and veteran's affairs to the Office of the Registrar, Spicer Hall, (216) 375-7844.

Continuing education and noncredit programs to Special Programs, Buckingham Center for Continuing Education, (216) 375-7826.

Graduate study to the Graduate School, Buchtel Hall, (216) 375-7866.

The University switchboard number is (216) 375-7111. The University of Akron Akron, OH 44325
Background

HISTORY

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 money and spirit sustained the enterprise in higher education. Support also came from local men who pioneered such industries as cereals, clay products, matches, farm implements and rubber.

By 1913 it was apparent that Buchtel College had stronger allegiances with the city of Akron than 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 within that decade, and the University grew similarly. In 1914 a College of Engineering was established. Other professional colleges followed: Education (1921), Business Administration (1935), Law (1959), Community and Technical College (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 more than 7,800 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 14 fields.

Since Buchtel College initiated college courses in rubber chemistry (1908), it is appropriate that the University’s first Ph.D. program was offered in polymer chemistry. However, the University’s first major research effort was the Guggenheim Airship Institute which flourished in the 1930s and 1940s.

University of Akron scientists participated in the critical development of synthetic rubber during World War II, and today the University's Institute of Polymer Science is now a world leader in polymer research and education. Currently the University’s research efforts, totaling approximately $3 million, reach into many phases of research and creative projects.

The 150-acre campus with 70 modern buildings is located in a metropolitan area of 1.5 million persons. The University of Akron now enrolls more than 26,000 day and evening students in credit courses and an additional 7,000 in “informal” noncredit education courses. Its students come from 34 states and 83 foreign countries, and its more than 50,000 alumni are situated around the globe in positions of responsibility. The University’s long-time leadership in continuing adult education and cooperative town and gown activities 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, it secured a base that enabled it to extend its influence far beyond local boundaries. Its first 114 years of service prepared it for a widening role in the future.

MISSION AND GOALS

The major forces influencing The University of Akron’s mission, in addition to its location and heritage, are teaching and research goals and service responsibilities to the local, regional, national and international communities served.

These forces, coupled with the sharing of the national commitment to provide the highest quality educational opportunity possible to each person regardless of race, creed, color, sex, age, national origin or handicapping condition, form the distinctive character of this institution.

The foremost goals of The University of Akron are to create and maintain the highest standards of quality in the curriculum, the teaching/learning process, the development of students, basic and applied research and public service endeavors. The validity of all existing programs, as well as the need for additional ones, is to be evaluated regularly in light of the University’s goals and performance; achievement standards are to be reviewed carefully to ensure excellence.

The University of Akron, located in a major metropolitan region, has a responsibility to promote a mutually beneficial relationship between the University and the region of which it is a part. These relationships may take varied forms and will reflect the needs of both the institution and the region. The University will continue to build on its long heritage of serving those pursuing a traditional educational program and those seeking a nontraditional program for a career change, professional development or self-enrichment. The University, once a small denominational college and later a municipal university, has developed into a major comprehensive state-assisted university with local, regional, national and international responsibilities and influence.

MISSION

The University of Akron maintains a commitment to:

- provide learning opportunities for the full spectrum of students;
- create and discover knowledge through basic and applied research;
- create a learning environment with emphasis on a full collegiate experience for each student, leading to opportunities for cognitive, social and personal development;
- provide a forum for the examination of ideas and concepts and the generation of scholarly dialogue within the established principles of academic freedom;
- encourage opportunities for interdisciplinary study and research;
- strive for continued improvement of the teaching and learning environment;
- prepare career-oriented persons for professional leadership roles in regional, national and international organizations and institutions; and,
- offer appropriate educational and professional services to its various publics within available resources and established continuing education and outreach philosophies.

In addition, the location of The University of Akron in the northeastern Ohio region mandates a concern for the higher educational and cultural needs of this area.

GOALS

The following goals provide further definition of the University’s mission and serve as the bases upon which the colleges, departments and service units of the University establish program objectives.

GOAL I

The University will plan, develop, implement and evaluate its efforts in light of its major goal of teaching, and will provide optimal learning opportunities for students of various ages, diverse backgrounds and different needs.

GOAL II

The University will meet its challenge and responsibility to discover and create new knowledge through continued support of faculty in their research; publication and creative activities by providing ample resources for basic and applied research and by encouraging professional and intellectual development.
GOAL III
The University programs and the teaching/learning process will be designed to fulfill the students' varied educational needs and to provide opportunities for intellectual, personal, cultural and social development on the campus so as to enhance the ability of students to participate effectively in a complex society.

GOAL IV
The University will provide public service through its traditional and continuing education programs, its faculty, its students and facilities and encourage the development of outreach and cooperative education efforts in all colleges, departments and service units.

GOAL V
The University will coordinate the growth and emphasis of its programs with the long-range plans and needs of the local area, the region, nation and, where appropriate, the international community.

GOAL VI
The University will contribute, in cooperation with local and regional institutions, to the development of improved quality of life for the future of the region, the nation and the world.

ACCREDITATION
Accreditation assures that degrees are recognized and approved by select regional and national education associations, societies and councils. The University of Akron has been approved by the North Central Association of Colleges and Schools since 1914 and was recently reaccredited at the highest level as a comprehensive doctoral degree-granting institution. This recognition illustrates the high academic standards maintained at the University. For a student taking pre-professional courses in order to eventually study advanced fields such as medicine, dentistry, law and theology, there is an assurance of sound preparation for acceptance at other graduate and professional schools. There is also security in knowing that the University will honor most credits earned at a similarly accredited college or university. Degrees earned at the University are respected and sought after by prospective employers.

In addition to the recognized regional accreditations, special accreditation for particular programs has been awarded as follows:

Accreditation Board for Engineering and Technology
American Assembly of Collegiate Schools of Business
American Chemical Society
American Dietetic Association
American Speech-Language-Hearing Association
Committee on Allied Health Education and Accreditation of American Medical Association
Council for Professional Development of the American Home Economics Association
Council on Social Work Education
National Accrediting Agency for Clinical Laboratory Sciences
National Association of Schools of Art and Design
National Association of Schools of Music
National Council for Accreditation of Teacher Education
National League for Nursing
North Central Association of Colleges and Schools
Ohio Board of Nursing Education and Nurse Registration
Ohio State Department of Public Instruction

The University also holds membership in the following educational organizations:

American Association of Colleges for Teacher Education
American Association of Community and Junior Colleges
American Association of State Colleges and Universities
American Council on Education
American Society for Engineering Education
American Society for Training and Development
Association for Continuing Higher Education
Department of Baccalaureate and Higher Degree Programs (National League for Nursing)
International Council on Education for Teaching (associate)
National Association of Summer Sessions
Ohio College Association
Ohio Council on Continuing Higher Education
United States Association of Evening Students
University Council on Education for Public Responsibility

The School of Law is accredited by:

American Bar Association
Association of American Law Schools
League of Ohio Law Schools
Council of the North Carolina State Bar
State of New York Court of Appeals

The American Association of University Women grants membership to women graduates with approved baccalaureate degrees from The University of Akron.
Academics

The University of Akron covers a broad educational spectrum academically. Programs are available leading to the associate (two-year), baccalaureate (four-year), master’s (graduate) and doctoral (graduate or professional) degrees. A student can study in the College of Business Administration, Buchtel College of Arts and Sciences, Community and Technical College, College of Education, College of Fine and Applied Arts, University College, School of Law or College of Nursing.

ASSOCIATE PROGRAMS

In this fast-paced age of technological development, a need has grown for a person trained specifically for work in the semi-professional, technical and highly-skilled professions. Most critically needed are laboratory technicians, health technicians, engineering assistants, sales people, supervisors, secretaries and management assistants. The following is a list of associate degree programs.

Arts
Business Management Technology
Accounting
Banking
Credit Union
Data Administration
Small Business Management
Chemical Technology
Environmental
Forensic
Geology
Industrial
Rubber and Plastic
Commercial Art
Community Services Technology
Alcohol
Gerontology
Social Services
Volunteer Programming
Criminal Justice Technology
Corrections
Security Administration
Data Processing (2 + 2)
Drafting Technology
Educational Technology
Child Development
Elementary Aide
Library Technician
Electronic Technology (2 + 2)
Fire Protection Technology
Handicapped Services
(Interpreting for the Deaf)
Histologic Technology
Hospitality Management
Culinary Arts
Hotel/Motel Management
Marketing and Sales
Individualized Study
Labor Studies
Manufacturing Technology
Industrial Supervision
Marketing and Sales Technology
Fashion
Industrial
Retailing
Mechanical Technology (2 + 2)
Medical Assisting Technology
Office Administration
Executive
International
Legal
Office Information Management
Word Processing
Office Services Technology
Radiologic Technology
Real Estate
Respiratory Therapy Technology
Surgical Assisting Technology
Surgeon’s Assistant
Surgical Technologist
Surveying and Construction
Technology
Construction
Surveying
Transportation
Airline/Travel Industry
Commercial Aviation

BACCALAUREATE PROGRAMS

The University of Akron believes that the student should master basic courses in the humanities, social sciences and physical sciences and thus supports the idea of the University College concept. A student seeking a baccalaureate degree and having attained less than 30 college semester credits, studies in the University College before transferring to a degree-granting college. The University College develops the ability to understand and express ideas effectively and to comprehend the processes involved in accurate thinking. After completing the general studies phase, entrance is granted to a degree-granting college, where studies are concentrated around the student’s specific academic interest:

Accounting
Art
Art History
Ceramics
Crafts
Drawing
Graphic Design
Metalworking
Painting
Photography
Printmaking
Sculpture
Studio Art
Biology
Botany
Cytotherapy
Ecology
Medical Technology
Microbiology
Physiology
Pre-Professional
Pre-Dental
Pre-Medicinal
Pre-Pharmacy
Pre-Veterinary
Zoology
Business Administration
Accounting
Finance
Management
Marketing
Chemical Engineering
Chemistry
Civil Engineering
Classics
Greek
Latin
Classical Civilization
Communication
Business and Organizational
Communication and Rhetoric
Mass Media

Communicative Disorders
(Speech Pathology and Audiology)
Computer Science
Business
Mathematics
Construction Technology (2 + 3)
Cytotherapy
Dance
Economics
Labor Economics
Electrical Engineering
Computer Engineering
Elementary Education
Dual Certification
Kindergarten-Primary
Nursery School
Retraining
Engineering
Chemical
Civil
Electrical
Interdisciplinary BSE
Mechanical
English
Finance
Geography
Geography/Cartography
Geology
Geophysics
History
Home Economics and Family
Ecology
Dietetics
CUP
Traditional
Family and Child Development
Child Development
Child Life Specialist
Family Development
Foods and Nutrition
Business
Food Science/Product
Development
which enable students to prepare for their occupational goals and also exposes these students to the total offerings of the University.

The program of study consists, for the most part, of courses within the major. The Distinguished Student Colloquium (taken the first semester of the second year) and the Honors Colloquium (taken the second semester of the second year) provide an opportunity for these students to meet to explore the breadth and interrelationships of the various academic disciplines.

**Cooperative Education**

This office combines classroom learning with paid work experience. Qualified students are placed in career related pre-professional work assignments in industrial, commercial, professional, governmental or service organizations. The program is structured to enhance a student's education and career preparation by integrating classroom theory with on-the-job performance, developing an understanding of work environments and professional requirements; testing career and professional goals; developing confidence, maturity and skills in human relations; and establishing professional contacts and interests.

Students are typically eligible for work assignments if they are in good academic standing, have completed half of their academic requirements, attend an orientation program and are accepted by the Cooperative Education coordinator in their respective fields. Additional standards may be required by some departments or employers. Final hiring decisions are made by the employers.

Students and employers participating in Cooperative Education are subject to all federal, state and local labor laws. Additionally, students on a work assignment must abide by all the rules and regulations of the participating employer and of Cooperative Education.

**Certificate Programs**

To add to the dimensions of the traditional disciplines, the University has established interdisciplinary and interdepartmental programs of study. In addition to a student's major, pursuit of one of these programs will add a dimension of depth through concentrated work focusing on one of the following:

- Afro-American Studies
- Aging Services
- Alcohol Services Aide
- Cartographic Specialization
- Child Care Worker
- Composition
- Computer Physics
- Computer Science
- Criminal Justice
- Criminal Justice/Security Emphasis
- Environmental Health
- Environmental Studies
- Fire Protection Technology
- Higher Education
- Hospitality Management
- Interior Design
- Latin American Studies
- Life Span Development
- Adult Health and Aging
- Life Span Development
- Gender Identity and Roles
- Linguistic Studies
- Manual Communication
- Mid-Careers in Urban Studies
- Office Administration
- Peace Studies
- Planning
- Professional Communication
- Public Policy
- Real Estate
- Small Business Management
- Soviet Area Studies
- Teaching English as a Second Language
- Volunteer Program Management

**GRADUATE SCHOOL**

The Graduate School exists to serve the student who wishes to further education beyond the baccalaureate degree. The following is a list of master's degree programs:

- Accounting
- Biomedical Engineering
- Biology

*Masters and Doctoral programs.

- Business/Law Joint Program
- *Chemical Engineering
- *Chemistry
- *Civil Engineering
- Communication
- Communicative Disorders

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**University Honors Program**

The University of Akron's Honors Program has been designed to recognize and support highly-motivated and achievement-oriented students in any major program. Participants are eligible for substantial honors scholarships. Honors students complete all requirements for a departmental or divisional major and attend interdisciplinary colloquia in the humanities, social sciences and the natural sciences. These focus on the interrelations of academic studies while exploring significant issues of our contemporary society. During the senior year, all honors students write a senior honors thesis that focuses on a topic of interest in the major area of study. Study abroad or field experience may count as part of the project.

**Distinguished Student Program**

The Distinguished Student Program for associate degree students in the Community and Technical College encourages and assists exceptionally talented students to achieve excellence in their academic work. It supports the program of the college to provide worthwhile career programs
SCHOOL OF LAW

The School of Law provides legal education through day and evening classes leading to the Juris Doctor degree. An applicant must have an undergraduate degree from an accredited college or university in an appropriate field of study.

EVENING COLLEGE AND SUMMER SESSIONS

The University Evening College and Summer Sessions provides educational opportunities for the student who wishes to attend college classes during the evening or over the summer. The Evening College and Summer Sessions enrollment includes students working toward associate, baccalaureate and advanced degrees as well as those attending for additional education in their chosen profession. The Evening program is a year-long educational endeavor, and courses offered are fully accredited.

OFF-CAMPUS PROGRAMS

As a metropolitan institution of higher learning, the University clearly identifies and supports its public service role through a variety of off-campus programs. The University offers special institutes, workshops and courses to professional groups through the academic departments, through Continuing Education and Developmental Programs.

WAYNE GENERAL AND TECHNICAL COLLEGE

To meet the needs of citizens in Wayne, Holmes and Medina counties, the Wayne General and Technical College opened its doors in 1972 as a branch campus of The University of Akron. 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, mechanical technology, retail management technology, secretarial science or social services technology.
The Campus

During recent years, the University campus has undergone many major changes. In 1951, the University's 13 acres encompassed only 10 buildings. Currently, the campus covers 150 acres, and includes 70 buildings with plans to renovate and build additional academic, recreational and parking facilities. The campus is illuminated at night and security personnel patrol the area hourly.

LOCATION

The University is located in a large metropolitan area. Although the campus is centrally located within the city, the 150-acre plot is set apart from the downtown area. Students have easy access to retail outlets, transportation and churches. Automobile travelers find Akron only a short drive south of the Ohio Turnpike which ties together the whole eastern half of the nation. The city's suburbs touch on Interstate 71 which stretches from Lake Erie to the gulf coast, Interstate 76 and 80 which link the nation from the east to the west coast; Interstate 77 which links the area with the southeastern coast and Interstate 90 which ties in with the New York Thruway. For bus travelers, the Greyhound station is a short walk from the campus. For airline passengers, limousine service from the Cleveland-Hopkins International Airport and the Akron-Canton Airport, south of Akron, is available.

BUILDINGS

Most of the buildings on campus bear the names of prominent persons from the area who are recognized for their contributions in administration, education, business, science or University service. Major buildings are listed below.

Admissions Building. This office is located at 166 Fire Hall and East Buchtel Avenue. The Office of Admissions assists students with applications, requirements and procedures for undergraduate, postbaccalaureate, transient, transfer, auditing or special status.

Art Building. This recently remodeled building at 150 East Exchange Street provides modern, well-equipped art facilities in one location. Studios are available for graphic arts, photography, drawing, painting, metalsmithing, ceramics and weaving. The Davis Art Gallery is also located in the facility.

Auburn Science and Engineering Center. Named for Norman P. Auburn, 10th president of the University, this complex is one of the largest academic buildings in the State of Ohio. The center houses the College of Engineering, the Department of Biology, the Institute of Polymer Science (research activities), the scientific and engineering holdings of the University Library and the Library for the Division of Rubber Chemistry-American Chemical Society.

Ayer Hall. Named for the first dean of the College of Engineering, Frederick E. Ayer. Ayer Hall provides classrooms and offices for the mathematics and physics departments.

Ballet Center. This center, located at 354 East Market Street, houses dance studios, a choreography laboratory, faculty offices, the Ohio Ballet studios and offices and the Dance Institute's offices. 

Bierce Library. Named for General Lucius V. Bierce, a former Akron mayor, lawyer, historian, state senator, philosopher, investor, philanthropist and soldier, the building was constructed at a cost of $8 million. Opened in spring, 1973, the University Library has total holdings here and at several other locations of more than 1,800,000. The facility also houses the University Archives, audio-visual services, Instructional Media Distribution Center, a microfilm department, a map room and the American History Research Center.

Buchtel Hall. Originally built in 1870, this structure was destroyed by fire in 1899 and rebuilt in 1901 (Buchtel Hall II). The administrative center of the campus, Buchtel Hall (III) was completely restored in 1973 following a devastating fire in 1971. It is the University's last remaining link with Buchtel College. It provides office space for numerous administrative officials of the University.

Buckingham Center for Continuing Education. The center was renovated in 1979 at a cost of $2.8 million. The building houses offices for the executive dean of Continuing Education and Public Services, Adult Resource Center, Equal Employment Opportunity office, Noncredit Courses, Nursing Home Training Center, Law School Clinical Program, as well as a lecture hall and general classrooms.

Carroll Hall. Adjacent to the Gardner Student Center, Carroll Hall houses classrooms, laboratories and offices for the departments of counseling and special education, geography, developmental programs, and Computer Based Education, as well as the University's planning department, audio-visual services, electronic systems and the Learning Resources Center.

Central Services Building. This building, at 185 South Forge Street, houses the administrative service departments of central stores, duplicating and the mail room.

Computer Center. Purchased and renovated in 1981 for $1.300,000, this building at 185 Carroll Street houses the University's computer center offices, main computer and workrooms, as well as student and faculty keypunch areas and time-sharing terminals.

Crouse Hall. Crouse Hall houses the Department of Geology, Center for Environmental Studies, classrooms and some offices for the College of Education.

East Hall. Located on South Union Street, the hall houses the University nursery school, International Students Center, Black Cultural Center and University Honors Program.

Exchange Building. This recently acquired building, at 222 East Exchange Street, houses the Center for Fire and Hazardous Materials Research as well as the Department of Social Work, and the Outreach/Human Services offices.

Firestone Conservatory. On the first floor of Guzzetta Hall, this facility provides classrooms, practice rooms and offices for music.

Gallucci Hall. This building at 200 East Exchange Street, formerly the Holiday Inn, is primarily a men's dormitory. The north wing houses the Department of Urban Studies, the Center for Urban Studies and the Department of Hospitality Management.

Gardner Student Center. This complex was named for Donfred H. Gardner who was appointed dean of men in 1926, named the University's first dean of students in 1937, in 1955 named the University's first dean of...
administration and later, in 1959, promoted to vice president. He retired in 1962. 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 bowling alleys, meeting rooms, lounges, student activity and publication offices and workrooms, game and billiard room, bookstore, bank facilities, Perkins Art Gallery, cooperative education offices, Gardner Theatre and cafeteria and other dining facilities.

Gladwin Hall. Housing the College of Nursing, allied health and biology laboratories, this newly constructed building was named in honor of distinguished alumna, Mary E. Gladwin (1887), who rendered unparalleled service as a war nurse. A $10 million complex opened in 1979, adjacent to Knight Chemical Laboratory, the facility includes a multi-purpose nursing laboratory, simulated six-bed hospital containing surgical-labor delivery laboratories, this newly constructed building was named in honor of Dr. Temperance Street. The $5.5 million structure dedicated in October, 1976, houses the dean of the College of Fine and Applied Arts, and the departments of communication, and music, theatre and dance.

James A. Rhodes Health and Physical Education Building. This recently completed structure on Carroll Street is connected to Memorial Hall by a pedestrian bridge over Brown Street and contains an intercollegiate basketball facility seating 7,000, an indoor jogging track, physical education laboratories, classrooms, athletic director's office, sports information office, athletic offices and ticket office.

Hower House. Located on Fir Hill, the 113-year-old mansion has been designated as an Historic Place by the National Park Service.

Knight Chemical Laboratory. This new $10 million complex is named in honor of Dr. Charles M. Knight who taught the first courses in rubber chemistry in Buchtel College as early as 1908. Opened in 1979, the building features numerous innovative laboratories with the latest, most sophisticated, safety equipment along with classrooms and faculty and administrative offices.

Kolbe Hall. Recognized by its colonnade arch, this complex was named for the first president of the Municipal University of Akron, Parke R. Kolbe. It houses the University Theatre, the Television Production Center, the Office of the Dean of the College of Business Administration as well as classrooms and offices for the College of Business Administration.

Leigh Hall. Named in honor of Warren W. Leigh, first dean of the College of Business Administration, the facility on East Buchtel Avenue houses the 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.

McDowell Law Center. Named for C. Blake McDowell, prominent local attorney, alumnus and benefactor of the University, the center houses the School of Law. Opened in 1973 at a cost of $2.5 million, it provides space for the 160,000-volume law library, classrooms, moot courtroom, appellate-review office, seminar rooms and faculty offices. The center stands at the corner of East Center Street and Grand Street.

Memorial Hall. Dedicated to the memory of Summit County men and women who died in World War II, this is the companion building to the recently completed Health and Physical Education Building. It contains offices of the Department of Physical Education, two large gymsnasiums, a swimming pool, intamural sports office and classrooms.

North Hall. Located on South Forge Street, this facility houses the administrative service departments of University communications, purchasing, staff personnel and benefits office.

Olin Hall. Named in honor of Professor Oscar E. Olin and Mr. Charles Olin. This facility was completed in May, 1975. The hall houses the dean of Buchtel College of Arts and Sciences and the following departments and institutes: Classics, Economics, English, General Studies, History, Modern Languages, Political Science, Philosophy, Sociology, Center for Peace Studies and Afro-American Studies and English Language Institute. The complex is at the corner of East Buchtel Avenue and South Union Street.

Edwin J. Thomas Performing Arts Hall. Named for Edwin J. Thomas, prominent industrialist and dedicated member of the University Board of Trustees from 1952 to 1975, this cultural center was formally opened in 1973, costing more than $13.9 million. Designed to accommodate concerts, opera, ballet and theatre productions, the hall is a masterpiece in terms of architecture, acoustics and creative mechanisms. It is located at the corner of East Center and Hill Streets.

Physical Plant Operations Center. This building at 146 Hil Street is adjacent to E. J. Thomas Hall and houses physical plant operations, as well as security, safety, custodial, building and equipment repair and heat and energy distribution.

Research Center. This remodeled warehouse located on Forge Street, houses the Department and Institute of Biomedical Engineering and the Department of Polymer Engineering.

Robertson Dining Hall. This building, located at 248 James Street, features a cafeteria and dining room for dormitory students as well as the campus infirmary, which provides health services for the University.

Rubber Bowl. This off-campus stadium at 800 George Washington Boulevard, just four miles from the campus, provides the University with an artificial turf playing field, seating for 35,000, locker rooms, concessions and a press box for athletic events.

Schrank Hall. Named for Harry P. Schrank, long-time member and chairman of the Board of Trustees, this complex, which adjoins Auburn Schrank Hall and houses Engineering Center, is composed of two academic structures and a parking deck. Schrank Hall North contains offices, classrooms, space and career placement service for the Community and Technical College. Schrank Hall South provides facilities for the Department of Home Economics and Family Ecology, the divisions of Engineering and Science Technology and Associate Studies, and the Army and Air Force ROTC units.

Simmons Hall. Named for Heddleston Simmons, University president from 1933 to 1951, this hall houses the University Counseling and Testing Center, the Department of Psychology and Public Services Technology offices and laboratories. The Institute for Life-Span Development and Gerontology and the History of American Psychology Archives also occupy a portion of the building. A student interested in employment counseling and assistance will find the Office of Career Planning and Placement conveniently located in this facility.

Spicer Hall. This major student contact building had renovations completed in 1975. It houses the Registrar's Office, Academic Advising Services, the Office of Student Financial Aids and Employment, University College, the Evening College and Summer Sessions, the Parking Systems Office and offices for the University auditor, controller, cashier, accounts payable and receivable and the state examiner.
The growth of technology has produced a need for advanced instructional facilities and equipment. To provide the most effective and efficient program of study, the University relies upon these modern teaching aids.

**Buchtel College of Arts and Sciences**

The Department of Biology houses modern laboratories and equipment including advanced light microscopes (phase interference contrast, fluorescence), electron microscope (scanning and transmission), scintillation counters and physiographs; vehicles and boats are available for field work.

The Department of Chemistry is located in Knight Chemical Laboratories. The department offers outstanding instrumentation, such as nuclear magnetic resonance spectrometers, research grade gas chromatographs, infrared and ultraviolet spectrophotometers and other modern research tools for identification and characterization of their compounds.

The University's Chemical Stores facility is located in the Department of Chemistry and maintains an inventory of more than 2,500 items including chemicals, glassware and apparatus.

The Department of Geography houses a modern cartographic drawing laboratory, with adjoining darkroom and major equipment rooms, a remote sensing laboratory and a selected map, air photo and periodicals research collection. Major equipment includes stereo and digital plotters, ERTS satellite transfer scope, overhead map enlarger, field plotters, three-dimensional Perspektomat, headliner and varityper, industrial camera, vacuum frame and map scale changer. A laboratory for cartographic and spatial analysis equipped with a remote computer terminal operates as a part of the department.

The Department of Geology has excellent field and laboratory equipment as well as seven laboratories. Among the equipment are: coal and sulfur analyzers, an oxygen bomb calorimeter, a gravimeter, refraction seismograph, magnetometers, electron microprobe with scanning electron microscope, an x-ray diffractometer, an atomic absorption spectrophotometer and a luminoscope. The department also has a darkroom, research microscopes, rock saws, thin section equipment and two four-wheel drive field vehicles.

The Department of Mathematical Sciences in Ayer Hall houses a microcomputer laboratory, equipped with 14 Apple II Plus microcomputers and associated peripheral equipment. The lab functions both as a teaching and service facility. Three additional microcomputer systems, two Apple II’s and one Apple III, five portable terminals and a teleray terminal are also available in the department for faculty and student research.

The Department of Physics has instrumentation for experimental research in both high resolution and broadband magnetic resonance spectroscopy. Laboratories house experimental facilities for low-temperature solid state and polymer physics research. Studies currently in progress use or measure quantum size effects, the Shubnikov-de Hass effect, elastic and inelastic electron tunneling spectroscopy and self-diffusion in polymer systems. Other investigations use nuclear quadrupole resonance, Mössbauer effect and magnetic susceptibility measurements. Measurements of the physical properties of polymeric materials utilize the extensive facilities of the Department of Polymer Science.

The Department of Psychology laboratory resources include undergraduate laboratories in statistics and experimental psychology and advanced laboratories for the study of human signal detection, automobile driving, motion sickness, attention, concept formation, perceptual style, laterality differences and memory. Research areas for the study of small group behavior and a psychology clinic complete with videotape capabilities are available. The equipment and apparatus inventory currently includes a PDP minicomputer, Beckman and Grass physiographs and computerized eye movement monitors. The department also houses the Institute for Life-Span Development and Gerontology devoted to the study and assistance of the aged.

The Department of Sociology facilities include a live-room research and teaching laboratory equipped with audio and video equipment used for teaching demonstrations and small group research projects. The department houses a number of computer terminals and printers. The archaeology laboratories contain a variety of equipment necessary for cleaning and analyzing artifacts.

The Department of Urban Studies has two computer terminals interactive with the main frame in its statistics laboratory along with a number of calculators. It also has a microcomputer/word processor with its own printer.

**Community and Technical College**

The Medical Technology program and Allied Health division use facilities in Gladwin Hall. See College of Nursing in this section for a full description of facilities and equipment.

The Business Technology program has extensive laboratory facilities. These include four typing laboratories, a shorthand laboratory equipped.
with a tape dictation system, a business machines laboratory, a data management laboratory and a word processing laboratory in the Secretarial Science program. A new computer laboratory with an IBM System I computer with 16 terminals is maintained for the Data Processing program.

The Hospitality Management program has excellent facilities in Gal­lucci Hall. A complete restaurant kitchen and dining room seating 120 people provide facilities for 100 service management and culinary arts. A block of hotel rooms operated by students provide experience in hotel/ motel management.

The Electronic Technology program provides a circuits laboratory, electronics laboratory, control system laboratory, digital circuits and system laboratory and a facility for fabricating printed circuit boards.

The Mechanical Technology program maintains four drafting laboratories, a fluids and thermal laboratory, a machine shop for machine tool fabrication and a numerically controlled milling machine.

A Manufacturing Technology laboratory includes equipment for precision inspection and the study of robotics. A variety of surveying instruments including new electronic instruments is available for use in the Surveying program. In addition, the division has laboratories for physics courses in mechanics, electricity and heat, light and sound. A specialized laboratory for the study of chemical analysis and instrumentation methods is also available.

College of Education

The special education complex is located in Carroll Hall. This facility contains eight clinic rooms with provisions for observation and a demonstration classroom.

The Department of Counselling and Special Education operates a well-equipped instructional resource center which is directed by a full-time faculty member. This facility is affiliated with the National Media Center for the Handicapped.

The Department of Physical Education makes use of locker rooms, gymnasiums, a swimming pool, weight room, physiology stress-testing laboratory, trainer’s room, baseball and softball diamonds, soccer field, tracks, tennis courts and outdoor basketball courts.

The microteaching laboratory aids a program designed to provide students with clinical teaching experience. The college also operates the educational media lab directed by a full-time faculty member.

College of Engineering

The Department of Chemical Engineering not only features the usual assortment of sophisticated analytical instruments, but also a Weissenberg Rheogoniometer, analog computers and a high pressure pilot plant that complements the all-glass distillation absorption unit which is about 30-feet tall.

The Department of Civil Engineering staffs four major laboratories. In the environmental engineering laboratory, a student learns to analyze water and wastewater and assess its quality. Laboratory equipment includes analytical balances, incubators, UV-visible spectrophotometers and a total organic carbon analyzer. Water/wastewater analytical kits and pH and dissolved oxygen meters are also available for field studies.

In the hydraulics laboratory a tilting flume enables the student to visualize water flow in streams and rivers. Models of bridges and dams can be studied; the wave tank enables a student to study the effect of waves on lakeshore erosion, harbors, breakwaters and other structures; the mobile bed tank is used to demonstrate erosion and sediment deposition patterns around bridges, piers and culverts and storm drain outlets.

In the soil mechanics and foundation engineering lab, a student learns how to analyze soil by triaxial cells, direct shear machines and compression machines to determine shear strength characteristics, and seismic and electrical resistivity equipment for geophysical exploration of soil and rock deposits.

In the structural materials laboratory the opportunity to observe experimental verifications of earlier training on the behavior of structural members subjected to tension, compression, bending and torsion is accomplished with the use of three universal testing machines, an MTS closed-loop system which has a loading capacity to 100,000 pounds and two Instron dynamic testing machines which can be used in either uniaxial or torsional loading.

Facilities in the Department of Electrical Engineering include: laboratories and equipment for the study of propagation, lasers, antennas, microwaves, digital and analog controls, basic electronics and electrical machinery.

The Department of Mechanical Engineering laboratories feature a stress analysis laboratory equipped with polariscope, strain gauges, instrumentation for dynamic and static strain measurement and photographic darkroom facilities; a vibration and acoustics laboratory equipped with sound pressure level meters, dynamic shakers, frequency analyzers and an anechoic chamber; a system and control laboratory equipped with fluidic control systems and various other instrument simulation and control devices; a heat transfer laboratory equipped with a Scott Thermal Conduction System, radiation and temperature measurement system and various heat exchangers; a thermal and fluid sciences laboratory equipped with subsonic and supersonic wind tunnels, internal combustion engines, compressors, gas turbine engine and various other devices.

Equipment within the department includes a two-channel constant temperature anemometer (Thermo Systems), a SAICOR correlation and probability analyzer, a high-speed movie camera, a nitrogen laser, an Ampex 1M tape recorder, several chart recorders and two EAI analog computers.

The Department of Polymer Engineering laboratories maintain a broad-based range of processing, structural and rheological characterization facilities. These include apparatus for mixing, extrusion and fabrication of fiber, film and (screw injection) molded products. Characterization facilities include: Fourier Transform infra red, small angle light scattering, polarized light microscopy, optical benches and a refractometer. Rheological/mechanical testing facilities include capillary, elongational and sandwich rheometers, mechanical testing machines and an oscillating disk rheometer.

College of Fine and Applied Arts

The Department of Art provides a complete studio which includes easels and drawing boards; a ceramics studio with pottery wheels and kilns; a metalsmithing/jewelry laboratory offering casting and fabricating equipment; photographic tools and a darkroom; weaving looms; a printmaking workshop and a sculpture shop with equipment for construction with wood, metal, clay, plaster, stone and foundry work including bronze and aluminum. The Graphic Design/Commercial Art studio is a complete visual communications facility with typositors, plate makers, typesetters, stat cameras, enlargers, laminators, a Diazo machine, Colorease proofing system and an offset lithographic press. The department’s Apple II computers are used to develop student potential and keep current with new
The Department of Communication features a classroom/studio equipped with color cameras, lights, monitoring and control boards, slide and film chain and audio studio and video tape recorders. Radio facilities, located within WAUP-FM, include audio control boards, turntables, studios and a newsroom. In addition, the department now maintains a media editing production laboratory/classroom.

The Department of Home Economics and Family Ecology has food and nutrition laboratories, an executive dining room and textile conservation and clothing laboratories and a human resource center. Within the department is a multi-purpose lecture/laboratory area designed for demonstration and study in the areas of home management, equipment, home computers, home nursing, consumer education, housing, interiors, home furnishings and community involvement.

The Department of Music, Theatre and Dance utilizes the recital hall which houses a 45-stop Mohler pipe organ. The University has available for student use a number of wind, string and percussion instruments. $50,000 worth of equipment is available to complement instrumentation for the marching and symphony bands and the University Orchestra. The department also owns a Neupert harpsichord, a harp, a nine-stop tracker organ, a Mohler practice organ, a computer-based instructional laboratory of 10 Apple computers with sound synthesizers, an electrophonic piano laboratory and 11 Baldwin concert grand pianos for the recital hall, classrooms, teaching studios and 40 practice rooms (acoustical sound modules).

The areas of theatre and dance utilize three different performing spaces to present its annual season of eight to ten productions. Home base is in Guzzetta Hall, which houses the versatile "black box" experimental theatre as well as rehearsal, teaching and shop facilities. Kolbe Hall is the site of the 244-seat University Theatre complete with support facilities. This conventional proscenium theatre is the home of both theatre productions and dance recitals, as is the multipurpose E.J. Thomas Performing Arts Hall where two departmental productions are presented each year. The newly renovated Firestone Conservatory houses extensive studios for the dance program.

The Department of Social Work offers professional training to social work students by linking them to a variety of health and human services community agencies and organizations in this area. The strong commitment and interaction with a network of agencies in the community serves as a laboratory for our students.

The Speech and Hearing Center, the practicum training arm of the Department of Communicative Disorders, functions as a service agency for persons in the Akron community who have speech, language, or hearing problems.

College of Nursing

The College of Nursing, housed in Gladwin Hall, has a multi-purpose nursing laboratory (a simulated six-bed hospital) containing a surgical-labor delivery and nursery suite. Additional equipment includes a complex cardiac monitoring system with wall oxygen and suction equipment. The clinical assessment laboratory permits a student to examine well clients in a clinic-like atmosphere. Support facilities feature an independent study laboratory with 35 carrels, a graduate research room, media viewing room and a psychiatric nursing laboratory.

This complex also has two microbiology laboratories connected to an inoculation room, media-prep room, autoclave and labware washroom. There is also a standard anatomy and physiology laboratory and an audio-tutorial laboratory with 60 audio-visually-equipped carrels.

Computer Center

The Computer Center is in the heart of campus and provides computational support to those academic efforts of research and instruction where such support is feasible, and administrative data processing to assist in the conduct of the business of the University.

The center is equipped with two IBM computers, a 3033 and a 370/158, for general computing. A variety of peripheral equipment is attached to these computers including magnetic tape drives, disk drives and remote terminals. There is also a PRIME 850 computer which is dedicated for support of the College of Engineering Graphics Laboratory. An IBM 3881 Mark Sense Reader creates computer-readable tapes from specially marked forms providing fast and reliable data entry for test scoring services and surveys.

The center also has widely used computer languages (e.g., FORTRAN, COBOL, PL/1, RPG, BAL, BASIC, PASCAL, GPSS, SAS, SPSS, APL, ADEPT, as well as some lesser known, e.g., SNOBOL, FORMAC, WATFIV, ASSIST, XPL, ALGOL, PHOENIX, SIMSCRIPT).

Plotting may be done using either a Gould electrostatic plotter or a 30-inch CalComp plotting machine. Other types of equipment available for general use by qualified faculty and students include a digitizer, tekon-graphics terminal, keypunch machines and a variety of general purpose terminals which interact with the computer under the VSPC online system.

The academic system's section assists the student and faculty in making effective use of the Computer Center. It provides consultation and help in preparing usable computer programs and in analysis and solution of problems where the use of the computer is indicated. It will also acquire and install prepackaged programs for specific departments.
Student Services and Activities
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. There are several facilities that help to accomplish this objective.

STUDENT DEVELOPMENT

Concerned with each student's University experience, this office provides a wide range of resources, programs and professional counseling to assist the student with individual growth and to aid the student in becoming involved and accepting responsibility within campus organizations. The office provides leadership and skill-building workshops for all students throughout the year. These workshops aid in enhancing the ability of each student to participate effectively.

The office has current information about all campus organizations and their activities. It will provide assistance to a student wishing to explore the range of opportunities existing at the University which will enrich the person's individual development and, in turn, University experience.

STUDENT FINANCIAL AID AND EMPLOYMENT

This office, a part of the Division of Student Services, provides assistance to people who, without financial aid, might not be able to attend the University. Six professional staff members are available to provide such assistance.

A detailed statement regarding all financial assistance programs can be found in Section 3 of this Bulletin.

CAREER PLANNING AND PLACEMENT

Career placement assistance is available to students in business, industry, government, private agencies and education. The office is located in Simmons Hall.

For the graduating student, 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 on careers in both administration or teaching at the college and university level is available. In addition, direct job referrals are made to registrants; credential files are maintained and mailed upon request; company literature is available and career planning is provided.

The facilities and services of this office are for students as well as alumni. More than 400 interviewers come to the University each fall and spring to interview degree candidates.

Additionally, the Career Planning and Placement Office is part of a cooperative effort with the Counseling and Testing Center to provide for the comprehensive career development needs of students. These programs and services are described below under Career Development Service.

Career Development Service

The Career Development Service is a cooperative effort of the Counseling and Testing Center and the Career Planning and Placement Office.

Major Objectives

- To provide specialized services for students to help them:
  - explore, clarify and assess their interests, values, needs, abilities and personality characteristics;
  - understand broad career areas and specific occupations;
  - decide on a career direction and an appropriate educational program, and,
  - develop lifelong decision-making skills.
- To provide services to students who have made a tentative decision regarding their career direction in order to help them:
  - reassess their interests, aptitudes, needs, educational and experiential back-grounds as well as desired lifestyle in order to clarify, re-evaluate or reinforce their choice;
  - sharpen decision-making skills;
  - apply this knowledge to the realities of the world of work, and,
  - develop lifelong job skills.

Services

- Individual counseling for career and life planning.
  This is an individualized approach providing a systematic, in-depth exploration of self and the identification of possible career alternatives.
- Interest, aptitude, personality and values testing for career and life planning.
  A wide range of vocational and psychological tests and inventories are available for use during the self-assessment process in individual and group counseling.
- Career and life planning groups.
  Groups usually meet for three or four one-hour sessions using the self-assessment career planning approach.
- "Puzzling Your Career" workshops.
  This is a well-developed and flexible approach to career planning especially useful for the nontraditional student.
- SIGI — a computerized system of interactive guidance and information.
  SIGI is a computer program designed specifically to help college students make rational and informed career decisions.
- OGIS — computerized Ohio Career Information System.
  OGIS is a computer-based information system designed to provide remote, instantaneous access to state and national data regarding occupations, educational institutions and financial aid.
- Career library.
  In addition to standard references, general and specific information is available about career opportunities with hundreds of companies, government agencies and school systems in Ohio and throughout the country.
- Career advisement and consultation.
  Information and consultation is available about various career fields and their requirements, job outlook, salaries, job hunting skills and follow-up information about University of Akron graduates.
- Workshops on interviewing skills, resume writing and job hunting skills.
  These are practical how-to sessions that deal with a topic in a clear, concise, informative manner.
COUNSELING AND TESTING

In addition to participating with the Career Planning and Placement Office in the Career Development Service, the center, in Simmons Hall, provides a wide range of psychological counselling, therapy, testing and consulting services to the University community.

Counseling Service

The center’s counseling service offers assistance in the following areas:

- Career counseling involves discovering one’s interests, needs, values, aptitudes, abilities and goals, relating these to the world of work, exploring appropriate major subjects and career fields. A library of occupational information materials is available for use in connection with career exploration, as well as two computerized guidance and information programs.

- Personal-emotional counseling deals with feelings of loneliness, inadequacy, guilt, anxiety and depression; harmful involvement with alcohol and drugs; interpersonal relationships especially with the immediate family, dating partners and roommates; personality development, identity and self-esteem.

- Educational counseling relates to educational goals, motivation, attitudes, abilities and the development of effective study habits and skills.

- Group educational programs are offered in such areas as self-awareness and personal growth, improving grades, career counseling, improving relations with others, communications and listening skills, middle and career change and understanding and accepting an individual’s sexuality.

- Consulting services deal with concerns of nontraditional students; understanding individual and group behavior; problem-solving and decision-making skills; communication and human relations skills; referral for social, psychological and medical services; and counseling psychology theory and technique.

Testing Service

The center’s testing service offers a variety of testing programs such as the American College Test, the Admissions Testing Program of the College Entrance Examination Board, mathematics and foreign language placement test, 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 University College).

Individual psychological and vocational testing is offered in conjunction with counseling. Such tests cover areas such as vocational interests, aptitudes, achievement, personality and assessment of learning disabilities.

Counseling service, individually or in groups, is available by appointment or immediately, when necessary. Counseling and many testing services are free to students enrolled for credit courses at the University. Services are also provided to faculty and staff on a time available basis.

STUDENT HEALTH SERVICES

Due to increased numbers of University students, expanded health service facilities immediately adjacent to the residence halls are provided. First aid services and limited medical care are available in the health services and an infirmary area is provided for 12 inpatients. A registered nurse is on duty 24 hours a day, except vacations and holidays.

A residence hall student receives bed care for up to 72 hours without charge. Students requiring extended bed care 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. Those persons present in this kind of emergency should call Security or an ambulance immediately. The University assumes no legal responsibility or obligation for the expenses of such transportation or for medical services at the hospital.

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 assumes no responsibility for student accidents incurred while attending or participating in classroom, gymnasium or laboratory work.

Student health and accident insurance designed specifically for a student is required of all residence hall students and all international students except those who present proof of similar coverage. Other students may purchase this insurance at the annual individual rate. The student insurance provides coverage for such items as hospitalization, surgical benefits and in-hospital medical benefits.

To identify existing or potential health problems, a Health History Profile form is included in the packet containing other admission forms and information. Explanations for completion and mailing of this form are included. Completion of this form is essential.

The completed health form and other health-related records are treated as confidential and are kept in the Student Health Services offices.

UNIVERSITY LIBRARY AND LEARNING RESOURCES

Library

Library facilities are found in three separate locations: the main library in the Bierce Library building on East Buchtel Avenue; the Science and Technology Department in Auburn Science and Engineering Center 104; and Psychology Archives in Simmons Hall 10.

Library services are grouped into three divisions: Information Services, Access Services and Archival Services. In both the main library and the Science and Technology Department, Information Services provides reference and research assistance, user education and bibliographic instruction, computer-based information searching and library materials and resource development. Access Services operates circulation services for materials that can be borrowed from the main library facility and for interlibrary lending and borrowing from other libraries around the country. This division also functions as the processing unit for ordering, receiving and cataloging all library materials. Archival Services collects and makes available materials such as correspondence, photographs and newspapers which have historical or other research interest and which relate primarily to The University of Akron, to an eight-county region in northeast Ohio or to American psychology.

The University library’s collection contains more than one and a half million items: books, periodicals, government documents, curricular materials, microforms, maps, records, manuscripts and other archival
Learning Resources

Learning Resources Services are also grouped into three units: Media Services, the Computer-Based Education Center, and the Center for Community and Public Television (CCPTV). Learning resources facilities are located in several places on campus. The media services administrative offices, classroom services unit, and the film ordering and scheduling section are in the main library building. The photographic, audio, and television production activities, along with the AVS IMAGINE photographic sales store, are in Carroll Hall, 50 and 57. Satellite stations for equipment distribution are in Guzzetta Hall, 127; Mary Gladwin Hall, 20; Olin Hall, 116; Schrank Hall South, 238; and Gardner Student Center on the second floor. The production center for Community and Public Television is in Kolbe Hall, 101. The Computer-Based Education Center, both its administrative unit and terminal site location, is in Carroll Hall, 308 and 325B.

Media Services maintains an extensive centralized collection of media and audio-visual resources and materials in the Bierce Library building for student and faculty use. It also has a collection of instructional materials in various media formats (films, strips, slides, etc.) for the purpose of supplementing University professors' lectures.

Media Services has a materials production unit which prepares original artwork and photographic materials for use by professors to accent course content and to augment learning principles. This division prepares nonbroadcast, educational videotapes in support of classroom instruction and general information, along with films, slide/sound sequences, audio-tapes, and multi-image presentations. It also produces campus-wide telecourses and videotapes for individual classes. Annually, an estimated seven thousand students receive part of their instruction by television.

Through use of its broadcast-quality and on-location equipment, the CCPTV produces cultural, public affairs, and sports programs. Many of these programs are done in cooperation with Kent State University and Youngstown State University as part of the consortium, Northeastern Educational Television of Ohio, Inc., which operates television channels 45 and 49. A collection of CCPTV programs is housed in the Kolbe Hall production complex.

The Center for Computer-Based Education serves the University in the design, development, validation and delivery of computer-based education courseware. The division also acts in the capacity of consultant on projects. The CBE Center supplies courseware for both on-campus and off-campus users. For over a decade, the center has supported a CBE network that provides courseware to area schools and other local agencies.

The Learning Resources Center (LRC) is in Carroll Hall, 200. The LRC is equipped with 36 active learning carrels and 24 table study stations. The center operates for an average of 50 hours weekly. Equipment available includes a wide assortment of slide, film, and film-strip projectors; audio-cassette-headphone equipped playback units; two- and three-dimensional biological and geological models; maps, charts, and mineralogical specimens available for "hands-on" experiences. Study units are also available in elementary statistics for mathematics; phonetics for speech pathology; financial management for the Community and Technical College student, and calculus of functions of a single variable and partial derivatives.

RESIDENCE HALLS

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

The University residence hall program is administered from the Office of Residence Halls on the first floor of Bulger Residence Hall. Presently the dorm system includes 16 facilities housing approximately 2,500 students from 17 states and several foreign countries.

Living in each hall is a trained head resident and selected returning students who serve as resident assistants. Most of the halls are fully air-conditioned and feature semi-private rooms with bathroom facilities on each floor. Recently acquired residence halls, that were formerly apartments, house more students per unit and include private bathroom facilities. The rooms are furnished with beds, desks, chairs, bookshelves, closets, storage space, lamps, wastebaskets, drapes and pillows. A student is not permitted to bring pets.

The dormitories have coin-operated washers and dryers as well as lounge and study areas. A dormitory resident can have a car on campus but must purchase and display a student parking permit. There are open parking lots adjacent to the halls as well as a deck below the Robertson Dining Hall.

Robertson Dining Hall

A student who lives in the residence halls must participate in the board plan. A residence hall occupant receives a meal ticket, which is not transferable, entitling the holder to 20 meals per week in the dining hall. Meals are served cafeteria style with an "unlimited seconds" policy. Meals are planned under the supervision of a professional dietician.

Cost: Room and Board

The current rate for housing accommodations and food service is $2,550 per year ($1,275 per semester).
Housing accommodations are also available during the summer on a limited basis. The charges are: per night, $6.00; per session, $192; and for the entire summer school period, $364. These prices reflect the cost of rooms only. A student is responsible for meals.

In the event surplus space becomes available in University residence halls, the University shall enforce a rule requiring occupancy of facilities by students attending the University.

Residence Hall Program Board (RHPB)

RHPB is a student-operated programming organization whose purpose is to provide a variety of social activities for residence hall students. RHPB's seven standing committees: major events, musical entertainment, tele­com, media, publicity, technical and special features sponsor a diverse array of activities such as Freshman Orientation, Little Sibs Weekend, Dorm Week, dances, mini-concerts, contests, talent shows, movies, Spring Break Florida trips and trips to sports events.

Residence Hall Radio Station (WRHA)

WRHA is the residence hall radio station: 590 AM. The station is staffed entirely by students and participation is open to all University students.

Residence Hall Student Council Government

Residence Hall Council (RHC) is the major governmental body for residence hall students. The purpose of RHC is to facilitate communication among students, faculty and administration; to provide services for the residence hall community and to plan educational and recreational activities to enhance residence hall living.

RHC consists of executive officers and representatives from each individual residence hall. Each residence hall has its own hall government responsible for supporting and enriching hall environment and sponsoring group activities for its residents.

Residence Halls

<table>
<thead>
<tr>
<th>Residence Hall</th>
<th>Number of Residents</th>
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<tbody>
<tr>
<td>Battrick Hall (women)</td>
<td>24</td>
</tr>
<tr>
<td>421 E. Carroll Street</td>
<td></td>
</tr>
<tr>
<td>Bulger Hall (men)</td>
<td>491</td>
</tr>
<tr>
<td>265 E. Buchtel Avenue</td>
<td></td>
</tr>
<tr>
<td>Gallucci Hall (men)</td>
<td>461</td>
</tr>
<tr>
<td>200 E. Exchange Street</td>
<td></td>
</tr>
<tr>
<td>Grant Residence Center</td>
<td>470</td>
</tr>
<tr>
<td>Highrise (women)</td>
<td>151 Wheeler Street</td>
</tr>
<tr>
<td>Townhouses (men and women) Sherman and Grant Streets</td>
<td></td>
</tr>
<tr>
<td>Orr Hall (women)</td>
<td>124</td>
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<tr>
<td>188 S. College St.</td>
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<tr>
<td>Ritchie Hall (women)</td>
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<tr>
<td>269 E. Buchtel Ave.</td>
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<tr>
<td>Sisler-McFawn (women)</td>
<td>126</td>
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<tr>
<td>211 E. Center St.</td>
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<tr>
<td>Spanton Hall (women)</td>
<td>316</td>
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<td>190 S. College St.</td>
<td></td>
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<tr>
<td>Summer Hall (women)</td>
<td>43</td>
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<td>430 Summer Street</td>
<td></td>
</tr>
<tr>
<td>Thompson Hall (women)</td>
<td>39</td>
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<tr>
<td>261 Spencer Street</td>
<td></td>
</tr>
<tr>
<td>Torrey Hall (men)</td>
<td>63</td>
</tr>
<tr>
<td>282 Torrey Street</td>
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</tr>
</tbody>
</table>

HOURLY PRE-SCHOOL

The University of Akron Nursery Center provides a variety of child care services. An hourly pre-school program is available to the children of students and faculty members between 2½ and five years of age. This program is open from 7:30 a.m. to 3:00 p.m. An evening/after school child care program is available from 3:00 p.m. to 10:00 p.m. for children 2½-12 years of age. This service is open for the general public’s use. The center also provides half-day nursery school programs for three and four year olds along with a full-day kindergarten program. Both are available to the general public. The curriculum covers planned, spontaneous and facilitated experiences for children and is supervised by trained teachers and aides. Opportunities are provided for youngsters to engage in arts, language arts, table toys, socio-dramatic play, rug toys, science exploration, sandbox and water play. Field trips provide real life experiences. Resource people from the community are invited to the school to share their talents and vocations. The program emphasizes positive self-image, racial awareness and anthropological differences among people. Tuition is $1.50-$1.75 per hour. Registration is handled on a per-semester basis for all parents and space is allotted hourly on a “first-come” basis.

ECUMENICAL CAMPUS MINISTRY

The Ecumenical Campus Ministry is a cooperative enterprise supported by many Protestant and Roman Catholic churches, working together to proclaim the Christian gospel to and within the academic community. The church cooperates with the University in shaping values, in creating awareness of self-identity and in providing intellectual preparedness for tasks relating to God and his children. Thus the campus ministry programs focus on all facets of the academic community—faculty, students, staff—through discussion groups, worship celebrations, retreats, social projects, personal counseling and reflection.

A student is invited to share in this ministry through participation in any of its programs and services. The Catholic campus ministers are available at the Newman Center, 143 South Union Street (north of Olin Hall); and the Protestant minister is available at the AGAPE Center, 263 East Mill 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 the student of orthodox, conservative and reformed Jewish faith. The Akron Jewish Center, located on the west side of the city, provides cultural opportunities for students and residents of the city.

Many of the extracurricular groups have a faith as a focal point of the organization. These are listed in the student handbook, the A-book.

THE BLACK CULTURAL CENTER (BCC)

The Black Cultural Center develops, coordinates and implements non-credit instructional and educational programs and activities on the total black experience for The University of Akron. The center serves as a coordinating agency for all black student groups on campus although each group maintains its autonomy. The BCC sponsors a Black Freshmen/Parent Orientation Week annually and provides other limited auxiliary services to minority students in pursuit of academic and cultural excellence. Also, the Center provides limited outreach service to the black community of Greater Akron.
Co-curricular Activities

The experience obtained through social life and extracurricular activities is a dimension of learning in addition to formal course work.

Eligibility for participation in an officially registered extracurricular activity shall be based on the student's eligibility to continue in the University. Participants in certain selected activities, e.g., honor societies, recognition societies, varsity athletics, etc., must also satisfy requirements for eligibility as specified by the national and/or conference organizations governing such activities.

Offerings range from athletics to communications and publications, from recognition societies and honoraries to personal interest groups, from performing arts groups to religious organizations, and from academic department interest clubs to social fraternities and sororities. These activities have a common goal of providing an opportunity for new acquaintances and contacts with various people in the University and community.

There are other benefits. Co-curricular activities and participation in campus life provide the chance to broaden classroom learning experiences, develop skills that will be marketable in the eventual search for a career position, expand horizons into additional interests and learn leadership and human relations skills.

These are some of the most popular activities. A complete listing may be found in the student handbook, the A-book.

PERFORMING ARTS

Opportunities are abundant for the interested student to develop the ability to face the public through live audience performances such as plays, debates, recitals and dance, as well as media presentations through radio, television and film.

A student who aspires to act, write or produce in theatre is encouraged to attend auditions and to apply for technical positions. The experimental theatre in Guzzetta Hall is one of the most flexible theatre designs to date. The University Theatre in Kolbe Hall, with its intimate proscenium stage, is the scene for many University productions.

Those interested in mass media-communication will find that Guzzetta Hall contains fully-equipped television and radio stations. A student may participate in the operation and broadcast of public radio station, WAUP (88.1). Also available is experience at the residence hall station, WRHA. In addition to speaking and broadcasting opportunities, forensic and debate teams compete locally and nationally.

A University student interested in music may audition for membership in the famous 200-piece Marching Band, the Concert Choir, the Vocal Jazz Ensemble, the award-winning Jazz Ensemble, the University Orchestra, the Concert Band, the Symphony Band, the outstanding Opera Theatre, the Evening Chorus which performs regularly with the Akron Symphony Orchestra or any number of other small or specialized musical ensembles or clubs.

A final opportunity in the area of performing arts is offered in ballet. The organization is the Experimental Dance Ensemble, which is intimately associated with the world-renowned Ohio Ballet.

SPORTS

The University aims to provide a broad and diversified program in intercollegiate club sports and intramural sports. The student, regardless of athletic success or experience, is urged to participate.

A wide variety of intramurals ranging from flag football to tennis, is offered. On the intercollegiate level, the University participates in 16 sports during the three major athletic seasons. Fall includes football, soccer, men’s and women’s cross country and women’s volleyball. Winter offers men’s and women’s basketball, swimming and diving. Spring intramurals are men’s and women’s track, baseball, golf, men’s and women’s tennis and women’s softball.

Athletic clubs, among others, include the nationally acclaimed Karate Club and the Ski Club.

DEPARTMENTAL ORGANIZATIONS

To enhance and expand classroom learning, many academic departments sponsor organizations which provide social and educational programs in a particular field of study. Guest speakers, mock interviews, community service projects and career nights are a few of the activities sponsored.

PERSONAL INTEREST ORGANIZATIONS

From political organizations to chess tournaments, the personal interest organizations cover a wide range of activities and interests.

Some of the most prominent, broad-appeal groups are: Associated Student Government (ASG), the representative government for the day undergraduate which provides student input into University governance and recommends budget allocations to campus organizations; Black United Students offers enrichment for the black student supplemented through Black History Month, orientation programs for the black student, African Awareness Week and other cultural programs; the Residence Hall Program Board schedules entertaining activities such as coffeehouses, dances, films and video entertainment in order to fill residence hall leisure time.

Students at The University of Akron have the opportunity to hold positions on the all-campus activities board called the University Program Board (UPB). UPB is open to interested students and functions as a student organization with the same benefits and avenues for personal development as their members. Students are actively involved in the selection, promotion and presentation of concerts, films, evening and afternoon entertainment, dances, lectures, recreational activities, festivals and many other special events for the University community.
**STUDENT PUBLICATIONS**

*The Buchele* is a student newspaper issued twice weekly during the regular academic year. This is the campus “voice” with news, columns, and photographs describing campus events. Copies of each edition are distributed to students free of charge at various spots on campus.

The Tel-Buch is a yearbook with comprehensive editorial and photographic coverage of student life at the University. This impressive publication of approximately 300 pages is free to students in attendance during the school year which the yearbook is capsulating.

*Nite-Life* is a monthly publication with news of interest to students in the Evening College. Each year 10 issues are distributed to students. *Arete* is composed of journals and newsletters 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.

**DIRECTORY OF STUDENT ORGANIZATIONS**

**July 1985**

**Athletics**
- Cheerleaders
- Chinese Martial Arts
- Karate Club (Tae Kwon Do)
- Ski Club
- Table Tennis Club

**Communications and Publications**
- Akron (literary magazine)
- Amateur Radio Club
- The Buchele (newspaper)
- Forensic Union
- Tel-Buch (yearbook)
- WRHA Radio

**Departmental Organizations**
- Accounting Association
- Administrative Management Society
- Advertising Club
- American Chemical Society
- American Institute of Aeronautics and Astronautics
- American Institute of Chemical Engineers
- American Production and Inventory Control Society
- American Society of Civil Engineers
- American Society of Mechanical Engineers
- American Society for Personnel Administration
- Biology Club
- College Student Nursing Club
- Computer Science Club
- Council for Exceptional Children
- Data Processing Management Association
- Der Deutsche Studentenklub
- Electronics Club
- Financial Management Association
- Geography Club
- Geology Club
- Institute of Electronic and Electrical Engineers
- Instrument Society of America
- International Business Club
- International Food Service Executives Association
- Italian Club
- Johnson Club (English)
- Le Cercle Francois Universitaire
- Math Club
- Medical Assisting Club
- Medical Technology Club
- Philosophy Club
- Polymer Science Student Organization
- Psychology Club
- Slavic Society
- Social Work League
- Society for Students in Construction
- Society of Physics Students
- Sociology Club
- Student Art League
- Student Dietetic Association

**Evening College**
- Alpha Sigma Lambda
- Chi Sigma Nu
- Evening Student Council
- Gamma Beta
- Nite-Life (newspaper)

**Graduate Student Groups**
- Association of Chemistry Graduate Students
- Chinese Student Association
- Graduate Student Council
- Industrial/Organizational Psychology Graduate Students
- International Graduate Students Organization

**Association of College Honor Societies**
- Alpha Alpha Alpha (social work)
- Alpha Epsilon Pi (accounting)
- Alpha Kappa Delta (sociology)
- Alpha Lambda Delta (freshmen women)
- Beta Kappa Nu (electrical engineering)
- Kappa Delta Pi (education)
- Omicron Delta (home economics)
- Mortar Board (seniors-scholarship, leadership, service)
- Omicron Delta Kappa (student activities)

**Professional Fraternities**
- Alpha Delta Pi (English)
- Delta Chi (social work)
- Delta Delta Delta (sorority)
- Delta Kappa Epsilon (pom-pom)
- Delta Pi (freshmen men)
- Pi Delta Phi (French)
- Sigma Delta Kappa (Business Administration)
- Tau Beta Pi (Engineering)

**Other Honor Societies**
- Beta Gamma Sigma (business administration)
- Delta Phi Alpha (German)
- Financial Management Association Honor Society
- Mu Kappa Tau (marketing)
- Omicron Delta Epsilon (economics)
- Phi Theta Kappa (Community and Technical College)
- Pi Lambda Theta (education)
- Pi Mu Epsilon (Mathematics)

**Law Groups**
- Akron Law Review
- ARETE
- Black American Law Students Association
- Bracton's Inn
- International Law Society
- Law Association for Women's Rights
- Phi Alpha Delta
- Pre-Law Club
- Student Bar Association

**Military Recognition Societies**
- Air Force Association — Army ROTC
- Pathfinder Society — Army ROTC
- Pershing Rifles — Army ROTC
- Program Support Team
- Silver Wings Society of Angel Flight

**Performing Arts**
- Choral Ensembles
- JAZZ Vocal Ensemble
- Men's Glee Club
- Opera Theatre
- Symphony Chorus
- Concert Choir
- Women's Glee Club
- Experimental Dance Ensemble
- Instrumental Ensembles
- Brass Choir
- Chamber Orchestra
- Concert Band
- Jazz Ensemble
- Jazz Combo
- Percussion Ensemble
- Marching Band
- University Orchestra
- University Steel Drum Band
- Symphony Band
- Wind Ensemble
- Woodwind Choir
- University Theatre Guild

**Religious Organizations**
- The Alpha Omega Christian Fraternity
- American Friends Service Committee
- Bahai Club
- Baptist Student Union
- Christian Science College Organization
- Ecumenical Christian Association
- Gospel Chorus
- InterVarsity Christian Fellowship
- Kappa Alpha Club
- Students for Christ
- True Vine Campus Ministry

**Social Fraternities**
- Alpha Phi Alpha
- Delta Tau Delta
- Kappa Alpha Psi
- Lambda Chi Alpha
- Omega Psi Phi
- Order of Omega
- Phi Beta Sigma
- Phi Delta Theta
- Phi Kappa Psi
- Phi Kappa Tau
- Sigma Kappa
- Pi Kappa Epsilon (Lone Star)

**Social Sororities**
- Alpha Delta Pi
- Alpha Gamma Delta
- Alpha Kappa Alpha
- Chi Omega
- Delta Gamma
- Delta Sigma Theta
- Kappa Kappa Gamma
- Theta Phi Alpha
- Zeta Phi Beta

**International Fraternity Council**

**Political Activities**
- Associated Student Government
- Black United Students (BUS)
- Campus Alcohol Program
- Chess and Go Club
- College Democrats
- College Republicans
- Contemporary Students Organization
- Future Physicians Club
- Future Secretaries Association
- Hellenic Club
- Indian Students' Association
- International Students Club
- International Graduate Students Organization
- Malay Student Organization
- Minority Business Students Association
- Muslim Students Association
- Nigerian Student Union
- Outing Club
- Palestine Club
- Public Relations Student Society of America (PRSSA)
- Rainbow Coalition
- Residence Hall Council
- Residence Hall Program Board
- Senior Class Board
- Stargate
- Student Toastmasters Club
- Turkish-American Student Association
- United for Life
- University Program Board
- Vietnamese Student Association
Admissions, Requirements, Procedures and Cost
Admissions

Admission is necessarily limited by the University's capacity to provide for the student's 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.

RECOMMENDED HIGH SCHOOL COURSES

Students should pursue the following college preparatory curriculum:

- 4 units of English
- 3 units of mathematics
- 3 units of science
- 3 units of social science
- 2 units of a foreign language

Applicants intending to major in business, computer science, engineering, natural science or statistics should take a fourth year of high school mathematics. Appropriate preparation for natural science or engineering includes biology, chemistry, physics and a fourth year of science if available. It is strongly recommended that students interested in nursing complete additional credits in mathematics and science.

The high school courses mentioned above are recommendations not requirements. Because of variations in degree requirements for different majors, the recommended high school courses may differ. Students may obtain specific high school course recommendations by major area of study from the Office of Admissions.

Students whose preparation differs from that recommended by the University or those who show a deficiency in English or mathematics will be required to take developmental courses in that area. Developmental courses do not count as degree credit; however, they do count toward full-time status.

CLASSIFICATION OF STUDENTS

With an enrollment of approximately 26,000, The University of Akron has several classifications of students seeking an education according to their own needs and abilities. Classifications include:

- **Undergraduate** — A student who has not earned the baccalaureate degree and is eligible to enroll in undergraduate-level credit courses.
- **Postbaccalaureate** — A student who holds the 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. A postbaccalaureate student applies for admission to the college (Arts and Sciences, Education, etc.) where undergraduate credit is to be earned.
- **Graduate** — A student who holds the baccalaureate degree from an accredited institution, has been admitted to the Graduate School and is eligible to enroll in graduate-level credit courses.
- **Professional** — A student who holds the baccalaureate degree from an accredited institution and has been admitted to the School of Law.
- **Special Student** — A student who does not meet the regular admissions requirements but qualifies by certain abilities or maturity and is admitted by the dean after special petition.
- **Auditor** — A student who wishes to enroll in a course without obtaining a grade-point value ("A-F") or a grade of noncredit or credit. A student must indicate that the student 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 coursework except the writing of examinations.
- **Transient** — (from another institution) A student who is regularly enrolled and eligible to continue at another institution, and who desires to enroll at The University of Akron for specified courses.
  - **(from The University of Akron)** A student enrolled at The University of Akron who must obtain written permission from the dean of the student's college before enrolling (transient student status) for credit work at another institution. Credit for such work may be granted at the discretion of the dean.

ADMISSION PROCEDURE

The University of Akron operates under a policy of rolling admissions which means an applicant receives a letter of admission as soon as all credentials are received. There is no set date for notification of admission; it is an ongoing process. However, it is advisable for a prospective student to submit all credentials as early as possible to be assured the best selection of classes and/or a room in the residence halls.

Admission procedures vary slightly for different types of students. The various admissions categories include: recent high school graduate, adult student, transfer student, postbaccalaureate student, special student, transient student and international student. For information on admission to Graduate School, see Section 7 of this Bulletin.

Recent High School Graduates

A recent high school graduate should apply for admission as follows:

- Obtain an application form from the Office of Admissions. If your request is by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to: The University of Akron, and should specify what fees and for which student payment is being made.
- At the time of application, a student transcript must be sent to the Office of Admissions. This transcript must be received before any admission action can be taken by the University.
- Take entrance tests. Arrangements can be made through the student's high school to take the ACT or SAT. (The University's Counseling and Testing Center serves as a testing site for the ACT test.) Those test scores must be submitted before an applicant can be formally admitted to the University.
- The University requires enrollment in basic mathematics and/or English if the student's academic adviser determines that deficiencies exist in one or both of these areas. This recommendation will be based on the work completed at a previous institution in mathematics and/or English, high school academic record (if available), standardized test results (ACT or SAT if available), and University mathematics and/or placement test results. If a mathematics or English placement test is deemed necessary to comply with this policy, the student must take the appropriate placement test(s) in mathematics and/or English by the completion of the first term of attendance. To arrange for the mathematics test, contact the Testing Bureau, Simmons Hall 161, at 375-7084. The English test can be taken by contacting the Department of Developmental Programs, Carroll Hall 210, at 375-7087. Have test score(s) interpreted by contacting the dean of the University College, Spicer Hall 214, at 375-7085 two days after taking the appropriate test(s). Please note that failure to take the required test(s) prohibits enrollment in college-level mathematics and/or English courses.
A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.

- in the letter of admission to the University, directions for academic counseling will be explained. All freshmen receive academic advisement through Academic Advising Services of the University College. The evening student at the same level will be advised by the Evening College.

- If the student is under 25 years of age, the student must request a transcript from the local high school. This official record must be received and evaluated before admission action can be taken.

- If the student is under 21 years of age the student must submit results of either the ACT or SAT. (The University of Akron's Counseling and Testing Center serves as a testing center for the ACT test.) These test scores are needed before an applicant is formally admitted to the University.

**Adult Students**

An adult student who has graduated from a regionally-accredited Ohio secondary school or completes the GED test is eligible to enroll.

The following application procedures should be followed:

- Obtain an application form from the Office of Admissions. If your request is by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student payment is being made.

- If the student is under 25 years of age, the student must request a transcript from the local high school. This official record must be received and evaluated before admission action can be taken.

- If the student is under 21 years of age, the student must submit results of either the ACT or SAT. (The University of Akron's Counseling and Testing Center serves as a testing center for the ACT test.) These test scores are needed before an applicant is formally admitted to the University.

- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.

- In the letter of admission, the student will receive directions concerning academic counseling. University College freshmen and some sophomore day students receive academic advisement through Academic Advising Services of the University College. A student in the Community and Technical College or a degree-granting college will be advised by a faculty member in the appropriate department.

**Transfer Students**

A student applying for admission who has formerly attended another institution of higher learning is eligible to transfer to The University of Akron if the student can re-enter the institution from which transfer is desired. Also, the student must present scholastic records judged to be satisfactory by University of Akron officials. The assessment of scholastic records may include consideration of prior courses, grade point average, credit value and other such factors which the University or individual colleges use in evaluating, ranking or otherwise determining admissibility to the University or to specific programs.

A transfer student should apply as follows:

- Obtain an application form from the Office of Admissions. If requested by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student payment is being made.

- A transfer applicant must request official transcripts from the records office of all institutions previously attended. The transcripts should be mailed to the Office of Admissions.

- A student under 25 years of age and with fewer than 12 credits of accredited transfer work must submit a high school transcript or GED scores along with the college transcript(s). A student under 21 years of age and having fewer than 12 transfer credits must submit results from the ACT or SAT test in addition to a high school transcript or GED scores. If it appears necessary to validate the transfer credits of a student with more than 12 credits, the appropriate admitting officer may require the ACT battery for this person also. These documents must be received and evaluated before any admission action can be taken by the University.

- The University requires enrollment in basic mathematics and/or English if the student's academic advisor determines that deficiencies exist in one or both of these areas. This recommendation will be based on the following work completed at a previous institution in mathematics and/or English, high school academic record (if available), standardized test results, ACT or SAT (if available), and university mathematics and/or English placement test results.

- A mathematics or English placement test is deemed necessary to comply with this policy, the student must take the appropriate placement test(s) in mathematics and/or English by the completion of first term of attendance. Arrange for the mathematics test by contacting the Testing Service (Simmons 161, 375-7084); arrange for the English test by contacting the Department of Developmental Programs (Carroll 210, 375-7087); and, have test score(s) interpreted by contacting the dean of the University College two days after taking the appropriate test(s).

- Please note that failure to take the required test(s) prohibits enrollment in college-level mathematics and/or English courses.

- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.

- In the letter of admission, the student will receive directions concerning academic counseling. University College freshmen and some sophomore day students receive academic advisement through Academic Advising Services of the University College. A student in the Community and Technical College or a degree-granting college will be advised by a faculty member in the appropriate department.

**Postbaccalaureate Students**

A student who holds the baccalaureate degree from an accredited college and wishes to continue educationally but has not been admitted to the Graduate School, should apply as a postbaccalaureate student through the Office of Admissions.

This procedure should be followed:

- Obtain an application form from the Office of Admissions. If requested by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student payment is being made.

- A postbaccalaureate student must request the registrar of the institution(s) from which the student graduated to send an official and complete transcript. These documents must be received and evaluated before any admission action can be taken by the University.

- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.

- In the letter of admission, the student will receive information on registration and instructions for academic counseling by a faculty member in the appropriate department.
Special Students and the High School/College Program

A special student is one who does not qualify for regular admission to the University or who is participating in a special short-term academic program.

A special student may not take more than 15 credits unless official status as a regular student is gained.

This procedure should be followed:

- Obtain a special student application from the Office of Admissions.
- A student presently enrolled in a high school must also submit written permission from either the high school principal or guidance counselor to participate.
- Information regarding registration for classes and academic advisement will be forthcoming in the letter of admission to the special student program.

Transient Students (Non-University of Akron Students)

An undergraduate transient student must apply to the Office of Admissions. A graduate student must apply through the dean's office 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 rules and regulations of The University of Akron.

The following procedures should be followed when applying to the University as a transient student:

- Obtain a transient student application from the Office of Admissions, The University of Akron, Akron, OH 44325. Complete it and return it with the non-refundable application fee (a one-time charge).
- Receive advice and written approval by the home institution of the course work for which the student plans to enroll.
- After admittance, information regarding registration will be received. The admissions officers act as transient student counselors, and one day of open registration is set apart for transient students to register for classes.

INTERNATIONAL STUDENT PROGRAM

The University of Akron welcomes qualified students from other countries and seeks to make their educational experiences pleasant and meaningful. During the 1984-85 academic year, approximately 663 students with citizenship other than the United States attended the University. These students represent 83 countries and are pursuing studies in a number of major fields.

Admission Procedures

Applicants can be admitted to the University only in September, the beginning of the academic year. All admission requirements should therefore be completed by July 1 preceding the September in which the student desires to enroll.

The following application procedures should be followed:

- Obtain an international student application form from the Office of Admissions. Fill it out and return it with the non-refundable application fee (a one-time charge).
- Submit official transcripts from all secondary or middle schools and all universities attended previously. Original records in languages other than English must be accompanied by exact English translations.
- International students must also complete an autobiographical essay to be included with the application. This essay should cover any significant personal, occupational and educational experiences.
- Proof of English language proficiency. The University requires each student 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, USIS offices or by applying directly to Educational Testing Service, Princeton, NJ 08540. Because it normally takes six to eight weeks for the University to receive the results of the TOEFL, the student is encouraged to take the examination in October or January. The University cannot guarantee the student who takes the examination in March that the results will be processed completely before the July 1 deadline. The English Language Institute at the University also offers a program in English for the student who has not reached the level of proficiency required for full admission. A student who has not yet taken or passed the TOEFL can still enroll in the English Language Institute.
- Proof of adequate financial support. An international student is requested to submit a Declaration and Certification of Finances showing that the student has sufficient funds to cover the cost of the student's education while attending the University and that these funds will be available to the student in this country. It is estimated that an international student will need a minimum of $3,100 per year for graduate study for tuition and living expenses while attending. Immigration regulations prevent a student from earning any substantial portion of this amount. There are virtually no scholarships available to an undergraduate from abroad, although a graduate student may request and often receive financial aid through fellowships and graduate assistantships. A graduate student interested in applying for this aid should request the necessary forms at the time of application for admission to the Graduate School. Each international student will be held responsible for obtaining and maintaining appropriate health and accident insurance coverage while enrolled at this institution.

Orientation

The international student is required to attend a special orientation program which begins two weeks before classes. The schedule for orientation will be mailed with the Certificate of Eligibility (I-20) from the international student adviser. During orientation, the international student is given an English language placement examination in addition to the proficiency examination overseas. The student may be required to participate in noncredit English classes if it is felt the results of this placement examination warrant such action.

English Language Institute

The University offers an intensive English Language Institute for the international student whose command of the English language has not reached a level of proficiency to enable the student to begin full-time course work. The English Language Institute operates on a schedule of two 15-week semesters and a summer session. An applicant is required to pass a language proficiency test before the student can be admitted.

Special Note

The University has a director of International Programs, full-time international graduate and undergraduate student advisers and instructors of English as a Second Language. If an international applicant has questions about housing, climate or immigration regulations, the student is encouraged to contact the international student adviser directly. The University is a member of the National Association for Foreign Student Affairs.

Special International Education Programs

The University 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, began in 1960.
Procedures and Requirements

ORIENTATION
The first major contact the 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, the student learns a great deal about the University and about what it expects from the student. The student will meet many of the University's administrative officers and faculty members and discuss particular problems and questions with an upper-college student. In this way, the student will have an opportunity to become acquainted with the University and clear up many of the questions which arise when embarking on a new enterprise.

COUNSELING
During orientation, and each term thereafter, a student meets with a counselor individually to discuss progress to date and the next logical step in the progression of the academic program. The counselor and student together review the areas of success as well as the problems which have been encountered in previous terms to determine what courses the student's academic record calls for in future terms. Also the two then plan a schedule of courses to be taken during the next term.

REGISTRATION
Each term it is necessary for a student to select courses, complete 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 are described in the Schedule of Classes published every academic period and available upon request from the student's advising agency, Office of Academic Advising Services, Evening College or degree-granting college. A non-refundable late registration fee is assessed registrants enrolling after the official open registration period.

CLASS ATTENDANCE
A student is expected to attend all class meetings for which registered. A student may be dropped from a course by the dean if absence is repeated and the instructor recommends this action; a student can gain readmission only with permission of both.

STUDENT SCHEDULES

Modification of Student Schedules
A student must register for a course before the end of the first week of the term. Alterations in the schedule of courses registered for can be made only with the permission of the dean or the dean's designate.

A day student in the University College and a first-term student in the Community and Technical College should make all changes through an advisor in the Office of Academic Advising Services, Spicer Hall; an evening student in these colleges should contact the Evening College Office, Spicer Hall.

Withdrawal Policy
A student may withdraw from a course up to the midpoint of the course with the signature of the student's adviser. After midpoint of a course, a student must have the written approval of both the course instructor and the student's adviser in order to withdraw. Such approval must be dated and processed through the offices of the Registrar and the Cashier prior to the final examination period. Should the instructor or adviser refuse to sign the withdrawal form, the student may appeal to the dean of the student's college, who shall make the final decision after consultation with the instructor and adviser who declined to approve the withdrawal.

An approved withdrawal will be indicated on the University 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 the dean if absences are repeated 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 grade-point ratio calculations are made.

Transfer Credit
Course work taken at an institution of higher education in the United States of America which is fully accredited or has been granted candidacy status by Middle States Association of Colleges and Schools/Commission on Higher Education (MSA/ CHE); New England Association of Schools and Colleges (NEASC); North Central Association of Colleges and Schools (NCA); Northwest Association of Schools and Colleges (NASC); Southern Association of Colleges and Schools - Commission on Colleges (SACS); Western Association of Schools and Colleges - Accrediting Commission for Senior Colleges (WASC-Sr.); Western Association of Schools and Colleges - Accrediting Commission for Community and Junior Colleges (WASC-Jr.) as designated in Accredited Institutions of Postsecondary Education - Programs/Candidates as published for The Council on Postsecondary Accreditation (COPA) by the American Council on Education will be listed on The University of Akron official academic record. Each course will reflect the course number, title, grade and credit value; no grade-point value will appear on the record and no grade-point average will be calculated for the course work listed; however, grade-point average may be considered for purposes of evaluating, ranking or otherwise determining admissibility to the University or to specific programs. 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 that have been taken at an institution of higher education noted in the reference document 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. This specification will be made at the time the student enters the degree-granting college. The dean of the University College will specify which courses listed will apply toward the general studies requirements when the student enters the University.

Transient Student — (University of Akron Students)

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 the student is enrolled; for general studies courses, prior written permission must be obtained from the dean of the University College. These courses will be listed on the University official academic record. Each course will reflect the course number, title, grade and credit value; no grade-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 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 the student's college and the dean of the college in which a particular course is offered and by payment of a special examination fee. The grade obtained in such an examination is recorded on the student's permanent record. Credit by examination is not permitted in the semester before graduation. Credit by examination may not be used to repeat for change of grade.

Bypassed Credit

Certain courses designated in this Bulletin by each department enable a student to earn "bypassed" credit. A student who completes such a course with a grade of "C" or better is entitled to credit for designated prerequisite courses which carry the same department code number. Credit for such bypassed prerequisites shall be included in the total credits earned but shall not count in the quality point ratio, class standing or hours required for graduation with honors. Bypassed credit is not awarded on the basis of completing a course either credit-by-examination or credit/noncredit.
credit ("CR") for the course and have the grade. "CR," placed on the permanent record, a grade equivalent of "D+" through "F" will be recorded with the noncredit grade, "NC."

A student who has completed 50 percent of the number of credits required for a degree with a grade-point average of at least 2.30, shall be allowed, with the consent of an adviser, to take one free elective (not in major field) course per term on a "CR/NC" basis.

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, regardless of the grade-point average.

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).

The election to take a course on a "CR/NC" basis can be made only at the time of registration for that course. A student who elects 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 students who have elected to utilize the "CR/NC" option.

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 official academic record.

A student may repeat a course for credit ("CR"), or a grade ("A-F") after receiving a grade of "NC."

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.

A student taking a course on a noncredit basis is 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:

- In order to secure a grade ("A-F") or a grade of "NC," "CR" or "AUD," a student may repeat a course in which the previously received grade was "C-," "D+," "D," "D-," "F," "AUD" or "NC." Registrations under the "CR/NC" option are subject to the restrictions in the "CR/NC" policy.

- The student must repeat the same course within 12 months of the completion of the prior attempt. With the dean’s permission, a student may extend this period or substitute another course if the previous course is no longer offered. Courses must be repeated at The University of Akron.

- Grades for all attempts at a course will appear on the student’s official academic record.

- Only the grade for the last attempt will be used in the grade-point average.

- All grades for attempts at a course will be used in grade-point calculation for the purpose of determining graduation with honors and class standing.

- For purposes of this section, credit for the course or its equivalent will apply only once toward meeting degree requirements.

Academic Reassessment

An undergraduate student who has not attended The University of Akron for at least three calendar years and re-enrolls and maintains a grade-point average of 2.50 or better for the first 24 credits may petition the dean to delete from the grade-point average the grades attained under his previous University of Akron enrollment.

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 class standing, all grades obtained at the University 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

A student will receive grades on various types of classroom performance during the process of most courses and a final grade at the end of the term. At the end of the term, the Office of the Registrar mails grade reports to a student’s home address; grade reports are mailed after both summer sessions at the end of the second summer session.

Individual tests are usually graded with percentage or letter marks, but official academic records are maintained with a grade-point system. This method of recording grades is as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.70</td>
</tr>
<tr>
<td>B+</td>
<td>3.30</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.70</td>
</tr>
<tr>
<td>C+</td>
<td>2.30</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.70</td>
</tr>
<tr>
<td>D+</td>
<td>1.30</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>D-</td>
<td>0.70</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
<tr>
<td>AUD (Audit)</td>
<td>0.00</td>
</tr>
<tr>
<td>CR (Credit)</td>
<td>4.00</td>
</tr>
<tr>
<td>NC (Noncredit)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The following grades may also appear on the term grade reports or on the official academic record:

- IP — In Progress: Indicates 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: Indicates that the student’s instructor and the instructor’s dean have for special reason authorized 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.

*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.

*If instructors wish to assign the "I" grade beyond the following term for which the student is registered; prior to the end of the term they must notify the Office of the Registrar 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 Office of the Registrar in writing.
importance of grades
A student becomes either eligible or ineligible to remain at the University, according to the grade-point value of each grade for each course the student has completed. A student who maintains specified levels of scholastic achievement receives privileges to participate in extracurricular activities.

On the basis of grades, a student receives opportunities to take additional courses to accelerate academic progress.

A student should transfer from the University College to a degree-granting college upon meeting the grade and credit hour requirements of that college. Acceptance is dependent on the approval of the dean of the college which the student chooses to enter and on academic performance to date.

To receive a degree, each student must have attained a grade-point average of at least 2.00 for all work taken at The University of Akron.

Finally, high grades are essential for a student who intends to go on to graduate work.

Probation-Dismissal
A student who fails to maintain a grade-point average of 2.00 ("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 the student was dismissed.

Once dismissed from the University, a student is not eligible to register for credit courses until readmitted.

Graduation with Honors
For a student who entered the University January 1982 and thereafter who is being awarded an initial baccalaureate degree and who has completed 60 or more credits at the University, the degree will be:

<table>
<thead>
<tr>
<th>Grade-Point Average</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.80 or higher</td>
<td>Summa Cum Laude</td>
</tr>
<tr>
<td>3.60 or higher</td>
<td>Magna Cum Laude</td>
</tr>
<tr>
<td>3.50 or higher</td>
<td>Cum Laude</td>
</tr>
</tbody>
</table>

For a student who entered the University January 1982 and thereafter who is being awarded an initial associate degree and who has completed 30 or more credits at the University, the degree will be:

<table>
<thead>
<tr>
<th>Grade-Point Average</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.60 or higher</td>
<td>Summa Cum Laude</td>
</tr>
<tr>
<td>3.50 or higher</td>
<td>Magna Cum Laude</td>
</tr>
<tr>
<td>3.40 or 3.50</td>
<td>Cum Laude</td>
</tr>
</tbody>
</table>

Graduation

For a student who entered the University prior to January 1982 and is being awarded an initial baccalaureate degree and who has completed 60 or more credits at the University, the degree will be:

<table>
<thead>
<tr>
<th>Grade-Point Average</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.75 or higher</td>
<td>Summa Cum Laude</td>
</tr>
<tr>
<td>3.70 or higher</td>
<td>Magna Cum Laude</td>
</tr>
<tr>
<td>3.60 or higher</td>
<td>Cum Laude</td>
</tr>
</tbody>
</table>

For a student who entered the University prior to January 1982 and is being awarded an initial associate degree and who has completed 30 or more credits at the University, the degree will be:

<table>
<thead>
<tr>
<th>Grade-Point Average</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.25 or higher</td>
<td>Summa Cum Laude</td>
</tr>
<tr>
<td>3.20 or higher</td>
<td>Magna Cum Laude</td>
</tr>
<tr>
<td>3.10 or higher</td>
<td>Cum Laude</td>
</tr>
</tbody>
</table>

Requirements for Baccalaureate and Associate Degrees
A candidate for the baccalaureate or the associate degree must:

- File an application for graduation with the registrar if the candidate plans to complete degree requirements at the end of fall semester, submit an application by or before May 15. If the plan is to complete degree requirements at the end of spring semester, submit an application by or before September 15.

- Earn a minimum 2.00 grade-point average as computed by the Office of the Registrar for work attempted at the University consistent with the Repeating Courses policy. The grade-point average achieved at the time of completion of requirements for a degree will be used to calculate rank in class and honors.

- 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.

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

- 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.

- 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.

- If a student who has transferred from another institution wishes to present for the student's major, fewer than 14 credits earned at The University of Akron, written permission of both the dean and head of the department concerned is required.

- Discharge all other obligations at the University.

Requirements for Additional Baccalaureate and Associate Degrees
- Meet requirements given in Section 3, Requirements for Baccalaureate and Associate Degrees.

- Earn a minimum of 32 credits which have not counted toward the first baccalaureate degree or 16 credits which have not counted toward the first associate degree.

- Earn the above credits in residence at the University.
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 the student who subsequently enters the University, whatever the date of 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 the student enrolled prior to the change by:

- Altering the number of credits and/or courses required in a major field of study.
- Deleting courses.
- Amending courses by increasing or decreasing the credits of specific courses, or by varying the content of specific courses.
- Offering substitute courses in same or cognate fields.

The dean of the 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 senior 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 Grade-Point Requirements for Graduation Listed by College and Degrees Granted

<table>
<thead>
<tr>
<th>Arts and Sciences</th>
<th>Min. Cr</th>
<th>Min. Grade-Point Avg. Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Arts</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Cytochemistry</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Geography/Cartography</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Labor Economics</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Political Sciences/Criminal Justice</td>
<td>131</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Political Science/General Studies</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Medical Technology</td>
<td>128</td>
<td>2.90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Engineering</th>
<th>Min. Cr</th>
<th>Min. Grade-Point Avg. Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Science in Engineering</td>
<td>136</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Chemical Engineering</td>
<td>136</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Civil Engineering</td>
<td>136</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Electrical Engineering</td>
<td>136</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Mechanical Engineering</td>
<td>136</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Construction Technology</td>
<td>136</td>
<td>2.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education*</th>
<th>Min. Cr</th>
<th>Min. Grade-Point Avg. Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Arts in Education</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Education</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Technical Education</td>
<td>128</td>
<td>2.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Business Administration</th>
<th>Min. Cr</th>
<th>Min. Grade-Point Avg. Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Science in Business Administration/Finance</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Marketing</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Industrial Management</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Accounting</td>
<td>128</td>
<td>2.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fine and Applied Arts</th>
<th>Min. Cr</th>
<th>Min. Grade-Point Avg. Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Arts in Business and Organizational Communication</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Dietetics</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Foods and Nutrition</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Textiles and Clothing</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Family and Child Development</td>
<td>138</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Communicative Disorders</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Theatre Arts</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Mass Media and Communication</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Communication and Rhetoric</td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Dance</td>
<td>128</td>
<td>2.00</td>
</tr>
</tbody>
</table>

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*Grade-point average of 2.50 in major field is required.

**Grade-point average of 2.50 in major field is required.

COURSE NUMBERING SYSTEM

Each course at the University has two numbers. One designates the college and department of which it is a part; one specifies the subject matter of the particular course. For instance:

3300 220 English Literature

In the above example, the first four digits of the number (3300) indicate the college and department. In this case, 3000 represents the College of Arts and Sciences; 330 refers to the Department of English. The second set of digits (220) following the colon, indicates exactly which course in the Department of English is being specified. The course number also indicates the level at which the course is being taught and the point at which 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
- 500-599: Master's-level courses
- 600-699: J.D.-level courses
- 700-999: Doctoral-level courses

When approved 400-level undergraduate courses are taken for graduate credit, they become 500-level courses. A student must apply for and be admitted to the Graduate School to receive graduate credit.
Fees and Expenses

Fees subject to change without notice.

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

<table>
<thead>
<tr>
<th>Commuting</th>
<th>Residents of Ohio</th>
<th>Non-Ohio Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Tuition and Fees (regular load)</td>
<td>$1,716</td>
<td>$1,716</td>
</tr>
<tr>
<td>Books (average costs)</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Room and Board</td>
<td>—</td>
<td>2,550</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,016</strong></td>
<td><strong>$4,566</strong></td>
</tr>
</tbody>
</table>

Following are comprehensively outlined fees for the student at the University who is studying for credit and noncredit in all areas of instruction. Included also are the additional expenses required for special academic services available to a student 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, parents or court appointed guardian, to furnish such proof as may be required by The University of Akron. A student who is in doubt about 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 assessing the final, correct amount of fees and surcharges. 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 registered, will determine the final, correct amount of fees and surcharges.

### Fees

- **Instructional Fee (all students)**
  - Undergraduate
    - 1-13 credits: $52.50 per credit
    - 14 credits and over: $52.50 per credit
  - Graduate and Professional (Law)
    - One or more credits: $70.75 per credit

- **Tuition Surcharge**
  - (Non-residents of Ohio pay the surcharge in addition to the instructional fee)
    - Undergraduate
      - One or more credits: $67 per credit
    - Graduate and Professional (Law)
      - One or more credits: $56 per credit

- **General Fee**
  - Undergraduate
    - $13.50 per credit to a maximum of $175.50 per semester
  - Graduate and Professional (Law)
    - 1-14 credits: $6.25 per credit
    - 14 credits and over: $81.25 per semester

- **Course Fees**
  - For the following courses, the fee noted will be assessed to cover the cost of instructional materials distributed by the instructor.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>Fee</th>
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<td>3101:115</td>
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<td>Phys. Chem. for (Bio) Vai.</td>
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<td>Inst. Meth. of Analysis</td>
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<td>7100:121</td>
<td>Three-Dimensional Design</td>
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<td>Fund of Ceramics</td>
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<td>7100:150</td>
<td>Fund of Jewelry</td>
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<tr>
<td>7100:170</td>
<td>Fund of Photography</td>
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<td>7100:190</td>
<td>Fund of Off-Loom Weaving</td>
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<td>Intro to Lithography</td>
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<td>Intro. to Relief Printing</td>
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<tr>
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<td>Intro. to Intaglio/Printing</td>
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<tr>
<td>7100:221</td>
<td>Design Applications</td>
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<td>Intro to Sculpture</td>
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<td>Intro to Ceramics</td>
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<td>Enameling on Metal</td>
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<td>7100:275</td>
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<td>Intro. to Weaving</td>
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<td>Printmaking II</td>
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<td>7100:322</td>
<td>Intermediate Sculpture II</td>
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<td>Ceramics II</td>
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<td>Metalsmithing II</td>
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<td>Advanced Enameling</td>
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<td>7100:383</td>
<td>Graphic Video</td>
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<tr>
<td>7100:393</td>
<td>Weaving II</td>
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<tr>
<td>7100:418</td>
<td>Advanced Printmaking</td>
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<tr>
<td>7100:422</td>
<td>Advanced Sculpture</td>
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<tr>
<td>7100:454</td>
<td>Advanced Ceramics</td>
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<td>7100:466</td>
<td>Advanced Blacksmithing</td>
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<td>7100:475</td>
<td>Advanced Photography</td>
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<td>7400:121</td>
<td>Tshells</td>
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<td>Clothing Construction</td>
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<tr>
<td>7400:141</td>
<td>Food for the Family</td>
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<tr>
<td>7400:158</td>
<td>Intro. Int. Design &amp; Fun.</td>
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<tr>
<td>7400:245</td>
<td>Basic Food Theory &amp; Appl.</td>
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<tr>
<td>7400:265</td>
<td>Child Development</td>
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<tr>
<td>7400:305</td>
<td>Adv. Constr. &amp; Tailoring</td>
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<td>7400:311</td>
<td>Contemporary Needle Arts</td>
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<td>7400:317</td>
<td>Historic Costume</td>
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<tr>
<td>7400:331</td>
<td>Applied Home Furnishings</td>
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<td>7400:340</td>
<td>Metal Service</td>
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<tr>
<td>7400:369</td>
<td>Tailorng for Men</td>
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<tr>
<td>7400:403/503</td>
<td>Advanced Food Preparation</td>
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<td>$15</td>
</tr>
<tr>
<td>7400:420/520</td>
<td>Experimental Foods</td>
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<td>$15</td>
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<tr>
<td>7400:436</td>
<td>Print &amp; Pract. Int.</td>
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<tr>
<td>7400:444</td>
<td>Iconic Issues Home Econ.</td>
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<td>Flat Pattern Design</td>
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<tr>
<td>7400:453</td>
<td>Demonstration Tech.</td>
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<td>$5</td>
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<td>7400:459</td>
<td>Machine Strategy</td>
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<td>7600:280</td>
<td>Medical Proc. Techniques</td>
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<tr>
<td>7600:282</td>
<td>Radio Production</td>
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<td>$15</td>
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<tr>
<td>7600:283</td>
<td>Television Production</td>
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<tr>
<td>7600:288</td>
<td>Film Production</td>
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<td>$25</td>
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<tr>
<td>7600:361</td>
<td>Audio Recording Tech</td>
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<td>$15</td>
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<td>7600:383</td>
<td>Advanced TV Production</td>
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<tr>
<td>7600:488/588</td>
<td>Advanced Film Production</td>
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<td>$25</td>
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</tbody>
</table>

### Graduation Fees (non-refundable)
- Each degree (except law) $30
- Each J.D. Doctor degree $40
- Graduate Late Application Fee $10
- Minor Application Fee and/or Second Major Application Fee $3
- Department of Special Programs and ICE $2

### Miscellaneous Fees
- ACT Test $15
- ACT Special Testing $25
- Education Administration Battery $15
- Miller Analogies Test $22
- Transcripts (If more than one copy is ordered at the same time, the fee is $4 for the first transcript and $2 for each additional one) $4
- I.D., late or lost $5
- Credit by Examination $21
- Undergraduate and postbaccalaureate per credit $7
- Student teaching fee $50
- Locker fee ($3 refundable fall-spring semesters) $9
- Locker Fee ($3 refundable, spring semester only) $3
- Locker fee, physical education and Schranks Hall ($3 refundable) $6

### Change of course registration
(For each schedule change form processed) $10
- Laboratory breakage and late service deposit (refundable) $15
- “Insufficient Funds” or returned check charge $10
- Co-op course fee $5
- Bypassed credit, per credit $5
- CLEP, per credit awarded $5
- Advanced Placement Credit, per credit awarded $5
- Day and Evening Care $1.30
- (per hour according to parents ability to pay) $1.30
- Registration per semester $15
- Registration, per Summer Session $8
- Registration, per combined Summer Sessions $15

### Nursery School
- per term (for 2 mornings) $192.25
- per term (for 4 afternoons) $250.00
- Registration per semester $20

### Dance Institute
- Academic Year (3 sessions) $864
  - advanced $864
  - intermediate II $652
  - intermediate I $310.50
  - beginner $168.00
- Summer (4 weeks)
  - advanced $430
  - intermediate II $370
  - beginner $135
- pre-schooler $48
- Audition Fee $12

### English Language Institute
- tuition fee $1,000
- Ablication Fee $1,000
- Academic Year (2 sessions)
  - advanced $864
  - intermediate II $652
  - intermediate I $310.50
  - beginner $168.00
- Summer (4 weeks)
  - advanced $430
  - intermediate II $370
  - beginner $135
- pre-schooler $48

### COLLEGE OF NURSING
- 8200:300 Nursing: Health $25
- 8200:320 Nursing: Diminished Hth I $12
- 8200:360 Nursing: Diminished Hth II $12
- 8200:405 Health Maintenance NSG $25
- 8200:415 Diminished Health Nursing $25
- 8200:420 Nursing Synthesis $25

#### Admission Application Fee
- Undergraduate and postbaccalaureate $25
- Entering postbaccalaureate and graduate student $25

#### Special Fees
- Late Registration Fee $25
- Changed to student who has not completed registration and paid fees before close of registration or by final date of payment $25
- Music Fees
  - Private lessons in band instrument, organ, piano, violin and voice (in addition to normal instructional fees): $30
  - One 1-hour lesson per week (undergraduate and graduate) $65
- Thesis and Binding Fees
  - Binding (per volume) $9
  - Microfilming (for Ph.D. degrees only) $48

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*Not applicable if $100 or more paid to Hower House during the year.

**The University will provide additional restroom facilities.
THE UNIVERSITY OF AKRON
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:

3333-1-10 Ohio student residency for state subsidy and tuition surcharge purposes.

A. Intent and Authority

1. It is the intent of the Ohio board of regents in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of a state-supported education.

2. This rule is adopted pursuant to Chapter 119 of the Revised Code, and under the authority conferred upon the Ohio board of regents by Section 3333.31 of the Revised Code. Effective date: September 1, 1984.

B. Definitions

For purposes of this rule:

1. A “resident of Ohio for all other legal purposes” shall mean any person who maintains a twelve-month place 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.

4. For the purpose of determining residency for tuition surcharge purposes at Ohio’s state-assisted colleges and universities, “domicile” is a person’s permanent place of abode; there must exist a demonstrated intent to live permanently in Ohio, and a legal ability under Federal and state law to reside permanently in the state. For the purpose of this policy, only one (1) domicile may be maintained at a given time.

5. For the purpose of determining residency for tuition surcharge purposes at Ohio’s state-assisted colleges and universities, an individual’s immigration status will not preclude an individual from obtaining resident status if that individual has the current legal status to remain permanently in the United States.

C. Residency for subsidy and tuition surcharge purposes

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

1. A dependent student, at least one of whose parents or legal guardian has been a resident of the state of Ohio for all other legal purposes for twelve consecutive months or more immediately preceding the enrollment of such student in an institution of higher education.

2. A person who has been a resident of Ohio for the purpose of this section for at least twelve consecutive months immediately preceding his or her enrollment in an institution of higher education and who is not receiving, and has not directly or indirectly received in the preceding twelve consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.
D. Additional criteria which may be considered in determining residency for the purpose may include but are not limited to the following:

1. Criteria evidencing residency:
   a. If a person is subject to tax liability under Section 5747.02 of the Revised Code;
   b. If a person qualifies to vote in Ohio;
   c. If a person is eligible to receive state welfare benefits;
   d. If a person has an Ohio driver's license and/or car registration

2. Criteria evidencing lack of residency:
   a. If a person is a resident of or intends to be a resident of another state or nation for the purposes of tax liability, voting, receipt of welfare benefits, or student loan benefits (if the loan program is only available to residents of that state or nation);
   b. If a person is a resident or intends to be a resident of another state or nation for any purpose other than tax liability, voting, or receipt of welfare benefits.

E. Exceptions to the general rule of residency for subsidy and tuition purposes.

1. A person who is living and is gainfully employed on a full-time or part-time self-sustaining basis in Ohio and who is pursuing a part-time program of instruction at an institution of higher education.

2. A person who enters and currently remains upon active duty status in the United States military service and 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. 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.

4. A person who is transferred by his employer beyond the territorial limits of the fifty states of the United States and the District of Columbia 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 as long as such person has fulfilled his or her tax liability to the state of Ohio for at least the tax year preceding enrollment.

5. A person who has been employed as a migrant worker in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

F. Procedures

1. A dependent person classified as a resident of Ohio for these purposes is and who is enrolled in an institution of higher education when his or her parents or legal guardian removes their residency from the State of Ohio shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.

2. In considering residency, removal of the student or the student's parents or legal guardian from Ohio shall not, during a period of twelve months following such removal, constitute relinquishment of Ohio residency status otherwise established under paragraphs C. 1. or C. 2. of this rule.

3. Any person once classified as a nonresident, upon the completion of twelve consecutive months of residency, must apply to the institution for reclassification as a resident of Ohio for these purposes if such person in fact wants to be reclassified as a resident. Should such person present clear and convincing proof that no part of his or her financial support is in or in the preceding twelve 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. Evidentiary determinations under this rule shall be made by the institution which may require, among other things, the submission of documentation regarding the sources of a student's actual financial support.

4. 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.

5. Any institution 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 his or her Ohio residency for purposes of this rule. Such an 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.

Regulations Regarding Refunds—Credit/Noncredit

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—Credit

Certain fees are subject to refund:

- Instructional and non-resident surcharge.
- General fee.
- Parking (only if permit is returned).
- Student teaching.
- Laboratory breakage and late service deposit.
- Residence hall fees (note: subject to special policy).

### Amount of Refund—Credit

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

- In full:
  - if the University cancels the course;
  - if the University does not permit the student to enroll or continue;
  - 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 Reserve prior to the beginning of the term called to active duty, presents notice of induction or order to Active Duty. A student who enlists voluntarily for active duty should see "in part" below.

- In part:
  - less $5 per enrolled credit to a maximum of $50 if the student requests in writing to the dean or designate official withdrawal from any credit courses on or before the second day of the enrolled term.
  - if the student requests in writing to the dean or designate official withdrawal after the second day of the fall or spring semesters, the following refund percentages apply:
    - 3 through 12 calendar days* 70%
    - 13 through 24 calendar days* 50%
    - 25 through 33 calendar days* 30%
    - Thereafter 0%
  - if the student requests in writing to the dean or designate official withdrawal after the second day of any Summer Session the following refund percentages apply:
    - 3 through 7 calendar days* 60%
    - 8 through 15 calendar days* 40%
    - Thereafter 0%

*If the 7th, 8th, 12th, 15th, 22nd, 24th, or 33rd day falls on Friday, Saturday, or a holiday, the deadline will become the next business day.
The University reserves the right to cancel a course should there be insufficient enrollment. A full refund will be mailed to the student within four to six weeks when a course is cancelled.

Amount of Refund—Noncredit

- In full less $5
  - upon written request of the student who is officially withdrawn from any course prior to the start of the contract term (except the advance rental payment of $100 which shall be forfeited); or, in the event of mandatory or recommended participation in academic programs of The University of Akron requiring the student to commute regularly beyond the Akron metropolitan area (e.g., student teaching or co-op engineering assignments).

- Refunds will be determined as of the date of formal withdrawal unless proof is submitted that circumstances beyond the control of the student prevented the filing of the formal withdrawal earlier, in which case the refund will be determined as of the last day of attendance. 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.

- No refund will be granted to a student dismissed or suspended for disciplinary reasons.

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:

<table>
<thead>
<tr>
<th>Inclusive Dates</th>
<th>Refund Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-12 calendar days</td>
<td>70%</td>
</tr>
<tr>
<td>13-24 calendar days</td>
<td>50%</td>
</tr>
<tr>
<td>25-36 calendar days</td>
<td>30%</td>
</tr>
<tr>
<td>Thereafter</td>
<td>0%</td>
</tr>
</tbody>
</table>

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 Aid

Financial aid programs were developed by the federal and state governments as well as by institutions of post-secondary education to assist students from families with limited resources to meet educational expenses. The primary purpose of financial aid is to assure that no one is denied the opportunity of a college education because of financial need.

When applying for financial aid at The University of Akron, the Office of Student Financial Aid and Employment determines a budget that best suits the needs of the student. The budget includes direct costs that must be paid to the University (instructional and general fees and room and board in the residence halls) and variable expenses such as transportation and personal expenses.

Generally, financial aid is provided in three forms: gift aid, loans, and work. It is not unusual for a student to have all three forms of aid. 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. The word “family” is crucial because the financial aid system assumes that the family will work together to assist a family member meet college expenses.

Sources of Aid

To meet the needs of the financial aid applicant 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/or distributes the funds. The application(s) for these programs can be obtained at the Office of Student Financial Aid and Employment.

Federal Programs

Pell Grant
The Pell Grant is the foundation of student financial aid. The grant is awarded to the student by the federal government. After applying for the grant, the student will receive a Student Aid Report (SAR) which must be taken to the school which the student will attend. The office will then calculate the amount of the grant that will be received. The grant amount is based on the costs of the school the student attends.

Supplemental Educational Opportunity Grant
The Supplemental Educational Opportunity Grant (SEOG) is a federal grant that is awarded by the school the student attends. The amount of the grant is determined by the school attended, and is based on the need and the costs at that school. Entering freshmen and continuing students must have a 2.00 grade-point average to be eligible for the SEOG.

College Work-Study Program
The College Work-Study Program (CWS) is a program that provides an eligible student with a job on campus or in a non-profit off-campus agency. Eligibility for CWS is determined on the basis of need. The office determines the amount of money that can be earned, and places the student in a suitable job. The student and job supervisor adapt working hours to meet the student’s class schedule. Students must have a 2.00 grade-point average to be eligible.

National Direct Student Loan
The National Direct Student Loan (NDSL) Program offers low interest, long-term loans for an eligible student. Eligibility and loan amounts are determined by the office on the basis of need. This loan must be repaid, beginning six months after cessation to be at least a half-time student. Interest at five percent is calculated at the time repayment of the loan begins. If the student is teaching in certain fields or locations after graduation, eligibility for cancellation of all or part of the amount that was borrowed is possible. Entering freshmen and continuing students must have a 2.00 grade-point average to be eligible for the NDSL.

Guaranteed Student Loan/Federally Insured Student Loan
This program offers low-interest, long-term loans to an eligible student. This loan is called the Ohio Student Loan. Application for the loan can be made at a bank, savings and loan or credit union. This loan must be repaid to the lender beginning six months after cessation to be at least a half-time student. The interest on the loan is eight percent for new borrowers, and it is paid by the federal government while the student is in school.

Nursing Student Loan
Low-interest loans are available to an eligible student who is pursuing the Bachelor of Science in Nursing. These are based on need, and the amounts are determined by the Office of Student Financial Aid. These programs are generally reserved for a student who has been accepted by the College of Nursing.

State Programs

Ohio Instructional Grant (OIG)
The OIG is available to an eligible student who is an Ohio resident and is attending college in Ohio or Pennsylvania. Eligibility is based on family income. The grant is awarded by the Ohio Board of Regents. If eligible, the student will receive an award certificate which is taken to the school that the student will attend.

Ohio Academic Scholarship
The state of Ohio awards scholarships each year to a graduating senior from each high school in Ohio. The scholarship must be used at a college in Ohio. The amount is $1,000 and is renewable for four years.

Ohio National Guard Scholarship
This scholarship is available to the student who enlists in the Ohio National Guard. Contact a local recruiter for information.

Ohio War Orphans Scholarship
Scholarships are available to a student whose father or mother was a veteran from Ohio and has been disabled or deceased. For information contact the Ohio Board of Regents.

University Programs

Scholarships
The University offers scholarships to the student with high academic achievement. Academic scholarships are awarded to the continuing student as well as the outstanding high school student who plans to enroll. These academic scholarships are renewable each year based on continued high academic performance. A University Financial Aid/Scholarship Application must be submitted, but a need analysis form is not required. The majority of awards for the 1984/85 academic year ranged from $300 to $500.

The Presidential Scholarship Program was initiated for the 1975/76 academic year. At the present time, approximately 25 to 35 scholarships are awarded each year to new freshmen. For the 1984/85 school year, the scholarship amount was $1,200. This scholarship is considered to be most prestigious.

The Honors Program at the University awards a number of scholarships each year to new freshmen. In 1984/85, the scholarships ranged from $600-$1,100. An application for the Honors Program must be obtained from the office of admissions.
Loans
The University offers short-term loans to the student who needs temporary help in paying tuition. These loans must be repaid in full before the end of the term for which the money was borrowed. Information and applications are available at the Student Financial Aid and Employment Loan Office (Spicer 115).
Special long-term loans are available to selected students in certain fields who need partial help.

Application for Financial Aid
- To apply for the Pell Grant, National Direct Student Loan, Nursing Student Loan and the College Work-Study Program, the student must complete and submit the Financial Aid Form (FAF) to the College Scholarship Service. In addition, the student must complete a Financial Aid Scholarship Application.
- To apply for the Ohio instructional Grant, a student must complete and submit the Ohio Instructional Grant application to the Ohio Board of Regents.
- The Guaranteed Student Loan application is secured through lending institutions such as the local bank, savings and loan associations or credit unions.
- The information sent to the College Scholarship Service through the Financial Aid Form is used to determine eligibility for Pell Grant, National Direct Student Loan, Nursing Student Loan, Supplemental Educational Opportunity Grant, and College Work-Study Program.

Computation of Financial Aid
The College Scholarship Service determines what the family may be able to contribute toward the student's education; this amount is called the family contribution. Some of the key factors involved in computing the family contribution are:
- Family income.
- Family assets.
- Family size.
- Number in college.
- Medical bills.
- Unusual expenses.

The difference between the cost of education and the family contribution is called the unmet need. The unmet need is the amount the Office of Student Financial Aid attempts to cover through various financial aid programs to assist a student in meeting educational costs.

Independent Students
An independent student is one who:
- Has not been or will not be claimed as an exemption for federal income tax purposes by either of the student's parent(s) or adoptive parent(s) for the school year in which aid is received as well as the prior calendar year.

Financial Aid 39

Notification of Award
A student will be notified of the aid package by a Financial Aid Proposal which will be mailed home. If accepting the proposal, the student must sign the proposal and return it to the Office of Student Financial Aid as soon as possible.

If questions arise regarding your Financial Aid Proposal, either call or write the office for clarification.

If denied aid, (the family contribution exceeds the cost of education), the student will be informed by mail. Advisement as to alternatives such as the Guaranteed Student Loan and/or short-term loans, will be made.

Distribution of Aid
Financial aid is disbursed by vouchers. The vouchers are based on full-time enrollment (12 semester credits). If the student is not taking at least 12 credits, contact the Office of Student Financial Aid and Employment so that financial aid may be adjusted.

The student is awarded aid for the entire academic year; however, the aid is disbursed proportionately each semester. A student receives a voucher for fall semester by mail during July. For spring semester, a student must pick up the voucher in the office after mid-November.

The voucher is used to assist in paying for the invoice for instructional fees; if the aid is substantial, the student can apply it toward the residence hall bill.

If the student's aid exceeds the direct costs, the difference is refunded to the student during the semester to assist with other educational expenses such as transportation, housing, etc.

A student may request a bookstore voucher to assist in purchasing textbooks. This voucher is an advance on the expense check. It is available one week before classes begin.

The remainder of the expense money is issued to a student during the fourth week of the semester. The expense check is picked up in the office. The student must maintain satisfactory enrollment status to be eligible for the expense check.

Revision of Awards
After receipt of the financial aid award, situations may arise which may necessitate a revision in the aid package. A revision may result from receipt of an outside scholarship; a dramatic change in the family income such as unemployment of a parent or a divorce, etc.

If family circumstances alter, contact the Office of Financial Aid and Employment so the aid package can be reviewed.
Eligibility for Aid as it Applies to Certain Classifications of Students

Transfer Students
A student transferring to The University of Akron at the beginning of fall semester must have the previous college complete a financial aid transcript and send it to the Office of Student Financial Aid and Employment. If a student is transferring to the University during the academic year and has received a Pell Grant and/or OIG the previous session, the student must:

- Have a duplicate Student Aid Report for the Pell Grant mailed to the office. This Student Aid Report must be received before any funds can be disbursed to the student. Instructions for receiving a duplicate Student Aid Report can be obtained from the office.
- Have the former Financial Aid Office provide a transfer of remaining funds request to have the OIG transferred to The University of Akron.

National Direct Student Loans, College Work-Study Programs, Supplemental Educational Opportunity Grants and scholarships do not automatically transfer. The student must reapply for these programs at The University of Akron.

Graduate Students, Law Students and Postbaccalaureate Students
A student who has already received a bachelor's degree can make application for the National Direct Student Loan and/or the College Work-Study Program. The Pell Grant, Ohio Instructional Grant and Supplemental Educational Opportunity Grant may not be received.

A graduate assistantship is available through various graduate departments. A graduate fellowship and other graduate awards are distributed by the Graduate School; therefore, a separate application is required.

Transient Students
A transient student is not pursuing a degree at The University of Akron and is not eligible for financial aid through the University.

International Students
A student in the United States on a student or other temporary visa is not eligible for any state or federal financial aid. Application for scholarships, short-term loans and some types of employment may be made.

Veterans
A veteran may be eligible to receive educational benefits through the Veterans Administration and should contact the Veterans Office at the University for details.

Student Rights and Responsibilities
A student who applies for student financial aid has the right to expect confidentiality regarding all personal information. After submitting applications, the student should expect to receive a reply in a reasonable amount of time.

It is the student's responsibility to notify the Office of Student Financial Aid of any changes in name, address, graduation plans, etc. A student must also report any outside scholarships received. It is the student's responsibility to be aware of the types and amounts of aid received.

Standards of Satisfactory Progress
In order to receive or maintain eligibility for federal financial aid, the student must meet the requirements outlined in the "Standards of Satisfactory Progress" policy. The policy states that a student must make progress toward a degree. This rule applies to each potential financial aid recipient, whether a previous aid recipient or not. A copy of this policy is available in the Office of Student Financial Aid.

Inquiries
Since the process of applying for financial aid may at first seem complicated, it is suggested that families contact a high school counselor or a University financial aid officer for additional information. Direct inquiries to:

Office of Student Financial Aid and Employment
Spicer Hall 115
The University of Akron
Akron, OH 44325
Phone: (216) 375-7032
Community and Technical College

Robert C. Weyrick, M.S., Dean
Frederick J. Sturm, Ed.D., Associate Dean
Rosie C. Mickey, Ed.D., Assistant to the Dean
Holly C. Slack, M.Ed., Assistant to the Dean

OBJECTIVES

The Community and Technical College helps to further the goals and purposes of the University by emphasizing the following objectives:

- Consistent with the philosophy of learning as a life-long experience, the college provides educational opportunities for the student no matter the age, background and need, full- or part-time, day or evening.
- The college provides 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 serves the student by providing the means to examine academic and career opportunities concerning interests, abilities and achievements.
- The college provides quality instruction with the qualified and experienced teacher who is encouraged to use the community as a "laboratory" for achieving educational goals.

The college recommends each student for the appropriate degree in accordance with the 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 information about potential careers, the Office for Career Planning has been established in the college.

COLLEGE REQUIREMENTS

Baccalaureate Degrees

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 the qualified engineering technology student to continue education to the baccalaureate degree. During the first and second years, a student follows an associate degree program in the corresponding engineering technology. The third and fourth years provide additional study 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 a graduate 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 Engineering degree are:

- Compliance with the general University requirements for a baccalaureate degree as listed in this Bulletin.
- Compliance with the requirements of the general studies program as outlined in this Bulletin.
- Completion of the requirements for the associate degree in a related engineering technology at The University of Akron or other accredited institution.
- 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

(Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology)

For the first- and second-year requirements, see associate degree program in 2860: Electronic Technology.

Third- and fourth-year requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:106</td>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
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<td>English Composition</td>
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</tr>
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<tr>
<td>1100:---</td>
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<td>2</td>
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<td>2</td>
</tr>
<tr>
<td>2020:334</td>
<td>Mathematics for Technical Applications</td>
<td>3</td>
</tr>
<tr>
<td>2840:101</td>
<td>Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>2840:102</td>
<td>Introductory Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>2860:231</td>
<td>Survey of Basic Economics</td>
<td>3</td>
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</tr>
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<td>2860:231</td>
<td>Control Principles</td>
<td>3</td>
</tr>
<tr>
<td>2860:270</td>
<td>Survey of Electronics I</td>
<td>3</td>
</tr>
<tr>
<td>2860:271</td>
<td>Survey of Electronics II</td>
<td>3</td>
</tr>
<tr>
<td>2860:281</td>
<td>Quality Control Procedures</td>
<td>3</td>
</tr>
<tr>
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<td>Economics of Technology</td>
<td>3</td>
</tr>
<tr>
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</tr>
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<td>Introduction to Numerical Control</td>
<td>3</td>
</tr>
<tr>
<td>2920:495</td>
<td>Inspection Tours</td>
<td>1</td>
</tr>
<tr>
<td>2920:402</td>
<td>Mechanical Projects</td>
<td>1</td>
</tr>
<tr>
<td>2920:488</td>
<td>Numerical Control Programming</td>
<td>3</td>
</tr>
<tr>
<td>4100:206</td>
<td>Fortran (Science and Engineering)</td>
<td>2</td>
</tr>
<tr>
<td>6500:301</td>
<td>Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:321</td>
<td>Quantitative Business Analysis I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Technical Electives*</td>
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</tr>
</tbody>
</table>

Prior to enrolling in the program and to taking 2860:350 Advanced Circuits, a student must have completed at least 45 credits of a two-year Electronic Technology Associate degree program; maintained a grade-point ratio of 2.00 or higher in major courses (Mathematical Analysis or equivalent, Basic Physics or equivalent, and technical courses in the 2860 or 2900 series or equivalent); and maintained a minimum overall grade-point ratio of 2.00.

Bachelor of Mechanical Technology

For first- and second-year requirements, see associate degree program in mechanical technology.

Third- and fourth-year requirements:

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</tr>
<tr>
<td></td>
<td>Technical Electives*</td>
<td></td>
</tr>
</tbody>
</table>

Prior to enrolling in the program, a student must have completed at least 45 credits of the two-year program with a grade-point ratio of 2.00 or higher in Mathematics Analysis, Basic Physics and technical courses (2920 and 2900 series) in the two-year program; and a minimum overall grade-point ratio of 2.00.

*Computer programming courses from 3460 Computer Science, 4450 Engineering Computer Science and 2440 Data Processing.
Associate Degrees

Specialized technical programs are offered in the following divisions of the college:

- Allied Health Technology
- Associate Studies
- Business Technology
- Engineering and Science Technology
- Public Service Technology

These programs lead to the Associate in Applied Science or Associate in Applied Business degree (carrying a designation of the specific program). In addition, a program in liberal arts leading to the Associate of Arts degree and programs leading to the Associate of Labor Studies and Associate of Individualized Studies degrees are offered in the Associate Studies Division.

Requirements for Graduation

Candidates for the associate degree must:

- Complete the required courses listed in the program.
- Complete as a minimum, the number of credits listed for each program.
- Earn a minimum grade-point average of 2.00 in all University courses.
- Be recommended by the faculty.
- Spend the last semester in residence (earning a minimum of 16 credits) at the University unless excused by the dean of the college.
- Complete other University requirements as in “Requirements for Graduation,” Section 3 in this Bulletin.

A student who expects to receive a second associate degree must earn a minimum of 16 credits in residence which have not counted toward the student’s first degree.

Cooperative Education

Minimum requirements for cooperative education students include the following:

- Enrollment in a program of study offered by the Community and Technical College wherein Cooperative Education has been established.
- Minimum grade-point average of 2.00 for all University of Akron course work and a minimum of 2.00 for all course work applicable to program of study.
- Completion of specific courses and/or credits for a particular program as approved by the college faculty.

Minor Areas of Study

For an explanation of minor areas of study in the Community and Technical College, see Section 5 of this Bulletin.

PROGRAMS OF INSTRUCTION

Allied Health

2730: Histologic Technology*

A histologic technician prepares sections of body tissue for microscopic examination by a pathologist. The technician specializes in techniques involving the use of the electron microscope and special studies which determine a patient’s diagnosis.

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</tr>
<tr>
<td>1100:105</td>
<td>Introduction to Public Speaking</td>
</tr>
<tr>
<td>2020:121</td>
<td>English</td>
</tr>
<tr>
<td>5550:211</td>
<td>Anatomy for Radiologic Technology I</td>
</tr>
<tr>
<td>2760:106</td>
<td>Anatomy and Physiology I</td>
</tr>
</tbody>
</table>

*Limited enrollment program. Contact college for details.
270: Respiratory Therapy Technology**

This program prepares persons, under the supervision of a physician, to administer medical gases, medications and operate equipment in the medical care of patients with respiratory disorders.

1100 - - Physical Education 1
1100.06 Effective Oral Communication 3
2020.121 English 4
2020.130 Introduction to Technical Mathematics 3
2020.131 Human Relations 3
2020.222 Technical Report Writing 3
2020.226 Human Relations 3
2020.242 American Urban Society 3
2790.121 Introduction to Respiratory Therapy 3
2790.122 Patient Care: Respiratory Therapy 3
2790.123 Mechanical Ventilation 3
2790.131 Clinical Application I 1
2790.132 Clinical Application II 2
2790.133 Clinical Application III 5
2790.134 Clinical Application IV 5
2790.141 Pharmacology 2
2790.142 Pathophysiology: Respiratory Therapy 2
2790.201 Anatomy and Physiology: Cardiovascular System 3
2790.223 Advanced Respiratory Therapy 3
2790.224 Pulmonary Rehabilitation and the Respiratory Therapy Department 2
2840.100 Basic Chemistry 3
3100.130 Principles of Microbiology 3
3100.207 Anatomy and Physiology 3
3100.207 Anatomy and Physiology 3
3100.207 General Elective 2

2100: Individualized Study

Designed for students whose educational goals cannot be met through one of the structured associate degree programs. It makes available a program of study which combines course work from various disciplines and focuses on education for individual development.

2240: Commercial Art

This program enables individuals to gain skills as artists and designers for employment involving the development of materials included in visual advertising and communication for art studies, advertising agencies and industry.

1100 - - Physical Education 1
2020.121 English 4
2020.131 Mathematical Analysis I 4

**Deadline for application to the program is March 15.

**Two of the following are required: 1100.021, 2.3, 4

†See "The University College," Section 4 of this Bulletin for alternate course options.
2240.124 Design in Commercial Art 3
2240.140 Typography and Lettering 3
2240.222 Advertising Photography 3
2240.242 Advertising Layout Design 3
2240.243 Publication Design 3
2240.245 Designing for Production 3
2240.247 Packaging Design 3
2520.103 Advertising Principles 3
1700.131 Introduction to Drawing 3
1700.231 Drawing II 3
1700.132 Instrument Drawing 3
1700.233 Life Drawing 2
1700.275 Introduction to Photography 3
2240.105 Art Electives 10
2280.243 General Electives 7

2270: Labor Studies

Through in-service education, this program prepares the student for a position of responsibility and leadership in labor unions and related organizations.

1100: Physical Education 1
1100.106 Effective Oral Communication 3
2020.121 English 4
2020.222 Technical Report Writing 3
2020.240 Human Relations 3
2020.247 Survey of Basic Economics 3
2270.101 Introduction to Labor Studies 3
2270.111 Collective Bargaining I 3
2270.123 Labor Legislation and Economic Security 3
2270.212 Collective Bargaining II 3
2270.221 Occupational Health and Safety Standards 3
2270.241 Union Leadership 2
2270.251 Problems in Labor Studies 3
2420.110 Business Mathematics 3
2420.211 Basic Accounting I 3
2880.141 Safety Procedures 3
3700.100 Government and Politics in the United States 3
12

Business Technology

2280: Hospitality Management

2280: Hospitality Management

Through educational and technical skills offered in a professional environment, this program emphasizes the development of expertise in food service management, hotel/motel management or culinary arts.

Options

Restaurant Management

1100: Physical Education 1
1100.105 Introduction to Public Speaking 3
or
1100.106 Effective Oral Communication 3
2020.121 English 4
2020.222 Technical Report Writing 3
2020.247 Survey of Basic Economics 3
2420.110 Business Mathematics 3
2420.211 Basic Accounting I 3
2420.212 Basic Accounting II 3
or
2540.263 Business Communications 3
2420.290 Essentials of Law 3
2520.103 Principles of Advertising 3
2540.119 Business English 3

Culinary Arts

1100: Physical Education 1
1100.105 Introduction to Public Speaking 3
or
1100.106 Effective Oral Communication 3
2020.121 English 4
2020.222 Technical Report Writing 3
2020.247 Survey of Basic Economics 3
2880.120 Safety and Sanitation 3
2880.121 Fundamentals of Food Preparation I 4
2880.122 Fundamentals of Food Preparation II 4
2880.125 Meat Technology* 2
2880.223 Menu Planning and Purchasing 3
2880.252 Dining Room Service and Training* 2
2880.253 Restaurant Operations and Management 4
2880.263 Food and Beverage Cost Control 3
2880.264 Internship 1
2880.240 Systems Management and Personnel 3
2880.243 Food Equipment and Plant Operations 3

Marketing and Sales Emphasis

2520.202 Retaining Fundamentals 4
2520.212 Principles of Salesmanship 4

2420: Business Management Technology

This program provides comprehensive training in varied business activities which prepare for beginning management or supervisory-level positions in business, industry or self-employed management.

Options

General

1100: Physical Education 1
1100.105 Introduction to Public Speaking 3
or
1100.106 Effective Oral Communication 3
2020.121 English 4
2020.240 Human Relations 3
2020.247 Survey of Basic Economics 3
2420.110 Business Mathematics 3
2420.211 Basic Accounting I 3
2420.212 Basic Accounting II 3
or
2540.263 Business Communications 3
2420.280 Essentials of Law 3
2520.103 Principles of Advertising 3
2540.119 Business English 3

*Not required for hospitality marketing and sales emphasis.
Accounting
1100: — — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:240 Human Relations 3
2020:251 Work Relationships 3
2020:247 Survey of Basic Economics 3
2420:101 Elements of Distribution 3
2420:202 Personnel Practices 3
2420:103 Role of Supervision in Management 3
2420:104 Introduction to Business 3
2420:111 Basic Accounting I 3
2420:122 Basic Accounting II 3
2420:214 Basic Accounting III 3
2420:216 Survey of Cost Accounting* 3
2420:217 Survey of Taxation* 4
2420:243 Survey of Finance 3
2420:280 Essentials of Law 3
2440:130 BASIC Programming for Business 3
2440:250 BASIC Programming Applications in Business 5
2540:119 Business English 3
2540:125 Business Machines 2
Banking
1100: — — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:240 Human Relations 3
3750:100 Introduction to Psychology 3
2020:247 Survey of Basic Economics 3
2420:101 Elements of Distribution 3
2420:103 Role of Supervision in Management 3
2420:104 Introduction to Business 3
2422:113 Introduction to Banking 2
2420:123 Federal Regulation of Banking 2
2420:170 Business Mathematics 3
2420:202 Personnel Practices 3
2420:211 Basic Accounting I 3
2420:212 Basic Accounting II 3
2420:233 Installment Credit 2
2420:243 Survey of Finance 3
2420:253 Elements of Bank Management 2
2420:273 Monetary Systems and the Payments Mechanism 3
2420:280 Essentials of Law 3
2430:105 Real Estate Principles 2
2430:245 Real Estate Finance 2
2440:120 Introduction to Information Processing 3
2540:119 Business English 3
2540:263 Business Communications 3
Credit Union
1100: — — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:240 Human Relations 3
2020:247 Survey of Basic Economics 3
2420:121 Elements of Distribution 3
2420:163 Role of Supervision in Management 3
2420:104 Introduction to Business 3
2420:105 Introduction to Credit Unions 2
2420:115 Credit Union Operations 2
2420:125 Personal Financial Counseling 3
2420:170 Business Mathematics 3
2420:202 Personnel Practices 3
2420:211 Basic Accounting I 3
2420:212 Basic Accounting II 3
2420:221 Administrative Office Supervision 2
2420:225 Credit Union Loan Officer and Collections 2

Survey in Finance 3
Introduction to Information Processing 2
Business English 3
Business Communications 3
Technical Electives 2

Recommended Electives:
2420:101 Elements of Distribution 2
2420:221 Administrative Office Supervision 2
2440:239 RPG II Programming 2
2880:232 Labor-Management Relations 3
2540:125 Business Machines 2

Data Administration
1100: — — Physical Education 1
1100:106 Effective Oral Communication 3
2020:130 Introduction to Technical Mathematics 3
2420:101 Elements of Distribution 3
2020:121 English 4
2020:240 Human Relations 3
2020:247 Survey of Basic Economics 3
2420:103 Role of Supervision in Management 3
2420:104 Introduction to Business 3
2420:170 Business Mathematics 3
2420:202 Personnel Practices 3
2420:211 Basic Accounting I 3
2420:212 Basic Accounting II 3
2420:243 Survey of Finance 3
2420:280 Essentials of Law 3
2440:120 Introduction to Information Processing 2
2440:130 BASIC Programming for Business 3
2440:133 COBOL Programming 2
2440:234 Advanced COBOL Programming 3
2540:250 BASIC Programming Applications in Business 5
2540:119 Business English 3
2540:263 Business Communications 3
Technical Electives 3

Small Business Management
1100: — — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:240 Human Relations 3
2020:247 Survey of Basic Economics 3
2420:103 Role of Supervision in Management 3
2420:104 Introduction to Business 3
2420:117 Small Business Development 3
2420:118 Small Business Management and Operations 3
2420:170 Business Mathematics 3
2420:202 Personnel Practices 3
2420:211 Basic Accounting I 3
2420:212 Basic Accounting II 3
2420:227 Entrepreneurship Projects 4
2420:243 Survey in Finance 3
2420:280 Essentials of Law 3
2440:120 Introduction to Information Processing 2
2450:119 Business English 3
2520:103 Principles of Advertising 3
2540:263 Business Communications 3
Technical Electives 3

Recommended Electives:
2420:254 The Black American 2
2420:111 Public Relations 2
2520:106 Visual Promotion 4
2520:251 Principles of Wholesaling 2
2520:220 Retailing Fundamentals 3
2520:210 Consumer Service Fundamentals 2
2520:211 Mathematics for Retail Distribution 2
2520:212 Principles of Salesmanship 4
2520:233 Installment Credit 2
2540:125 Business Machines 2
2540:140 Typewriting for Non-Secretarial Majors 2
2880:200 Manufacturing Profitability* 3

*Course is not transferable to College of Business Administration.

*Prerequisites are 2420:104, 211.
2430: Real Estate

Designed to educate the student in all areas of the field, this program prepares students for entry-level positions in sales and management in the real estate industry through the study of products, professions and processes involving real estate.

1100 --- Physical Education 1
1100.105 Introduction to Public Speaking 3
or
1100.106 Effective Oral Communication 3
2020.121 English 4
2020.240 Human Relations 3
2020.247 Survey of Basic Economics 3
2420.104 Introduction to Business 3
2420.170 Business Mathematics 3
2420.202 Personnel Practices 3
2420.211 Basic Accounting I 3
2420.221 Administrative Office Supervision 2
2420.243 Survey in Finance 3
2420.260 Essentials of Law 3
2430.105 Real Estate Principles 2
2430.185 Real Estate Law 2
2430.245 Real Estate Financing 2
2430.255 Valuation of Residential Property 2
2430.265 Real Estate Brokerage 2
2430.275 Real Estate Project 2
2440.120 Introduction to Information Processing 2
2520.119 Business English 3
2540.263 Business Communications 3
Electives 6

2440: Data Processing

This program prepares individuals for careers in electronic data processing in operating, programming and systems analysis.

1100 --- Physical Education 1
1100.105 Introduction to Public Speaking 3
or
1100.116 Effective Oral Communication 3
2020.121 English 4
2020.141.2 Mathematics for Data Processing I, II 7
2420.222 Technical Report Writing 3
or
2540.263 Business Communications 3
2520.240 Human Relations 3
2520.247 Survey of Basic Economics 3
2420.104 Introduction to Business 3
2420.211.2 Basic Accounting I, II 6
2440.120 Introduction to Information Processing 2
2440.121 Programming Logic 2
2440.131 Introduction to Programming 2
2440.135 Assembler Programming 3
2440.133 Structured COBOL Programming 2
2440.234 Advanced COBOL Programming 3
2440.239 RPG II Programming 2
2440.241 Data Processing Systems 3
2440.251 Data Processing Projects 5
2440.282 Job Control Language 1
2540.212 Data Processing Electives 6

Data Processing Electives
2420.266 BASIC for Programmers 3
2440.235 Current Programming Topics 2
2440.261 CICS 3
2440.262 COBOL 3
2440.263 Data Base Concepts 3
2440.264 PL/I Programming 3
2440.265 Programming Ethics and Security 2

2520: Marketing and Sales Technology

This program equips graduates to fill entry-level positions in distributive business areas including retailing, industrial distribution and fashion.

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 3
2420.170 Business Mathematics 3
2420.211 Basic Accounting I 3
2420.280 Essentials of Law 3
2520.103 Principles of Advertising 3
2520.106 Visual Promotion 4
2520.202 Retailing Fundamentals 4
2520.210 Consumer Service Fundamentals 2
2520.211 Mathematics of Retail Distribution 3
2520.212 Principles of Management 4
2540.119 Business English 3
Technical requirements for options 15

Options

Fashion* 3
7400.121 Textiles 3
7400.317 History of Costumes 3
7400.419 Clothing Communication 3
7400.439 Fashion 3
Technical Elective 3

Industrial* 3
2420.202 Personnel Practices 3
2420.243 Survey of Finance 3
2440.120 Introduction to Information Processing 2
2520.210 Fundamentals of Industrial Distribution 3
Technical Electives 4

Retailing 3
2540.263 Business Communications 3
2540.274 Advanced Dictation and Transcription 4
Option Requirements 27

2540: Office Administration

Preparing students for the different but often overlapping fields of secretarial, word processing, stenographic or clerical work, this program is based on personal career objectives. Students choose from program options that prepare them for positions in executive, legal, international or word processing secretarial work.**

Core Program

1100 --- Physical Education 1
2020.121 English 4
2420.170 Business Mathematics 3
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
2540.172 Shorthand and Transcription 4
2540.241 Information Management 3
2543.263 Business Communications 3
2540.274 Advanced Dictation and Transcription 4
Option Requirements 27

Options

Executive Secretarial Science
2020.240 Human Relations 3
2420.202 Personnel Practices 3
2420.211 Basic Accounting I 3
2420.247 Survey of Basic Economics 3
2540.121 Office Problems 3
2540.253 Advanced Typewriting 3
2540.276 Executive Dictation and Transcription 3
2540.281 Machine Transcription 2
2540.286 Keyboarding on Word Processing Equipment 3

International Secretarial Science
2540.121 Office Problems 3
2540.253 Advanced Typewriting 3
2540.276 Executive Dictation and Transcription 4
2540.277 Legal Dictation and Transcription 4
2540.281 Machine Transcription 2
2540.286 Keyboarding on Word Processing Equipment 3

*Not required to take 2420.111.
**Associate degree courses may be applied toward a four-year business education degree.
### Legal Secretarial Science

- **2020:240** Human Relations 3
- **2020:247** Survey of Basic Economics 3
- **2420:211** Basic Accounting I 3
- **2420:260** Essentials of Law 3
- **2540:254** Legal Typewriting 2
- **2540:277** Legal Dictation and Transcription 4
- **2540:279** Legal Office Procedures 4
- **2540:281** Machine Transcription 2
- **2540:286** Keytaining on Word Processing Equipment 3

### Office Information Management

- **1100—** Physical Education 1
- **1100:105** Effective Oral Communication 3
- **2020:121** English 4
- **2020:240** Human Relations 3
- **2020:247** Survey of Basic Economics 3
- **2420:104** Introduction to Business 3
- **2420:170** Business Mathematics 3
- **2420:202** Personnel Practices 3
- **2420:211** Basic Accounting I 3
- **2440:120** Introduction to Information Processing 2
- **2540:119** Business English 3
- **2540:121** Office Problems 3
- **2540:125** Business Machines 2
- **2540:130** Introduction to Information Management 3
- **2540:131** Computerized Document Control 4
- **2540:150** Beginning Typewriting 3
- **2540:151** Intermediate Typewriting 3
- **2540:243** Internship 2
- **2540:247** Automated Office Systems 4
- **2540:253** Advanced Typewriting 3
- **2540:263** Business Communications 3
- **2540:286** Keytaining on Word Processing Equipment 3

### Word Processing

- **1100—** Physical Education 1
- **1100:106** Effective Oral Communication 3
- **2020:121** English 4
- **2020:240** Human Relations 3
- **2020:247** Survey of Basic Economics 3
- **2420:104** Introduction to Business 3
- **2420:170** Business Mathematics 3
- **2420:211** Basic Accounting I 3
- **2440:120** Introduction to Information Processing 2
- **2540:119** Business English 3
- **2540:121** Office Problems 3
- **2540:125** Business Machines 2
- **2540:130** Introduction to Information Management 3
- **2540:131** Computerized Document Control 4
- **2540:150** Beginning Typewriting 3
- **2540:151** Intermediate Typewriting 3
- **2540:243** Internship 2
- **2540:247** Automated Office Systems 4
- **2540:253** Advanced Typewriting 3
- **2540:263** Business Communications 3
- **2540:286** Keytaining on Word Processing Equipment 3

### 2550: Office Services Technology

This program prepares students to perform various services that are a vital part of the modern business office with emphasis on clerical and record-keeping occupations and word processing concepts.

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<th>Credits</th>
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<td>2420:170</td>
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<td>2420:211</td>
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<td>2420:221</td>
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<td>2540:240</td>
<td>Human Relations</td>
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<td>2540:247</td>
<td>Survey of Basic Economics</td>
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</tr>
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<td>Machine Transcription</td>
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<td>2540:286</td>
<td>Word Processing Applications</td>
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</table>

### 2560: Transportation

This program provides experience for individuals in areas of the field such as sales, traffic, operations and rate analysis.

#### Options

**Airline/Travel Industry**

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<td>Introduction to Public Speaking</td>
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<td>Survey of Basic Economics</td>
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<td>Elements of Distribution</td>
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<td>Introduction to Business</td>
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<td>Typewriting for Non-Structural Majors</td>
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<td>Tour Planning and Packaging</td>
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#### General

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<td>2560:208</td>
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</table>

### Engineering and Science Technology

#### 2840: Chemical Technology

This program prepares students for technical positions in chemistry-related laboratories and manufacturing plants. Areas of emphasis in the program are industrial, rubber and plastics, geology, environmental and forensic.
2860: Electronic Technology

This program prepares individuals for work as technicians in developing, manufacturing, installing, testing and maintaining electronic equipment and systems.

<table>
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<tr>
<th>Course Code</th>
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<td>Basic Physics: Electricity and Magnetism</td>
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<td>Basic Physics: Heat, Light and Sound</td>
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<td>Natural and Synthetic Organic Polymers</td>
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<td>Option Requirements</td>
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</table>

2880: Manufacturing Technology

Through the study of basic technical subjects and through concentration on work measurement, safety procedures, plant layout and quality control, this program educates the student in the areas of analysis, design and management of the resources, facilities and people involved in industrial processes.

Computer Aided Manufacturing Option

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Industrial Supervision Option

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<tr>
<td>2880:130</td>
<td>Work Measurement Procedures I</td>
<td>3</td>
</tr>
<tr>
<td>2880:141</td>
<td>Safety Procedures</td>
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<tr>
<td>2880:200</td>
<td>Manufacturing Profitability</td>
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</tr>
<tr>
<td>2880:210</td>
<td>Controlling and Scheduling Production</td>
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</tr>
<tr>
<td>2940:232</td>
<td>Labor-Management Relations</td>
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<tr>
<td>2880:235</td>
<td>Work Measurement Procedures II</td>
<td>2</td>
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<td>2880:241</td>
<td>Quality Control Procedures</td>
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<td>2920:247</td>
<td>Technology of Machine Tools</td>
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<td></td>
<td>General Elective</td>
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Technical Electives (two credits required from following):

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<tbody>
<tr>
<td>2860:132</td>
<td>Mathematical Analysis II</td>
<td>3</td>
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<tr>
<td>2860:151</td>
<td>Technical Computations</td>
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<tr>
<td>2860:201</td>
<td>Computerized Manufacturing</td>
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Rubber and Plastics

<table>
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<tbody>
<tr>
<td>2020:137</td>
<td>Mathematical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>2940:151</td>
<td>Technical Computations</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Technical Electives (two credits required from following):</td>
<td></td>
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</table>

2920: Mechanical Technology

This program prepares individuals to work as technicians in developing, designing, manufacturing, testing and servicing mechanical equipment.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1100</td>
<td>Physical Education</td>
<td>1</td>
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<td>1100:106</td>
<td>Effective Oral Communication</td>
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<tr>
<td>2020:121</td>
<td>English</td>
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<tr>
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<td>Mathematical Analysis I</td>
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General Electives (two credits required from following):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020:242</td>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>2020:254</td>
<td>The Black American</td>
<td>2</td>
</tr>
<tr>
<td>2020:251</td>
<td>Work Relationships</td>
<td>3</td>
</tr>
</tbody>
</table>
2020:122 Technical Report Writing 3
2020:233 Mathematical Analysis III 3
2020:241 Basic Physics (elective) 2
2020:151 Basic Physics: Mechanics 3
2920:121 Technical Drawing I 1
2920:122 Technical Drawing II 3
2920:242 Design Materials 3
2920:243 Kinematics 2
2920:244 Dynamics 2
2920:245 Mechanic Design I 5
2920:247 Technology of Machine Tools 3
2940:170 Surveying Drafting 3
2940:200 Advanced Drafting 3
2940:210 Computer Drafting 3
2940:230 Mechanical Systems Drafting 3
2940:240 Electrical, Electronic and Instrumentation Drafting 3
2940:250 Architectural Drafting 3
2940:260 Drafting Technology Project 3
2980:250 Structural Drawing 2
3350:340 Cartography 3

2980: Surveying and Construction Technology
(see Accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.)

Designed to provide a foundation in mathematics, physics, technical drawing and communication skills, this program allows increased application of these areas in order to build an in-depth background in either construction or surveying.

**Options**

**Construction**

1100 — Physical Education 1
2020:124 English 1
2020:131 Mathematical Analysis I 4
2020:222 Technical Report Writing 3
2020:233 Mathematical Analysis III 3
2040 — Basic Physics (elective) 2
2840:151 Basic Physics: Mechanics 3
2920:121 Technical Drawing I 1
2920:122 Technical Drawing II 3
2980:122 Basic Surveying 3

2980: Surveying Field Practice* 2
2980:123 Surveying Field Practice 2
2980:125 Statics 3
2980:222 Construction Surveying 3
2980:331 Building Construction 2
2980:232 Construction 3
2980:233 Construction Administration 2
2980:234 Elements of Structures 3
2980:237 Materials Testing I 2
2980:238 Materials Testing II 2
2980:241 Strength of Materials 3
2980:245 Cost Analysis and Estimating 3
2980:250 Structural Drafting 2

**Surveying**

1100 — Physical Education 1
2020:121 English 4
2020:131 Mathematical Analysis I 4
2020:132 Mathematical Analysis II 3
2020:222 Technical Report Writing 3
2020:233 Mathematical Analysis III 3
2840 — Basic Physics (elective) 2
2840:151 Basic Physics: Mechanics 3
2920:121 Technical Drawing I 3
2940:151 Technical Computations 1
2980:122 Basic Surveying 3
2980:123 Surveying Field Practice 2
2980:125 Statics 3
2980:222 Construction Surveying 3
2980:224 Land Surveying 3
2980:225 Advanced Surveying 3
2980:226 Subdivision Design 2
2980:232 Construction 3
2980:233 Construction Administration 2
2980:237 Materials Testing I 2
2980:241 Strength of Materials 3
3350:340 Cartography 3

Public Service Technology

2200: Educational Technology
This program prepares individuals for employment as elementary aide, assisting the professional teacher; library technicians, assisting the professional librarian or information specialist; or child development workers, filling a variety of staff positions in either a day care center, nursery school or Head Start program.

**Core Program**

1100 — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:240 American Urban Society 3
2020:247 Survey of Basic Economics 3
2020:251 Work Relationships 3
2020:254 The Black American 2

1100 — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:240 American Urban Society 3
2540:140 Typing for Non-Secretarial Majors 2
3450 — Modern University Mathematic 3
3750:100 Introduction to Psychology 3
5100:150 Introduction to Professional Education 3
5100:200 Human Development and Learning 3
5100:410 Audio-Visual Education 2
5550:211 First Aid 2
5850:295 Education Technician Field Experience 5

*Faculty may select substitute course for student.
†May substitute 2020:136. 3 credits. Child development and library students may substitute 2400:170, 3 credits.
Child Development:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Physical Education</td>
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</tr>
<tr>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>Introduction to Technical Mathematics and elective (one) or Mathematical Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>Developmental Psychology</td>
<td>4</td>
</tr>
<tr>
<td>Educational Media and Technology</td>
<td>3</td>
</tr>
<tr>
<td>Nursery School Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>First Aid</td>
<td>2</td>
</tr>
<tr>
<td>Child Development</td>
<td>3</td>
</tr>
<tr>
<td>Play &amp; Creative Expression Activities</td>
<td>4</td>
</tr>
<tr>
<td>Administration of Child Care Centers</td>
<td>3</td>
</tr>
<tr>
<td>Parent-Child Reasur1s</td>
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</table>

Library Technician:

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Introduction to Library Technology</td>
<td>3</td>
</tr>
<tr>
<td>Processing, Cataloging and Classifying Materials</td>
<td>3</td>
</tr>
<tr>
<td>Organizing and Operating Library Media Centers</td>
<td>3</td>
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<tr>
<td>Materials Selection</td>
<td>2</td>
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<td>Reference Procedures</td>
<td>2</td>
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<tr>
<td>Information Retrieval Systems</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
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2210: Handicapped Services

The purpose of this program is to train and educate the student who wishes to interpret for and assist deaf persons and those persons who desire to communicate with the deaf.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Physical Education</td>
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</tr>
<tr>
<td>Effective Oral Communication</td>
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</tr>
<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>Sign Language Gesture and Mime</td>
<td>3</td>
</tr>
<tr>
<td>Specialized Interpreting</td>
<td>2</td>
</tr>
<tr>
<td>Handicapped Services Practice</td>
<td>8</td>
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<tr>
<td>Reverse Interpreting</td>
<td>3</td>
</tr>
<tr>
<td>Specialized Interpreting</td>
<td>3</td>
</tr>
<tr>
<td>Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Manual Communication</td>
<td>5</td>
</tr>
<tr>
<td>Introduction to Audiology/Aural Rehabilitation</td>
<td>3</td>
</tr>
<tr>
<td>Psycho-Social Aspects of Deafness</td>
<td>3</td>
</tr>
<tr>
<td>Manual Communication II</td>
<td>4</td>
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<tr>
<td>Manual Communication I</td>
<td>4</td>
</tr>
<tr>
<td>Introduction to Deaf Culture</td>
<td>4</td>
</tr>
<tr>
<td>Speech and Language of Deaf Child and Adult</td>
<td>4</td>
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<tr>
<td>Language of Signs I</td>
<td>3</td>
</tr>
<tr>
<td>General Electives</td>
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</tbody>
</table>

2220: Criminal Justice Technology

This program provides the student with a professional perspective of criminal justice through skills and technical functions and offers courses designed to develop a better understanding of our rapidly changing society.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Physical Education*</td>
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<tr>
<td>Effective Oral Communication</td>
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<tr>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>Mathematical Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Law for Police</td>
<td>3</td>
</tr>
<tr>
<td>Evidence and Criminal Legal Process</td>
<td>3</td>
</tr>
<tr>
<td>Juvenile Justice Process</td>
<td>2</td>
</tr>
<tr>
<td>Social Values and Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Justice Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>Dynamics of Vice Crime and Substance Abuse</td>
<td>2</td>
</tr>
<tr>
<td>Administration and Supervision in the Public Service</td>
<td>3</td>
</tr>
<tr>
<td>Basic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Sociology</td>
<td>4</td>
</tr>
<tr>
<td>General Electives</td>
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</table>

Options

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Physical Education</td>
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<tr>
<td>Technical Report Writing</td>
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<tr>
<td>Introduction to Criminal Justice</td>
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</tr>
<tr>
<td>Criminal Law for Police</td>
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<tr>
<td>Evidence and Criminal Legal Process</td>
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</tr>
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<td>Juvenile Justice Process</td>
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<tr>
<td>Social Values and Criminal Justice</td>
<td>3</td>
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<tr>
<td>Criminal Justice Theory and Practice</td>
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<tr>
<td>Dynamics of Vice Crime and Substance Abuse</td>
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<tr>
<td>Administration and Supervision in the Public Service</td>
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</tr>
<tr>
<td>Basic Chemistry</td>
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<td>Introduction to Psychology</td>
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<td>Introduction to Sociology</td>
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Security Administration:

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<td>English</td>
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<tr>
<td>Mathematical Analysis I</td>
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</tr>
<tr>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Security</td>
<td>4</td>
</tr>
<tr>
<td>Criminal Law for Police</td>
<td>3</td>
</tr>
<tr>
<td>Evidence and Criminal Legal Process</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Case Management</td>
<td>6</td>
</tr>
<tr>
<td>Fire Hazards Recognition</td>
<td>3</td>
</tr>
<tr>
<td>Hazardous Materials</td>
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<tr>
<td>Administration and Supervision in the Public Service</td>
<td>3</td>
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<tr>
<td>Introduction to Business</td>
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<td>Introduction to Information Processing</td>
<td>2</td>
</tr>
<tr>
<td>Basic Chemistry</td>
<td>3</td>
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<tr>
<td>Safety Procedures</td>
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Social Work Emphasis:

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<td>English</td>
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</tr>
<tr>
<td>Mathematical Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Law for Police</td>
<td>3</td>
</tr>
<tr>
<td>Evidence and Criminal Legal Process</td>
<td>3</td>
</tr>
<tr>
<td>Juvenile Justice Process</td>
<td>3</td>
</tr>
<tr>
<td>Social Values and Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Justice Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>Administration and Supervision in the Public Service</td>
<td>3</td>
</tr>
<tr>
<td>Basic Chemistry</td>
<td>3</td>
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<tr>
<td>Introduction to Sociology</td>
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<tr>
<td>Poverty in the United States</td>
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<tr>
<td>Social Work Electives</td>
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<tr>
<td>General Elective</td>
<td>2</td>
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</tbody>
</table>

A student with a particular interest in corrections may vary the program of study by taking the following substitutions: 3850.330 Criminology; three credits; 3850.432 Probation and Parole, three credits; 2260.218 Techniques of Community Work, four credits, and 3850.451 Corrections, three credits for courses 2220.250 Criminal Case Management, six credits, 2220.220 Criminal Justice Theory and Practice, three credits; and 2220.240 Dynamics of Vice Crime and Substance Abuse, three credits. Students must complete electives to equal the 64 credit program requirement.

*The following are recommended: 139, Life Saving: 155, Swimming; 173, Self-Defense; or 174, Karate.

* A "2+2" program is available for students interested in earning an Associate of Applied Science degree; child development option, and the Bachelor of Arts degree in Child Development. Students must select Math Analysis I. Survey of Basic Economics, Developmental Psychology in the associate degree program in order to obtain the bachelor's degree with 122 credits.

** Must complete required courses before doing 5850.295. See coordinator the previous semester.

*** Any elective courses are minimum six credits.

** Element serious students may substitute 5100.350.

Library courses are offered in alternate years. See advisor or coordinator.
2230: Fire Protection Technology
This program prepares persons to serve governmental, industrial and other fire protection agencies in fire fighting and prevention, property protection and in handling emergency situations.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1100: --</td>
<td>Physical Education 1</td>
</tr>
<tr>
<td>1100:105</td>
<td>Introduction to Public Speaking 3</td>
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<tr>
<td>2020:121</td>
<td>English 4</td>
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<tr>
<td>2020:131</td>
<td>Mathematical Analysis I 4</td>
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<tr>
<td>2020:246</td>
<td>Human Relations 3</td>
</tr>
<tr>
<td>2020:242</td>
<td>American/Urban Society 3</td>
</tr>
<tr>
<td>2220:100</td>
<td>Introduction to Fire Protection 3</td>
</tr>
<tr>
<td>2220:102</td>
<td>Fire Safety in Building Design and Construction 3</td>
</tr>
<tr>
<td>2220:140</td>
<td>Fire Investigative Methods 2</td>
</tr>
<tr>
<td>2220:202</td>
<td>Fire Suppression Methods 3</td>
</tr>
<tr>
<td>2220:204</td>
<td>Fire Hazards Recognition 3</td>
</tr>
<tr>
<td>2220:205</td>
<td>Fire Detection and Suppression Systems I 3</td>
</tr>
<tr>
<td>2220:206</td>
<td>Fire Detection and Suppression Systems II 3</td>
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<td>2230:250</td>
<td>Hazardous Materials 4</td>
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<tr>
<td>2230:214</td>
<td>Fire Codes and Standards 3</td>
</tr>
<tr>
<td>2230:256</td>
<td>Fire Protection for Business and Industry 3</td>
</tr>
<tr>
<td>2230:260</td>
<td>Administration and Supervision for Public Services 3</td>
</tr>
<tr>
<td>2240:151</td>
<td>Basic Physics, Mechanics 7</td>
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<tr>
<td>5550:211</td>
<td>First Aid 2</td>
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<td>2260:100</td>
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<td>2260:205</td>
<td>Technical Electives 2</td>
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</tbody>
</table>

2260: Community Services Technology
This program prepares individuals for employment supportive of social work of other professional community service personnel providing social services for individuals, families, groups and communities.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>English 4</td>
</tr>
<tr>
<td>2020:222</td>
<td>Technical Report Writing 3</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations 3</td>
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<tr>
<td>2027:254</td>
<td>The Black American 2</td>
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<tr>
<td>2220:100</td>
<td>Introduction to Criminal Justice 3</td>
</tr>
<tr>
<td>2260:100</td>
<td>Introduction to Community Services 3</td>
</tr>
<tr>
<td>2260:150</td>
<td>Introduction to Gerontological Services 3</td>
</tr>
<tr>
<td>2260:260</td>
<td>Alcohol Use and Abuse 3</td>
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<tr>
<td>2260:278</td>
<td>Techniques of Community Work 4</td>
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<tr>
<td>2260:279</td>
<td>Technical Experience: Community and Social Work 5</td>
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<tr>
<td>3150:100</td>
<td>Introduction to Psychology 3</td>
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<tr>
<td>3850:100</td>
<td>Introduction to Sociology 4</td>
</tr>
<tr>
<td>7750:270</td>
<td>Poverty in the United States 3</td>
</tr>
<tr>
<td>7750:276</td>
<td>Introduction to Social Welfare 4</td>
</tr>
</tbody>
</table>

Electives 10

Options

Alcohol Services
- 2260:261 Alcoholism Treatment 2
- 2260:262 Basic Helping Skills in Alcohol Problems 4
- 2260:290 Special Topics: Alcohol Services 1-3

Gerontology
- 2260:251 Community Services for Senior Citizens 3
- 2260:252 Resident Activity Coordination 3

Volunteer Programming
- 2260:250 Fundamentals of Volunteer Management 3
- 2260:281 Recruitment and Interviewing of Volunteers 3

Technical Electives (suggested):
- 2220:245 Infant/Toddler Day Care Programs 3
- 2220:246 Juvenile Justice Process 3
- 2260:230 Community Based Residential Services 3
- 2260:240 Drug Use and Abuse 3
- 2260:241 Drug Treatment 3
- 2260:290 Special Topics in Community Services Technology 2-4
- 2410:140 Typing for Non-Secretarial Majors 3

Social Services Emphasis

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100: --</td>
<td>Physical Education 1</td>
</tr>
<tr>
<td>1100:105</td>
<td>Introduction to Public Speaking 3</td>
</tr>
<tr>
<td>1100:106</td>
<td>Effective Oral Communication 3</td>
</tr>
<tr>
<td>1100:112</td>
<td>English Composition 4</td>
</tr>
<tr>
<td>2020:121</td>
<td>English 4</td>
</tr>
<tr>
<td>2020:222</td>
<td>Technical Report Writing 3</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations 3</td>
</tr>
<tr>
<td>2020:242</td>
<td>American Urban Society 3</td>
</tr>
<tr>
<td>2020:254</td>
<td>The Black American 2</td>
</tr>
<tr>
<td>2020:250</td>
<td>Introduction to Criminal Justice 3</td>
</tr>
<tr>
<td>2020:278</td>
<td>Techniques of Community Work 4</td>
</tr>
<tr>
<td>2260:279</td>
<td>Technical Experience: Community and Social Work 5</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology 2</td>
</tr>
<tr>
<td>3850:100</td>
<td>Introduction to Sociology 4</td>
</tr>
<tr>
<td>7750:270</td>
<td>Poverty in the United States 3</td>
</tr>
<tr>
<td>7750:276</td>
<td>Introduction to Social Welfare 4</td>
</tr>
</tbody>
</table>

1For students who wish to pursue a baccalaureate degree in social work in a "2+2" arrangement.
Wayne General and Technical College

Tyrone M. Turning, Ed.D., Dean
Robert L. McElwee, M.A., Assistant Dean

HISTORY

The Wayne General and Technical College of The University of Akron is on 163 acres one mile northwest of Orrville, Ohio. The College was founded in 1972, culminating 13 years of effort on the part of citizens to establish locally a permanent facility for a branch campus of a major state university, and is authorized by the state of Ohio through the Ohio State Board of Regents to offer general studies, including baccalaureate-oriented preparation; technical education programs; and continuing education experiences for those who live in Medina, Wayne and Holmes counties.

MISSION AND GOALS

Wayne General is a public two-year branch campus of The University of Akron serving the citizens of Wayne, Holmes and Medina counties. Authorized by the Ohio General Assembly and the Ohio Board of Regents and governed by the Board of Trustees of The University of Akron, Wayne College operates under an open admission policy which provides broad access to educational opportunities.

Serving a predominantly rural and small city area, Wayne College has a diverse student population representing a wide range of ages, goals and needs. To meet the varied needs of the students, the College provides placement testing, career information, academic advising and convenient scheduling to assist students in planning and pursuing their academic and career futures.

Wayne College provides a general studies transfer program integral to a variety of professional and pre-professional majors. This program can lead to the degree of Associate of Arts or Associate of Science. In addition, technical preparation and occupational training for a variety of careers culminating in the degree of Associate of Applied Science or Associate of Applied Business and/or one-year certificates are other dimensions of the credit program.

The College is committed to intellectual and personal growth; it provides opportunities through which students can improve essential communication skills, acquire a body of knowledge and methodology, and develop critical decision-making abilities.

Students at Wayne College are provided an educational program that accommodates individual differences of background, age and need by providing accessible scheduling of programs, student services, academic support functions and a developmental program for those requiring skill remediation.

Wayne College contributes to the educational, cultural and social development of the community by sponsoring activities and events for the citizens of the College's service area as well as continuing education noncredit programs, workshops, seminars and courses.

The following goals provide further definition of the College's mission and serve as a basis upon which the College may establish program objectives:

Goal 1
Wayne College is committed to quality teaching which will provide optimal learning opportunities for all students.

Goal 2
The College will assist students to develop openness to new ideas and new ways of thinking, to undertake self-directed learning, to make a commitment to life-long learning, and to evaluate fairly and critically current values and practices in our society.

Goal 3
The College will maintain an appropriate balance in its transfer, career and continuing education programs.

Goal 4
The College will continue to provide public service to the rural community which it serves through its programs, activities, faculty and students.

Goal 5
The College will coordinate the growth and development of programs with the long-range plans and needs of the community.

Goal 6
The College will establish itself in the community as an intellectually exciting and stimulating place.

ADMISSION

Admission applications are available at the Office of Admissions on the main campus of The University of Akron or at Wayne College in Orrville (375-7356). The student enrolled at Wayne College may also take courses at the main campus of The University of Akron while attending Wayne. Likewise, a student enrolled on the main campus also may take courses at Wayne College concurrent with campus courses. Wayne General and Technical College is accredited at the associate degree level by the North Central Association of Colleges and Schools. Additional information regarding the college may be secured from the 1984 Wayne College Bulletin.
University College

Marion A. Ruebel, Ph.D., Dean
Dudley C. Johnson, Jr., M.S.Ed., Associate Dean, Academic Advising Services
Thomas Vukovich, Ph.D., Assistant Dean
Martin McKoski, Ph.D., Director, Developmental Programs
David C. Riede, Ph.D., Head, Department of General Studies

OBJECTIVES

The purpose of the University 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 the student a basic program of general studies and the prerequisite courses for advancement to the degree-granting colleges.
- To counsel the student with respect to adjustment to the collegiate environment and to academic, personal, and occupational objectives.
- To direct the student to the proper curricula so that the student will enter the degree-granting colleges prepared to undertake advanced work.

The college recommends the student for advancement to the degree-granting colleges upon satisfactory completion of the appropriate requirements.

1100: GENERAL STUDIES

The Department of General Studies of the University College provides a student 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, these courses help the student gain knowledge which helps to develop intelligent behavior patterns, self-understanding and the recognition of individual abilities.

The General Studies program provides a wide foundation of general knowledge to serve as the structural basis for the development of the student's intellectual abilities to their cultural or professional height. This foundation includes 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.

A student, well-grounded in the General Studies, is academically prepared to continue into realms of higher education; this curriculum has proved the most advantageous starting point for a student, no matter the student's eventual scholastic goal. It is equally valuable to the enrollee who is indecisive about a professional future and to the enrollee who arrives at the University convinced of what the enrollee wishes to become.

A student who completes 30 semester credits and achieves a grade-point average of 2.00 ("C") or better is eligible for transfer to a degree-granting college. A student should always check with the adviser to determine specific requirements for transfer to the programs of the student's choice.

Acceptance of a student in a degree-granting college is the responsibility of the respective collegiate dean, the dean of the University College and heads of departments concerned.

PROGRAM OF INSTRUCTION

The required General Studies courses are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:105 Introduction to Public Speaking</td>
<td>5</td>
</tr>
<tr>
<td>1100:106 Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>1100:111 English Composition</td>
<td>8</td>
</tr>
<tr>
<td>1100:115.6 Institutions in the United States*</td>
<td>6</td>
</tr>
<tr>
<td>1100:120.81 Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>1100:320.1 Western Cultural Traditions</td>
<td>8</td>
</tr>
<tr>
<td>1100:330-5 Eastern Civilization**</td>
<td>6</td>
</tr>
<tr>
<td>Math.</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science</td>
<td>6</td>
</tr>
</tbody>
</table>

ACADEMIC ADVISING SERVICES

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 a student 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 utilize course offerings that will better prepare the student for the future. Sensible course loads, proper choice of subjects, scholastic achievement, study habits, outside work loads and other circumstances have an effect on successful work and can all be matters for concern in this kind of counseling.

Personal counseling is the type of counseling which aids when problems of a personal nature seem to be obstructing academic careers or personal lives.

DEVELOPMENTAL PROGRAMS

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 devel-

*The six credit requirement in the social science area may also be met through one of the following options:

A. Completion of one of the following three sets totaling at least six credits selected from two of the following four sets of course offerings:

- 3250:244 Introduction to Economic Analysis, three credits (A student majoring in engineering is advised to take this as one of the student’s selections.)
- 3250:251 Principles of Macroeconomics, three credits (A student majoring in business, economics is advised to take this as one of the student’s selections. A student doing so should plan to take 3260:202, three credits.)
- 3260:100 Introduction to Economics, three credits
- 3400:201 United States History since Civil War, four credits
- 3400:202 United States History since Civil War, four credits
- 3700:100 Government and Politics in United States, four credits
- 3850:100 Introduction to Sociology, four credits
- 3970:150 Cultural Anthropology, four credits

B. For a Community and Technical College major only, completion of the following three courses (total of nine credits):

- 2020:240 Human Relations, three credits
- 2020:241 American Social Science, three credits
- 2020:247 Survey of Basic Economics, three credits

**An engineering student is only required to take two credits; all other students must take four credits.

Minimum of six 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, 1100:211, 23, 3, 4 (three credits each).
opmental courses, individual tutoring and work in the writing and reading laboratories, such a student can develop the skills necessary for acceptable performance at the college level.

Developmental courses are offered in English, reading, college reading and study skills, mathematics and chemistry. Classes are small to provide maximum time for individual help. Peer-tutoring is provided for most subjects taught in the first two years and is free.

The writing and reading laboratories are open to all undergraduate students without charge and provide professional diagnosis and remedy of weaknesses in these vital skills.

DIPLOMA NURSING PROGRAM

The University, in cooperation with the hospital schools of nursing at Akron City Hospital and St. Thomas Hospital Medical Center in Akron, provides a program of studies basic to a diploma in nursing. Nursing students must meet the University entrance requirements and are enrolled in regular credit courses.

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

The programs for the two schools of nursing differ slightly in regard to courses taken and their sequence.

The following courses are offered:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:130</td>
<td>Microbiology</td>
</tr>
<tr>
<td>3100:206</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>3100:207</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>2150:124</td>
<td>Chemistry</td>
</tr>
<tr>
<td>3750:110</td>
<td>Introduction to Psychology</td>
</tr>
<tr>
<td>3750:130</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>3800:150</td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>7400:133</td>
<td>Nutrition Fundamentals</td>
</tr>
</tbody>
</table>
Reserve Officers' Training Corps (ROTC)

1500: AEROSPACE STUDIES

The Department of Aerospace Studies provides the student with the opportunity to pursue 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 the student to become an officer who is dedicated and responsible; critical and creative in thinking; able to communicate clearly; and skilled in effective management.

Both the four- and two-year programs are open to the full-time male and female student who will have completed at least one course in mathematical reasoning and a baccalaureate degree at commissioning.

Programs

Four-Year Program

Full-time 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 Laboratory (Leadership Laboratory) each week and provides 1.5 semester credits.

Portions of the GMC may be accredited 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 United States Armed Forces.

GMC cadets who wish to compete for the last two years of the AFROTC program, the Professional Officer Course (POC), must meet the additional qualifications.

Two-Year Program

The basic requirement for entry into the two-year program is to have two academic years remaining, either at the undergraduate or the graduate level, or a combination of the two. Entry into the POC is competitive in nature. A two-year program applicant must meet the qualifications described below. A student in the POC receives 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 Laboratory (Leadership Laboratory) each week, and provides three semester credits.

Supplemental Courses

All GMC scholarship cadets are required, and nonscholarship cadets encouraged, to demonstrate proficiency or successfully complete a course in English composition. One semester of college instruction in a major Indo-European or Asian language is also required for all scholarship cadets. All POC cadets must demonstrate proficiency or complete a course in mathematical reasoning.

Field Training

In the summer prior to entering the POC, 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.

The four-year program student spends four weeks at an encampment, while field training for the two-year program applicant lasts six weeks. The additional two weeks for the two-year program applicant are used to cover the academic work taken by the cadet 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. The cadet and applicant receive pay at approximately half the rate of a second lieutenant.

Flight Training

Pilot-qualified students must either possess a private pilot's license or successfully complete the Flight Screening Program (FSP). The FSP is held in conjunction with field training. In addition to participation in a ground school covering aircraft systems, navigation, and regulations pertaining to flying, cadets will receive flight instruction from qualified civilian or Air Force instructors.

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

- Be a citizen of the United States or applicant for naturalization.
- Be a full-time student.
- Be in sound physical condition.
- Be of good moral character.
- Meet age requirements as follows:
  - AFROTC four-year scholarship recipients must be at least 17 years of age and able to complete commissioning requirements prior to age 25.
  - If not on scholarship status, but designated for pilot or navigator training, be able to complete all commissioning requirements prior to age 26½.
  - 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

- Be at least 17 years of age.
- 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.
- For the two-year student applicant, complete the six-week field training course.
- Receive a satisfactory score on the Air Force Officer Qualifying Test (AFOQT).
- Pass an Air Force physical examination.
- Be interviewed and selected by a board of Air Force Officers.
- Enlist in the Air Force Reserve prior to entry into the Professional Officer Course.

Requirements for Commissioning

- Complete the POC and field training.
- Earn at least a baccalaureate degree.
- Agree to accept, if offered, a commission in the United States Air Force.
- Agree to serve for a period of not less than four years or active duty after commissioning, or, if accepted for a flying training program, agree to serve five years after navigator training or six years after pilot training.
Scholarships

Air Force ROTC college scholarships are available to a qualified applicant 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 nontaxable subsistence allowance.

Four-year scholarships are available for an applicant in scientific/engineering and some nontechnical fields. An applicant will be evaluated on the basis of:

- CEEB Scholastic Aptitude Test (SAT) or the American College Test (ACT) results.
- High school academic record.
- Extracurricular and athletic activities.
- Interview.
- Passing an Air Force medical examination.

All three- and two-year scholarships are awarded on a competitive basis and an applicant is evaluated on:

- Air Force Officer Qualifying Test.
- Collegiate grade-point averages.
- Extracurricular and athletic activities.
- Screening and nomination board rating.
- Academic major and potential active duty career.

Scholarship information may be obtained by contacting the Department of Aerospace Studies.

Financial Allowances

A cadet enrolled in the POC will receive a nontaxable 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: MILITARY SCIENCE

The University’s Army Reserve Officers’ 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 graduate perpetuates and strengthens the tradition of our nation’s citizen soldier concept.

A student enrolled in Army ROTC has 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 the student learns 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; provide a better understanding of the military and military life, and improve technical skills. These include:

- Military post orientation visits (at least one per year).
- Adventure training: marksmanship, rappelling, backpacking, cross-country skiing and survival training.
- Social organizations.
- Fraternal organizations.

Programs

Four-Year Program

A full-time student 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. The basic course involves military Science I and II (MS I, MS II) of the four-year program for two credits per semester. MS I and II are held three hours each week and include studies in marksmanship, leadership fundamentals, rappelling, cross-country skiing, small unit operations and Army organization. In addition, the four-year program for two credits per semester. MS I and II are held three hours each week and include studies in marksmanship, leadership fundamentals, rappelling, cross-country skiing, small unit operations and Army organization. In MS I or MS II constitutes no obligation to military service or continuation into the advanced course and the credits received can be applied toward elective requirements. There is a requirement to wear a uniform and attend a leadership laboratory. A student who completes the basic course (MS I and MS II) is eligible for and may apply for enrollment into the advanced course, which leads to a commission. Advanced course units are held four hours per week for three semester credits. The material includes: advanced leadership, application of tactics, methods of instruction, resource management, military history, and the responsibilities of an officer. The advanced course includes a six-week paid summer camp attended usually between the junior and senior year. A student in the advanced course is paid $100 per month, or approximately $1000 per school year. Upon completing, the student will serve either with the Reserves, the National Guard or on active duty.

Two-Year Program

A student can also enter the advanced course by attending a basic military skills summer camp at Fort Knox, Kentucky or by having prior military service or training. This equals the Basic Course of the Four-Year Program, and makes the student eligible to enter the advanced course as described under the four-year program.

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 (at least one per year).
- Adventure training: marksmanship, rappelling, backpacking, cross-country skiing and survival training.
- Social organizations.
- Fraternal organizations.

Requirements for Admission

Basic Course: None

Advanced Course:

- Completion of basic course, basic summer camp or prior service.
- Qualify on the Army physical evaluation.
- Permission of the professor of military science.
- Be in good academic standing with the University.

Requirements for Commissioning

- Completion of a baccalaureate or advanced degree.
- Completion of the advanced ROTC course (MS Ill and IV).
- Completion of advanced summer camp.
- Agree to fulfill a service obligation as follows:
  - ROTC: Serve as a commissioned officer on active duty,
  - Advanced Course: in the Army Reserve or in the Army National Guard.
  - Basic Course: No obligation.
Scholarships

The Army ROTC has four-year scholarships available to high school seniors. Additionally, there are three- and two-year scholarships available on a competitive basis to students attending the University, whether or not they are enrolled in ROTC when applying for the scholarship. These scholarships provide tuition, fees, a flat rate for texts, and $100 per month allowance to the student for up to 10 months of the school year. Scholarship students must agree to spend two to four years on active duty.

Uniforms and Textbooks

Textbooks for all courses and equipment for adventure training are provided free by the Department of Military Science. Uniforms are issued free to all students while enrolled in the program.

Financial Allowances

An advanced course cadet and scholarship students are paid a non-taxable allowance of $100 per month for up to 10 months of the school year. A student attending basic summer camp or advanced camp is paid for travel expenses, meals, housing and a salary.

SPECIAL RESERVE AND NATIONAL GUARD PROGRAMS

Reserve and National Guard Early Commissioning Program

The student who enters the advanced program may be commissioned in the Reserve or National Guard upon completion of advanced ROTC and prior to receiving a baccalaureate degree. Upon completion of a baccalaureate degree the officer may apply for active duty.

Simultaneous Membership Program (SMP)

A member of the Reserves or National Guard, who is enrolled full-time in the University, may enroll in advanced ROTC if he applies for SMP membership through his unit, is accepted by the Professor of Military Science, and meets all other admission requirements for the advanced course (MS III and MS IV). Commissioning may occur upon completion of the advanced ROTC course, and the member will serve as an officer in the Reserves or National Guard. An SMP member receives $100 tax-free per month while in ROTC, is promoted to an E-5 officer trainee in the reserve/guard unit and receives E-5 pay.
Buchtel College of Arts and Sciences

Clarence E. Griffin, Ph.D., Dean
Paul S. Wingard, Ph.D., Associate Dean
William A. Francis, Ph.D., Assistant Dean

OBJECTIVES

The Buchtel College of Arts and Sciences serves the objectives of the University, which states that learning may be procured, preserved, and enlarged. More particularly, the college seeks to foster:

- 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 potentials. 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, the college requires the student to study ideas and experiences that are the subject matter of a variety of disciplines:
  - the nurture of civility — those actions whereby virtue, the advancement of society, and wise and humane government are encouraged;
  - 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 doctoral degrees in accordance with the level of accomplishment.

Buchtel College is one of eight degree-granting colleges at the University. Its name truthfully implies that its traditions date back farther than those of the other undergraduate colleges, since the University itself is an outgrowth of Buchtel College, a liberal arts institution founded in 1870.

When Buchtel College became the Municipal University of Akron, its 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 the student can prosper in life and sustain a creative appreciation of the arts and sciences.

The college is composed of the following three administrative divisions:

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, computer science, geology, mathematics, physics or statistics.

Social Sciences Division

It stresses intelligent participation in community affairs through education in economics, geography, history, political science, psychology and sociology.

COLLEGE REQUIREMENTS

Admission

To be admitted to the college the student must have completed 30 credits of work and have the approval of the dean of the college.

Degrees Awarded

Humanities Division: Bachelor of Arts.
Natural Sciences Division: Bachelor of Arts, Bachelor of Science, Bachelor of Science in Cytotherapy, Bachelor of Science in Medical Technology.
Social Sciences Division: Bachelor of Arts, Bachelor of Science in Geography/Cartography, Bachelor of Science in Labor Economics, Bachelor of Science in Political Science/Criminal Justice, Bachelor of Science in Political Science/Public Policy Management.

Baccalaureate Degrees

A student transferring into the college must have completed the equivalent of, or taken, 1100:111, 2 English Composition, three credits of Modern University Mathematics and the remainder of the lower-division General Studies program.

Requirements for the bachelor's degree include:

- Completion of the General Studies program.
- A minimum of 47 credits consisting of either:
  - 300/400-level courses both in and outside the student’s major;
  - any courses outside major department as specified in and approved by the student’s major adviser and the department or division head (permission should be obtained prior to enrollment), except General Studies courses.
- Demonstration of ability to use English and another language:
  - for English, this ability will be shown by the completion of the General Studies sequence of 1100:111, 2 English Composition;
  - for the other language, this ability will be shown by the completion of a second year of a foreign language on the University level or by demonstrating equivalent competence through a test approved by the Department of Modern Languages.
- Completion of requirements in a major field of study (see Programs of Instruction) and the recommendation of the student’s major department.
- Attaining a minimum grade-point average of 2.00 in all work in the major field.
- Fulfilling the University requirements for a baccalaureate degree set forth in Section 3 of this Bulletin.

Any student who wishes to receive a second baccalaureate degree must complete 32 credits of course work in addition to the credits necessary for
the first degree; 16 of these credits must be 300/400-level courses or other approved courses.

Major Field

To qualify for graduation, a student must concentrate or major in the work of either a department or a division of the college. 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 Academic Advising Services.

Ordinarily a student will select a department in which to major. The exact requirements for each major will be found on the following pages. 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 the student’s major department or designate becomes the academic adviser.

Preparation for High School Teaching

A student interested in a teaching career on the high school level may qualify for secondary school certification by the Ohio 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 is usually 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 requirements of a second teaching field, without exceeding the credits necessary for graduation.

The number of credits in a teaching field required for certification can be determined by referring to “Teaching Fields” College of Education, Section 4 of this Bulletin.

In addition to meeting the requirements in a teaching field, a student must also take the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>510:150 Introduction to Professional Education</td>
<td>3</td>
</tr>
<tr>
<td>520:250 Human Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>530:350 Educational Measurement and Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>540:450 Problems in Education</td>
<td>2</td>
</tr>
<tr>
<td>550:265 Introduction to Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>550:275 Exploitive Experience</td>
<td>1</td>
</tr>
<tr>
<td>550:310 Principles of Teaching in the Secondary-School</td>
<td>3</td>
</tr>
<tr>
<td>550:325 Content Reading in Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>540:345 Human Behavior in Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>550:355 Managing Classroom Behavior in the Secondary Level</td>
<td>1</td>
</tr>
<tr>
<td>550:375 Exploitive Experience</td>
<td>1</td>
</tr>
<tr>
<td>550:413 Instructional Techniques Secondary Education</td>
<td>4</td>
</tr>
<tr>
<td>550:445 Microcomputer Applications in Secondary Classroom</td>
<td>1</td>
</tr>
<tr>
<td>550:455 Career Options in Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>550:403 Student Teaching Seminar</td>
<td>1</td>
</tr>
<tr>
<td>550:495 Student Teaching</td>
<td>8</td>
</tr>
</tbody>
</table>

Minor Areas of Study

For an explanation of minor areas of study in the Buchtel College of Arts and Sciences, see Section 5 of this Bulletin.

PROGRAMS OF INSTRUCTION

3100: Biology

Bachelor of Science

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

Core requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>310:111 Principles of Biology</td>
<td>8</td>
</tr>
<tr>
<td>310:211 General Genetics</td>
<td>3</td>
</tr>
<tr>
<td>310:217 General Biology</td>
<td>3</td>
</tr>
<tr>
<td>310:316 Evolutionary Ecology</td>
<td>3</td>
</tr>
<tr>
<td>310:331 Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>310:384 Techniques and Instrumentation Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>315:132 Principles of Chemistry</td>
<td>7</td>
</tr>
<tr>
<td>315:134 Qualitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td>315:291 Organic Chemistry and Biochemistry</td>
<td>8</td>
</tr>
<tr>
<td>315:265 Organic Chemistry</td>
<td>10</td>
</tr>
<tr>
<td>345:147 Elementary Functions I and II</td>
<td>6</td>
</tr>
<tr>
<td>345:114 Introductory Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>345:162 Introductory Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>347:251,2,3 Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

- 300/400-level courses: the student is required to complete one course in anatomy/physiology and two courses in organizational biology which have been approved by the department.

A student majoring in zoology or medical technology should consult a member of the biology faculty during the first year.

Areas of Specialization

Specialization in one of the areas listed below during the third and fourth years:

Botany

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>310:440 Mycology</td>
<td>4</td>
</tr>
<tr>
<td>310:443 Physiology</td>
<td>4</td>
</tr>
<tr>
<td>310:445 Plant Morphology</td>
<td>4</td>
</tr>
<tr>
<td>310:447 Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>310:449 Plant Biomechanics</td>
<td>2</td>
</tr>
</tbody>
</table>

Ecology

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>310:422 Conservation of Biological Resources</td>
<td>4</td>
</tr>
<tr>
<td>310:424 Freshwater Ecology</td>
<td>3</td>
</tr>
<tr>
<td>310:464 General and Comparative Physiology</td>
<td>4</td>
</tr>
<tr>
<td>335:215 Specialized Writing</td>
<td>3</td>
</tr>
<tr>
<td>335:401 Soil and Water Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>337:201 Introductory Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>345:221,2,3 Analytic Geometry-Calculus I and II</td>
<td>8</td>
</tr>
<tr>
<td>447:216 Statistics</td>
<td>6</td>
</tr>
<tr>
<td>4452:06 Fortran Programming and either</td>
<td>3</td>
</tr>
</tbody>
</table>

Microbiology

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>310:331 Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>310:426 Applied Aquatic Ecology</td>
<td>3</td>
</tr>
<tr>
<td>310:440 Mycology</td>
<td>4</td>
</tr>
<tr>
<td>310:443 Physiology</td>
<td>4</td>
</tr>
<tr>
<td>310:423 Quantitative Analysis</td>
<td>3</td>
</tr>
<tr>
<td>345:427 Analytical Chemistry Lecture</td>
<td>3</td>
</tr>
<tr>
<td>or one course from each group below</td>
<td>3</td>
</tr>
<tr>
<td>310:351 Invertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>310:353 General Entomology</td>
<td>4</td>
</tr>
</tbody>
</table>

*Second year of foreign language and Eastern Civilizations not required for B.S. in Medical Technology.
**Not required for B.S. in Medical Technology.
†Not required for B.S. in Biology degree.
‡ Required for B.S. in Cytotechnology.
For pre-medical, pre-dental, pre-veterinary, and pre-pharmacy students, this section outlines requirements. Zoology, Physiology, and Pre-Professional courses are mandatory for state certification. Microbiology electives include Microbiology, Virology, Immunology, and more. Physiology and Pre-Professional sections detail subjects like Histology, Genetics, and Microbiology.

**Microbiology**
- Microbiology
- Virology
- Immunology

**Electives**
- Parasitology
- Pathogenic Bacteriology
- Mycology

**Electives (at least one):**
- Human Physiology
- Biochemistry

**Physiology and Pre-Professional**

**Zoology**
- Invertebrate Zoology
- Vertebrate Zoology
- General and Comparative Physiology

**Electives:**
- General Entomology
- Parasitology

**High School Teaching**

**Bachelor of Science in Medical Technology**
- Anatomy and Physiology
- Microbiology

**Bachelor of Science in Cytotechnology**
- Anatomy and Physiology
- Microbiology

**Bachelor of Arts**
- Principles of Biology
- General Genetics

**Bachelor of Science (A.C.S. certified)**
- General Chemistry
Cooperative Education Program — Chemistry

Qualifications
Arrangements for student entry into the program are on an individual basis, and are initiated by the student during the second year of undergraduate study. The cooperative education program is an optional program available to all full-time B.S. chemistry majors at the University who have met the following requirements:

1. satisfactory completion of 60 credits with a grade-point average of at least 2.0 (C) in the major requirements;
2. be on schedule in the student’s curriculum;
3. received acceptance by a cooperative education coordinator or director following a series of interviews.

A transfer student may also be considered for the cooperative education program if his background is equivalent to the minimum requirements for a University of Akron student. At least one semester of full-time study at The University of Akron is required before a transfer student can be eligible for the Cooperative Education Program.

A part-time student, having completed 60 credits with a “C” average and on schedule in the curriculum, is also eligible for the program. However, once having entered, the student is expected to be a full-time student while not on his co-op job.

It should be noted that placement in an industrial or other position is not guaranteed, and that the foreign student should recognize that many companies require United States citizenship or possession of a permanent visa. In any case, final acceptance for any position is, of course, the decision of the employer.

Schedule
The work-study schedule for a student in the co-op program is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>School</td>
<td>School</td>
<td>Vacation/School</td>
</tr>
<tr>
<td>2</td>
<td>School</td>
<td>School</td>
<td>Vacation/School/Work</td>
</tr>
<tr>
<td>3</td>
<td>School</td>
<td>Work</td>
<td>School</td>
</tr>
<tr>
<td>4</td>
<td>Work</td>
<td>School</td>
<td>Work</td>
</tr>
<tr>
<td>5</td>
<td>School</td>
<td>School</td>
<td>School</td>
</tr>
</tbody>
</table>

Registration
While no academic credits are assigned, each student must register for cooperative work periods in the same manner that a student registers for any other course. The course is:

3000:301 Cooperative Education (may be repeated) 0

A certificate is awarded upon completion of the program. Course required for certification is 3000:301 and is optional.

A registration fee for each work period is charged to cover partially the expenses of administering the program. Upon completion of a work period, a statement will appear on each student’s official transcript listing the course number, title and name of the employer. In the place of a grade, “credit” or “no credit” will be given, depending upon the student’s satisfactory or unsatisfactory completion of the following:

1. work performance as evaluated by the employer
2. a written work report and its approval by the department head and cooperative education staff
3. Cooperative Work Period Summary form
Bachelor of Arts

Classics
- The General Studies.
- At least 39 departmental credits including four semesters of 3210:303/304 Advanced Greek or four semesters of 3220:303/304 Advanced Latin. 3210:497 /498 Greek Reading and Research or 3220:497/498 Latin Reading and Research may be substituted with the approval of the department advisor — 12 credits.

Classical Civilization
- The General Studies and the second year of a foreign language.
- Language courses must be above the 200 level in order to be included in the total of 36 credits. In the case of a Latin major, three credits in this language (preferably in Latin grammar and idiom) must be taken during the senior year.
- The student wishing to be certified for public school teaching with Latin at the principal teaching field must complete 26 credits in that language. In addition, the required credits in a second academic teaching field must be completed. See "Teaching Fields," College of Education, Section 4 of this Bulletin.

Economics
- The General Studies and the second year of a foreign language.
- At least 30 departmental credits including:

  - Principles of Macroeconomics
  - Principles of Microeconomics
  - Macroeconomics
  - Microeconomics
  - Mathematical Economics I
  - Mathematical Economics II

- Electives — 15 credits.
- Mathematics

  - Pre-calculus Mathematics
  - Elementary Functions I or II

- Statistics (one of the following):

  - Quantitative Business Analysis I and II
  - Descriptive Statistics and Problems
  - Hypothesis Testing
  - Regression and Correlation

- Electives — 40 credits.

Geography
- The General Studies and the second year of a foreign language.
- At least 30 departmental credits including:

  - Principles of Macroeconomics
  - Principles of Microeconomics
  - Macroeconomics
  - Microeconomics
  - Mathematical Economics I

- Electives — 40 credits.
\section*{3370: Geology}

\textbf{Geology}

- The General Studies and the second year of a foreign language.
- At least 30 departmental credits including:
  - 3370.101 Introductory Physical Geology
  - 3370.102 Introductory Historical Geology
  - 3370.210 Geomorphology
  - 3370.421 Principles of Chemistry I and II
  - 3370.422 Analytic Geometry-Calculus I and II
  - 3370.446 Exploratory Geophysics
  - 3370.496 Geology Field Camp
  - Geology Electives (as approved by geophysics adviser)

- Non-geology required courses:
  - 3150.112 Principles of Chemistry I
  - 4450.148 Elementary Functions II (or equivalent)

\textbf{Bachelor of Arts}

- The General Studies and the second year of a foreign language.
- At least 44 departmental credits including:
  - 3370.101 Introductory Physical Geology
  - 3370.102 Introductory Historical Geology
  - 3370.210 Geomorphology
  - 3370.421 Principles of Chemistry I and II
  - 3370.422 Analytic Geometry-Calculus I and II
  - 3370.446 Exploratory Geophysics
  - 3370.496 Geology Field Camp
  - Geology Electives (as approved by geophysics adviser)

\section*{3400: History}

\textbf{Bachelor of Arts}

- The General Studies and the second year of a foreign language (French, German, or Russian recommended).
- At least 44 credits in history, but up to six credits in cognate fields may be substituted with the advisor's approval. These credits must include some distribution of United States and European or non-United States history, and 3400.405, Historical Methods (taken in the sophomore or junior year). The minimum shall be 16 credits in 300/400 numbered history courses.

\section*{3450: Mathematics}

\textbf{Bachelor of Arts}

- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including:
  - 3450.207 Analytic Geometry-Calculus II and III
  - 3450.208 Differential Equations
  - 3450.311 Abstract Algebra
  - 3450.312 Linear Algebra
  - 3450.421 Advanced Calculus I and II
  - 3450.445 Introduction to Topology
  - Mathematics Electives

(Elective credits must be approved 300/400-level courses in the department.)
Data
asked and responsibility. The student
University of Akron who have satisfactorily met the
Arrangements for student entry into the program are on an individual basis,
available only to
The work-study schedule for a student participating in the Cooperative
Schedule

Cooperative Education Program —
Mathematical Sciences
Schedule
The work-study schedule for a student participating in the Cooperative
Education Program is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>School</td>
<td>School</td>
<td>Vacation/School</td>
</tr>
<tr>
<td>2</td>
<td>School</td>
<td>School</td>
<td>Vacation/School</td>
</tr>
<tr>
<td>3</td>
<td>School</td>
<td>Work</td>
<td>School</td>
</tr>
<tr>
<td>4</td>
<td>Work</td>
<td>School</td>
<td>Work</td>
</tr>
<tr>
<td>5</td>
<td>School</td>
<td>School</td>
<td></td>
</tr>
</tbody>
</table>

Admission
Arrangements for student entry into the program are on an individual basis,
and must be initiated by the student during the second year of undergraduate
study. The Cooperative Education Program is an optional program available only to all full-time mathematical sciences students at The University of Akron who have satisfactorily met the following requirements:

- Sixty credits with a grade-point average of at least 2.00 out of a possible 4.00 in the program of mathematical sciences curriculum and be on schedule in the curriculum.
- Acceptance by a cooperative education coordinator or director following interviews.
- A transfer student must:
  - Complete 16 credits of academic work at The University of Akron with a grade-point average of at least 2.00 out of a possible 4.00. Be on schedule in the mathematical sciences curriculum.

A student who desires to participate in the program will fill out a Personal Data form and submit it to the department head. The student will then meet with a member of the cooperative education staff to discuss the availability of prospective employers. During this interview, the student will be asked to sign a Cooperative Educational Agreement and a grade release form which will become effective upon employment. Employment must be coordinated or have approval of the department and the cooperative education director. The University does not guarantee employment for the student. The student will be expected to remain with the employer for all cooperative work periods in order to provide a progression of experience and responsibility.

- For the Bachelor of Science degree, complete 16 credits of course work outside the major and beyond the General Studies in a suitable area of concentration as approved by the department.
- For the Bachelor of Arts degree, complete 18 credits of humanities or social sciences beyond the General Studies. The 18 credits are to be from more than one department.
- Electives — 17 credits.

Applied Mathematics
- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including:

  3450:221,23 Analytic Geometry-Calculus I, II and III 12
  3450:225 Differential Equations 3
  3450:312 Linear Algebra 3
  3450:421,2 Advanced Calculus I and II 6
  3450:427 Introduction to Numerical Analysis 3
  3460:436 Mathematical Models 3
  3450:451 Theoretical Statistics I 3
  Mathematics Electives 7 (Elective credits must be in approved 300/400-level courses in the department.)

- For the Bachelor of Science degree: complete 18 credits of course work outside the major and beyond the General Studies in a suitable area of concentration as approved by the department.
- For the Bachelor of Arts degree: complete 18 credits in the humanities and social sciences beyond the General Studies. These 18 credits are to be from more than one department.
- Electives — 17 credits.

3460: Computer Science
Bachelor of Science
- The General Studies and the second year of a foreign language.
- At least 37 credits in computer science.
- Core curriculum:
  3460:209 Computer Programming I 3
  3460:210 Computer Programming II 3
  4450:306 Assembler Programming 3
- Other required courses:
  3460:307 Applied Systems Programming 3
  4450:407 Systems Programming 3
  3460:316 Introduction to Data Structures 3
  3460:418 Introduction to Discrete Structures 3
  3460:420 Structured Programming 3
  3460:426 Operating Systems 3
- Electives — Computer Science — 12 credits.

Options
Mathematics
At least 22 credits to include:

  3450:211 Analytic Geometry-Calculus I 4
  3450:222 Analytic Geometry-Calculus II 4
  3450:223 Analytic Geometry-Calculus III 4
  3450:312 Linear Algebra 3
  or
  3450:428 Numerical Linear Algebra and
  3450:427 Introduction to Numerical Analysis 3
  3470:481 Applied Statistics 3

Business**
A total of 28 credits to include:

  3250:201 Principles of Microeconomics 3
  3250:202 Principles of Microeconomics 3
  3450:215 Concepts of Calculus I 3
  3450:215 Linear Programming 1
  3450:216 Concepts of Calculus II 4
  3460:202 Cobol Programming 2
  3460:475 Data Base Management 3
  3470:251 Descriptive Statistics and Probability 1
  3470:252 Distributions 1
  3470:253 Hypothesis Testing 1
  3470:255 Regression and Correlation 1
  3470:256 Experimental Design 1
  6200:261.2 Accounting I and II 6

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**Elective credits under the Business Option are six credits.
3470: Statistics

Bachelor of Arts

Bachelor of Science

- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including:
  3450:221,2,3 Analytic Geometry-Calculus I, II and III 12
  3450:235 Differential Equations 3
  3460:312 Linear Algebra 3
  3470:221,2 Advanced Calculus I, II 6
  3470:451,2 Theoretical Statistics I, II 6
  3470:461 Applied Statistics 4
  3470:463 Experimental Design 4
  Mathematics Elective 2
  (Elective course must be an approved 300/400-level course in the department.)

- For the Bachelor of Science degree: complete 18 credits of course work outside the major and beyond the General Studies in a suitable area of concentration as approved by the department.
- For the Bachelor of Arts degree: complete 18 credits of humanities or social sciences beyond the General Studies. The 18 credits are to be from more than one department.
- Electives — 17 credits.

3500: Modern Languages

3500: French; 3530: German; 3550: Italian; 3570: Russian; 3580: Spanish.

Bachelor of Arts

- The General Studies.
- Completion of 24 credits above the second year (200 level): six credits in literature, six credits in culture, six credits of electives in the major language and six credits in composition and conversation.**

3600: Philosophy

Bachelor of Arts

- The General Studies and the second year of a foreign language.
- A minimum of 30 departmental credits including:
  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
  3600:312 History of Medieval Philosophy 3
  3600:313 History of Modern Philosophy 3
  (Of the additional credits, six must be earned in 300/400-level courses.)
- Electives (selected concentration) — 12-16 credits.
- Electives — 29-33 credits.


**For Spanish majors some distribution among languages, literature and culture courses is required. Consult an adviser.

3650: Physics

Bachelor of Science

This degree is intended for the student seeking the most detailed and quantitative preparation in physics available in an undergraduate curriculum.

- The General Studies and the second year of a foreign language.
- Physics†
  A minimum of 40 credits at 200 level or higher, including:
  3650:291,2 Elementary Classical Physics I and II 8
  3650:301 Elementary Modern Physics 3
  3650:322,3 Intermediate Laboratory I, II 4
  3650:340 Thermal Physics 3
  3650:431 Mechanics I 3
  3650:436 Electromagnetism I 3
  3650:441 Quantum Physics I 3
  Highly recommended courses for all students:
  3650:432 Mechanics II 3
  3650:437 Electromagnetism II 3
  3650:442 Quantum Physics II 3
  3650:451,2 Advanced Laboratory I, II 4
  3650:481 Methods of Mathematical Physics I, II 6
  Physics Electives
  Mathematics:
  3450:235 Differential Equations 3
  3450:221,2,3 Analytic Geometry-Calculus I, II and III 12
  Chemistry:
  3150:132,3 Principles of Chemistry I, II 7
  Computer Science:
  4450:206 Fortran (Science and Engineering) 2
  Electives — 20 credits.

Bachelor of Arts

This degree is primarily for the student desiring a useful background in physics, but whose professional objectives may not require graduate study in physics or a related physical science.

- The General Studies program and the second year of a foreign language.
- Physics:
  A minimum of 24 credits including‡‡
  3650:291,2 Elementary Classical Physics I and II 8
  3650:310 Electrons 3
  3650:322 Intermediate Laboratory I 2
  Physics Electives 11
  Mathematics:
  3450:221,2,3 Analytic Geometry-Calculus I, II and III 12
  Electives — 48 credits.

Areas of Specialization

Applied Physics/Engineering Physics
(Bachelor of Science degree recommended)

A suggested program of 32 credits including the following:

3650:321 Physics Laboratory Techniques 3
3650:404 Energy and the Environment 3
3650:438 Methods of Applied Physics 3
4200:305 Materials Science 2
4300:202 Introduction to Mechanics of Solids 3
4400:231,2 Circuits I, II 6
4400:333,4 Circuits III, IV 6
4600:125 Engineering Graphics 2
4600:310 Fluid Mechanics 3

†Additional physics courses are usually necessary to satisfy the admission requirements of graduate schools for advanced work in physics or certain other physical sciences.
‡‡Only one of the introductory sequences 291,2 or 261,2 is applicable toward the required 40 credits. Courses 1100-224, 3650:130, 133, 137, 138, 141 and 160 are not applicable toward the required 40 credits. Physics courses without special permission.
‡‡‡Courses 1100-224, 3650:130, 133, 137, 138, 141 and 160 are not applicable toward the required 24 credits of Physics courses without special permission.
The preceding requirements specify the minimum curriculum for the B.S. and B.A. degrees with a major in physics. The student expecting to specialize in a particular professional area should consider utilizing part or all elective courses toward one of the important program areas of specialization listed above. These programs are intended to be illustrative only; considerable flexibility is possible, depending upon the needs and interests of the individual student.

The physics student may consider it important to pursue a greater depth in other science areas (besides physics and mathematics) than may usually be possible within the traditional four-year departmental degree curricula. This student may therefore prefer to work toward the Bachelor of Science in natural science degree. For further information, refer to Buchtel College of Arts and Sciences, "Natural Sciences Division Major," in this section or contact the Department of Physics.

Cooperative Industrial Employment Plan
For the academically qualified undergraduate student majoring in physics, an optional cooperative plan is available which provides a sequenced sequence of professionally-oriented industrial employment (totaling a full calendar year) alternating with periods of on-campus classroom instruction. This cooperative 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 are made on an individual basis and must be initiated by the student during the second year of undergraduate study. For further information, contact the department.

**3700: Political Science**

**Bachelor of Arts**
- The General Studies and the second year of a foreign language.
- At least 30 credits in the department including:
  - 3700.100 Government and Politics in the United States
  - 3700.200 Comparative Politics
  - 3700.300 Introduction to Political Science
  - 3700.303 Introduction to Political Thought
  - 3700.310 International Politics and Institutions
  - 3700.461 The Supreme Court and Constitutional Law

- Political Science Electives (Electives must include at least one 400-level course in political science.)
- Electives — 45 credits.

**Bachelor of Science in Political Science/Criminal Justice**
- Completion of all requirements for the Associate Degree in Criminal Justice Technology established by the Community and Technical College.
- Completion of General Studies requirements.
- Completion of 47 credits of 300/400-level courses.
- At least six credits of course work which will introduce the student to a foreign culture. Such courses shall be selected by the student with the approval of the adviser in the Department of Political Science. Courses may be chosen from any of the following departments: classics, modern languages, history, political science, anthropology and geography.
- At least 30 departmental credits including:*?
  - 3700.100 Government and Politics in the United States
  - 3700.101 State and Local Government and Politics
  - 3700.341 The American Congress
  - 3700.360 The Judicial Process
  - 3700.370 The American Bureaucracy
  - 3700.380 Urban Politics and Policies
  - 3700.461 The Supreme Court and Constitutional Law
  - 3700.480 Policy Problems
  - 3700.595 Internship in Government and Politics

  or

  - 3000.301 Cooperative Education

  and

  - 3700 — 300/400 level political science course

**Bachelor of Science in Political Science/Public Policy Management**
- The General Studies and the second year of a foreign language.
- Political Science:
  - 3700.100 Government and Politics in the United States
  - 3700.200 Introduction to Political Science
  - 3700.370 The American Bureaucracy

*See department head for possible substitutions.
The student will take an additional nine credits in either of the following two areas:

Domestic Public Policy
3700:210 State and Local Politics 3
3700:340 American Political Parties 3
3700:391 America Congress (3)
3700:392 Minority Group Policies 3
3700:350 American Presidency 3
3700:360 Urban Politics and Policies 4
3700:381 State Politics 3
3700:392 Intergovernmental Relations 3
3700:402 Politics and the Media 3
3700:440 Public Opinion and Political Behavior 4
3700:461 Supreme Court and Constitutional Law 4

International Policy
3700:100 Area of Study to be selected from current regional course offerings 3
3700:200 Comparative Politics 4
3700:300 International Politics and Institutions 4
3700:325 Comparative Public Policy 3
3700:325 Politics of Developing Nations 3
3704:415 Comparative Foreign Policy 3
3700:420 Issues and Approaches to Comparative Politics 1

• Statistics:
3470:251,2,5 Introduction to Statistics 4

• Computer Science:
3460:201 Introduction to FORTRAN Programming 2
3460:202 Introduction to COBOL Programming 2
3460:210 Introduction to Computer Concepts 3
3460:475 Data Base Management 3

• Accounting:
6200:251 Accounting I 4
6200:470 Governmental and Institutional Accounting 3

• Economics:
3250:202 Principles of microeconomics 3
3250:330 Labor Problems 3
3250:405 Public Finance 3

• Psychology:
3750:100 Introduction to Psychology 3

• Management:
6550:301 Management Principles and Concepts 3
6500:341 Personnel Management 3
Electives at the 300/400 level 4

Special Curricular Tracks in Political Science
The department offers three special tracks for the student 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 preparation for careers in law, government service or international service.

Information about these curricular tracks may be obtained from the head of the department.

### 3850: Sociology

(3850: Sociology, 3870: Anthropology)

**Bachelor of Arts**

**Sociology**

- The General Studies and the second year of a foreign language.
- A minimum of 30 credits in sociology including:
  - 3850:100 Introduction to Sociology 4
  - 3850:301 Introduction to Sociology (I and II) 6
  - 3850:403 History of Sociological Thought 3
  - 3870:404 Contemporary Sociological Theories 3
  - Sociology Electives 14

  (3870:150 Cultural Anthropology can be counted as part of these credits)

- Electives — 45 credits.

The student should consult with a departmental adviser about using electives to enhance the specialty area, e.g., academic sociology, deviance and corrections, family, agency, and life cycle, urban planning and social research.

**Sociology/Anthropology**

- The General Studies and the second year of a foreign language.
- A minimum of 31 credits in the department including:
  - 3850:100 Introduction to Sociology 4
  - 3850:301 Introduction to Sociology (I and II) 6
  - 3850:403 History of Sociological Thought 3
  - 3850:404 Contemporary Sociological Theories 3
  - 3870:150 Cultural Anthropology 4
  - 3870:151 Evolution of Man and Culture 3
  - 3870:256 Archaeology of the Americas 3
  - 3870:461 Language and Culture 3

- A minimum of two additional credits:
  - 3870:256 Indians of South America 3
  - 3870:257 Magic, Myth and Religion 3
  - 3870:258 Indians of North America 3
  - 3870:455 Culture and Personality 3
  - 3870:463 Social Anthropology 3

- Electives — 44 credits.

**Sociology/Law Enforcement**

- The General Studies and the second year of a foreign language.
- A minimum of 33 credits in the department including:
  - 3850:100 Introduction to Sociology 4
  - 3850:301 Methods of Social Research I and II 6
  - 3850:330 Social Inequality 3
  - 3850:330 Criminology 3
  - 3850:403 History of Sociological Thought 3
  - 3850:404 Contemporary Sociological Theories 3
  - 3850:430 Juvenile Delinquency 3
  - 3850:433 Sociology of Deviant Behavior 3
  - 3850:441 Sociology of Law 3
  - 3850:495 Research Internship 2

- Electives — 42 credits

Students who enter the Sociology/Law Enforcement program from the University College, or by transfer, must complete course work in the Criminal Justice Technology program. This may be done in one of two ways: (1) complete the program requirements for an A.S. degree in Criminal Justice; or, (2) complete 18 credits of Criminal Justice Technology course work, plus 2250:280 Administration and Supervision in the Public Service. The appropriate course work will be determined by the student’s Sociology/Law Enforcement adviser in consultation with the coordinator of the Criminal Justice Technology program.

**Sociology/Criminology**

- The General Studies and the second year of a foreign language.
- A minimum of 33 credits in sociology including:
  - 3850:100 Introduction to Sociology 4
  - 3850:301 Methods of Social Research I and II 6
  - 3850:330 Criminology 3
  - 3850:403 History of Sociological Thought 3
Students who enter the Sociology/Corrections program from the University College, or by transfer, must complete course work in the Criminal Justice Technology program. This may be done in one of two ways: (1) complete the program requirements for an A.S. degree in Criminal Justice, or, (2) complete 18 credits of Criminal Justice Technology course work, plus 2250:260 Administration and Supervision in the Public Service. The appropriate course work will be determined by the student's Sociology/Corrections adviser in consultation with the coordinator of the Criminal Justice Technology program.

**Division Majors**

### Humanities

The humanities division consists of the departments of classics, English, modern languages and philosophy. The disciplines of history and the creative and dramatic arts (art, music, theatre arts) are included. The divisional major must include the following:
- The General Studies and the second year of a foreign language.
- A minimum of 54 credits, at least 24 of which must be in courses at the 300/400 level. The 54 credits must include 18 credits in each of any three of the following six fields: classics, English, history, modern languages, philosophy and the creative and dramatic arts.
- The first two years of any language in either classics or modern languages will not be included in the 18-credit requirement for those disciplines. By field, the 18-credit requirement must include:
  - **Classics:**
    - 3200:161.2 Comparative Literature 6
    - 3200:189 Classical Mythology 3
  - **English:**
    - 300/400 level, including at least two courses at the 400 level (minimum) 9
  - **History:**
    - 300/400 level (minimum) 10
  - **Modern Languages:**
    - Composition and Conversation 6
    - Literature 6
    - Any combination of linguistics and culture-civilization 6
  - **Philosophy:**
    - 3600:101 Introduction to Philosophy 3
    - 3600:120 Introduction to Ethics 3
    - 3600:170 Introduction to Logic 3
  - **Creative and Dramatic Arts:**
    - Non-performance courses in art (7100), music (7100) and theatre arts (7900) 18

Courses for the humanities division major must be selected with the approval of the division adviser. For further information, please contact the Office of the Dean, Buchtel College of Arts and Sciences.

### Natural Sciences

The natural sciences division consists of the departments of biology, chemistry, geology, mathematical sciences, computer science, physics and polymer science. The divisional major must include:
- The General Studies.
- At least 24 credits from one of the departments of the natural sciences division.
- At least 16 credits from another of the following disciplines: biology, chemistry, engineering, geology, mathematics or computer science or statistics, physics, polymer science.

- At least 16 credits from a third of these disciplines; or alternatively, at least eight credits in each of two other of these disciplines.
- A foreign language is strongly recommended.

The courses for the natural sciences division major must be selected from those courses approved by the department offering the course. In general, only courses available toward the major are acceptable. For further information, please contact the Office of the Dean, Buchtel College of Arts and Sciences.

### Social Sciences

The social sciences division consists of the departments of economics, geography, history, political science, psychology, sociology and urban studies (graduate program only). The divisional major must include the following:
- The General Studies and the second year of a foreign language.
- A minimum of 54 credits, at least 24 of which must be in courses at the 300/400 level. The 54 credits must include a minimum of 15 credits in each of any three of the following six fields: economics, geography, history, political science, psychology and sociology-anthropology.
- By field, the 15-credit requirement must include:
  - **Economics:**
    - Any except 3250:100 Introduction to Economics*(must include 3250:200 Principles of Macroeconomics and 3250:202 Principles of Microeconomics) 15
  - **Geography:**
    - History:
      - Minimum of seven credits at the 300/400 level 15
  - **Politics:**
    - At least seven credits at the 300/400 level
    - 3700:100 Government and Politics in the United States
    - 3700:201 Introduction to Social Science* 15
  - Each student shall take at least one course in two of the four areas (American government and politics, comparative politics, international politics and political theory) shown below:
    - American Government and Politics:
      - 3700:210 State and Local Government and Politics 3
      - 3700:340 American Political Parties and Interest Groups 3
      - 3700:341 The American Congress 3
      - 3700:342 Minority Group Politics 3
      - 3700:350 The American Presidency 3
      - 3700:360 The Judicial Process 3
      - 3700:370 The American Bureaucracy 4
      - 3700:380 Urban Politics and Policies 4
      - 3700:381 State Politics 3
      - 3700:402 Politics and the Media 4
      - 3700:440 Public Opinion and Political Behavior 4
      - 3700:441 The Policy Process 3
      - 3700:461 The Supreme Court and Constitutional Law 4
      - 3700:480 Policy Problems 3
  - Comparative Politics:
    - 3700:206 Comparative Politics 4
    - 3700:320 Britain and the Commonwealth 3
    - 3700:321 Western European Politics 3
    - 3700:322 Soviet and Eastern European Politics 3
    - 3700:323 Politics of China and Japan 3
    - 3700:328 Politics of Developing Nations 3
    - 3700:327 African Politics 3
    - 3700:420 Issues and Approaches in Comparative Politics 3
    - 3700:425 Latin American Politics 3
  - International Politics:
    - 3700:220 American Foreign Policy 3
    - 3700:310 International Politics and Institutions 4
    - 3700:415 Comparative Foreign Policy 3
  - Political Theory:
    - 3700:302 American Political Ideas 3
    - 3700:303 Introduction to Political Thought 3
    - 3700:304 Modern Political Thought 3

*Course will not apply toward 54 credits in the major.
Courses for the social sciences division major must be selected with the approval of the divisional adviser. For further information, please contact the Office of the Dean, Buchtel College of Arts and Sciences.

Bachelor of Science/Doctor of Medicine Degree (B.S./M.D. Program)*

Introduction
The Northeastern Ohio Universities College of Medicine is a consortium composed of The University of Akron, Kent State University, Youngstown State University and the College of Medicine that offers a six-year B.S./M.D. degree program.

Each university admits a student into Phase I (years one and two) and recommends the successful student to Phase II (years three through six) medical study at the College of Medicine at the Rootstown campus. The Phase II student completes the undergraduate degree program during the summer of years three through five.

At The University of Akron, a student pursues a B.S. in the natural sciences division in the Buchtel College of Arts and Sciences.

Requirements

- The General Studies.
- The following courses to meet divisional major:
  - 3100:111 Principles of Biology
  - 3100:381 Human Genetics
  - 3100:466 Developmental Anatomy
  - 3150:132 Principles of Chemistry I and II
  - 3150:134 Quantitative Analysis
  - 3150:263 Organic Chemistry I, II
  - 3150:265 Organic Chemistry Laboratory
  - 3150:266 Organic Chemistry Laboratory (Optional)
  - 3150:401 Biochemistry I, II
  - 3450:221 Analytic Geometry-Calculus I and II
  - 3650:201 Physics
  - 3650:267 Physics Laboratory
  - 3750:100 Introduction to Psychology
  - 3750:110 Quantitative Methods in Psychology

- Additional courses as follows:
  - 1880:201 Medical Seminar and Practicum I
  - 1880:301 Medical Seminar and Practicum II
  - 3100:190 Health Care Delivery Systems
  - 3100:290 Health Care Delivery Systems
  - 2780:200 Special Topics: Allied Health

- Humanities:
  - 1880:310 Seminar on Humanities in Medical Education
  - Additional study in the humanities from courses specified by the Humanities Committee**

- Additional courses from the medical program years three through six to make a total of 128 credits.

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*Deadline for application to program is December 15

**Completion of elementary or intermediate courses in one modern language will not satisfy this Humanities requirement. For additional information concerning the B.S./M.D. six-year program, see "Northeastern Ohio Universities College of Medicine," Section 4 of this Bulletin.
College of Engineering

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

- To offer sound basic instruction in engineering.
- To develop the ability to apply engineering principles to economic and technological progress of society.
- To promote in the student a high sense of ethics and professional responsibility.
- To foster an appreciation of the need to further the role of the engineering profession in society.

The college offers programs leading to the Bachelor of Science, Master of Science and Doctor of Philosophy degrees. At the undergraduate level the college has a four-year noncooperative program and a five-year cooperative educational program. The majority of the students elect the cooperative program. The emphasis in both undergraduate programs is on the preparation of students for professional practice, and University policy assures that each student obtains a substantial exposure to the humanities.

A graduate is prepared for employment in the engineering profession or graduate studies in engineering upon receipt of the baccalaureate degree.

COLLEGE REQUIREMENTS

Cooperative Plan
The optional cooperative plan provides for a coordinated sequence of alternate periods of classroom instruction and industrial employment during the cooperative phase of the five-year course. The cooperative plan simultaneously provides 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 the student can best apply individual ability. The student gains an appreciation of the problems of labor and management by first-hand experience. The student develops mature judgment by coping with the everyday problems of the industrial world. The employer of a cooperative student has the ability to train and select a student whose abilities and aptitudes can be adapted to the needs of technical staff requirements. While a student is at work, all rules and regulations prescribed by the employer must be obeyed. In addition, the student is subject to all current labor laws and conditions. The student is considered a full-time student by the University while in industrial assignments.

The University does not guarantee employment, but makes every effort to place a student 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, a student must present the following secondary school credits:

- Algebra 1 1/2 units
- Plane Geometry 1 unit
- Chemistry or Physics 1 unit
- Additional credits in mathematics and physical science are strongly recommended.

The beginning student must register in the University College. Those admitted to engineering will be eligible for transfer to the College of Engineering after satisfactory completion of 30 credits of work including Calculus II and the approval of the dean.

No undergraduate student shall be eligible to enroll in any 300/400-level course offered by the college unless: the student has been admitted into the College of Engineering; or the student has the permission of the head of the department offering the course; or the course has been exempted from this rule.

Degrees
The college 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.

Requirements for Graduation

- Compliance with University requirements. Section 3, of this Bulletin
- Completion of the requirements in the appropriate list of courses and a minimum of 136 credits of course work.
- Recommendation of the student's department.
- Any junior or senior engineering student with a grade-point average of 2.50 overall and 2.75 or better in engineering may substitute not more than two approved upper division courses in mathematics, science or engineering for an equal number of certain required engineering courses.

PROGRAMS OF INSTRUCTION

4200: Chemical Engineering
The goal of chemical engineering education is the development of the student's intellectual capacity and ability to apply the principles of transport phenomena, equilibria and kinetics, involving chemical and physical transformations, to the creative resolution of technological problems.

The chemical engineer, like all other engineers, is trained in mechanics, materials and their properties, economics, systems and their controls. The chemical engineer differs from all other engineers because the chemical engineer is responsible for materials separations and the conversion of matter — separations such as air into components of oxygen, nitrogen, argon and conversions such as natural gas into plastics and coal into liquid fuel.

The chemical engineer finds careers mainly in the chemical process industries, usually 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, the chemical engineer is increasingly in demand in such areas of current interest as water and air pollution, biological engineering and energy engineering.

(AN ABET accredited engineering curriculum)

- General Studies — 28 credits
- Natural science:
  3150:132.7 Principles of Chemistry I, II 7
  3150:134 Qualitative Analysis 2
  3450:211.2,3 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
- Advanced chemistry:
  3150:263.4 Organic Chemistry I, II 6
  3150:265 Organic Chemistry Laboratory 2
  3150:313.4 Physical Chemistry I, II 6
- Engineering core:
  4100:206 FORTRAN (Science and Engineering) 2
  4200:120 Engineering Fundamentals 1
  4200:305 Materials Science 2
  4300:201 Statics 3
  4400:320 Basic Electrical Engineering 4
  4600:125 Engineering Graphics 2
- Chemical engineering:
  4200:200 Material and Energy-Balances 4
  4200:225 Equilibrium Thermodynamics 4
  4200:321 Transport Phenomena I 3
  4200:322 Transport Phenomena II 3
  4200:330 Chemical Reaction Engineering 3
  4200:351 Fluid and Thermal Operations 3
  4200:362 Transport Laboratory 2
  4200:353 Mass Transfer Operations 3
  4200:345 Process Analysis and Control 3
  4200:441 Process Economics and Design 4
  4200:442 Plant Design 4
  4200:454 Operations Laboratory 1
- Electives:
  Advanced Chemistry or Polymer Science 3
  Chemical Engineering Design 3
  Free Elective, adviser approved 3

4300: Civil Engineering

The civil engineer is dedicated to planning, designing and building to make our environment more desirable. Civil engineers help renovate urban areas; develop new housing systems; plan community facilities; build new water storage systems; design new systems for waste disposal; expand airports and harbor facilities; build and maintain local streets and inter-city highways; design all types of buildings and bridges; build dams, reservoirs and flood control systems; build tunnels, and design foundations.

The civil engineering curriculum at the University allows specialization in environmental engineering, foundation engineering, hydraulic engineering, structural engineering and transportation engineering.

The civil engineering graduate works for consultants, manufacturers, construction companies, utilities and for government bodies of all levels. Many civil engineers own their own businesses.

(AN ABET accredited engineering curriculum)

- General Studies — 28 credits
- Natural science:
  3150:132.3 Principles of Chemistry I, II 7
  3270:101 Introductory-Physical Geology 4
  3450:221.2,3 Analytic Geometry-Calculus I, II, III 12
  3450:235 Differential Equations 3
  3450:241 Applied Statistics 4
  3650:291.2 Elementary Classical Physics I, II 8
- Engineering core:
  4100:206 FORTRAN (Science and Engineering) 2
  4200:305 Materials Science 2
  4300:201 Statics 3
  4300:202 Introduction to Mechanics of Solids 3
  4400:320 Basic Electrical Engineering 4
  4600:125 Engineering Graphics 2
  4600:203 Dynamics 3
  4600:305 Thermal Science 2
  4600:310 Fluid Mechanics 3
- Civil engineering:
  4300:201 Surveying 4
  4300:306 Theory of Structures 3
  4300:313 Soil Mechanics 3
  4300:314 Geotechnical Engineering 3
  4300:323 Water Supply and Wastewater Disposal 3
  4300:341 Hydraulics 2
  4300:361 Transportation Engineering 3
  4300:380 Engineering Materials Laboratory 2
  4300:401 Steel Design 3
  4300:403 Reinforced Concrete Design 3
  4300:445 Hydrology 3
  4300:448 Hydraulics Laboratory 1
  4300:471 Construction Administration 3
- Electives:
  Technical Electives 10

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 economy which has not been influenced by electronics. The high speed digital computer has found its way into virtually all aspects of modern life. A student wishing to specialize in computer engineering will find appropriate electives available.

The wide use of electrical means for measurement, control and computation has resulted in the need for electrical engineers in all types of industries. Varied employment opportunities are available.

A student wishing to continue education in graduate school, law school or medical school will find specialized programs of preparation are available within the framework of the Department of Electrical Engineering.

(AN ABET accredited engineering curriculum)

- General Studies — 28 credits
- Natural science:
  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
  3450:313 Mathematics Elective 2
  3650:291.2 Elementary Classical Physics I, II 6
  3650:301 Elementary Modern Physics 3
- Engineering core:
  4100:206 FORTRAN (Science and Engineering) 2
  4200:305 Materials Science 2
  4200:301 Statics 3
  4300:202 Introduction to Mechanics of Solids 2
  4300:203 Dynamics 3
  4400:101 Introduction to Electrical Engineering 1
  4600:125 Engineering Graphics 2
  4600:305 Thermal Science 2
- Electrical engineering:
  4400:212.1 Circuits I, II 6
  4400:333 Circuits III 3
  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
- Electives:
  Technical Electives 15
  Free Electives 2
4600: Mechanical Engineering

The mechanical engineer designs and analyzes 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 problems may involve any one or possibly all of these areas in the design of a complex system.

The mechanical engineer is employed in a variety of industries in different capacities. Specific positions include management, design, analysis, safety, production and plant engineering. The types of companies include automotive, petroleum, energy generation, 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, formally or informally, or to begin a career in government or industry.

(an ABET accredited curriculum)

- General Studies — 28 credits.
- Natural science:
  - 3150:132,3 Principles of Chemistry I, II 7
  - 3450:211,2,3 Analytic Geometry-Calculus I, II, III 12
  - 3450:225 Differential Equations 3
  - 3450:310 Math Elective 2
  - 3650:291,2 Elementary Classical Physics I, II 8
  - 3650:293,4 Physics Computations I, II 2
- Engineering core:
  - 4300:201 Statics 3
  - 4300:202 Introduction to Mechanics of Solids 3
  - 4400:325 Basic Electrical Engineering 4
  - 4500:125 Engineering Graphics 2
  - 4600:160 Mechanical Engineering Orientation 1
  - 4600:263 Dynamics 3
  - 4600:301,2 Thermodynamics I, II 7
  - 4600:310 Fluid Mechanics 3
- Mechanical engineering:
  - 4600:315 Heat Transfer 3
  - 4600:321 Kinematics of Machines 3
  - 4600:336 Analysis of Mechanical Components 3
  - 4600:337 Design of Mechanical Components 3
  - 4600:360 Engineering Analysis 3
  - 4600:380 Mechanical Metallurgy 2
  - 4800:400 Thermal System Components 3
  - 4600:401 Design of Energy Systems 2
  - 4600:431 Vibrations 3
  - 4600:440 System Dynamics and Control 4
  - 4600:460 Concepts of Design 3
  - 4600:461 Design of Mechanical Systems 2
  - 4600:484 Mechanical Engineering Laboratory 2
  - 4600:493 Measurements Laboratory 2
- Electives:
  - Technical Electives (includes three credits design) 9
  - Free Electives, adviser approval 3

Bachelor of Science in Engineering

This degree program was established to introduce flexibility into the College of Engineering. Within the 66 credits of the option portion of the program, a student can pursue courses in business administration, industrial management, environmental science, pre-medicine or any other field along with 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. The individual's program is designed to meet each student's announced goals.

Entrance to this program is restricted. A student requests admission by letter to the dean of the College of Engineering, outlining in some detail the particular objective and how the B.S.E. program may enable the student to prepare for career goals. The mathematics, physics and chemistry requirements are identical to those of the four departments of the college.

General Studies and Science Core 60
Program Options - Engineering 40
Program Options 26
Free Electives, adviser approval 10

*When the eight semester credits of English are met either by transfer credits, courses taken as part of the associate degree program or by examination the credits shall be technical elective credits so that the program total of 66 credits is satisfied.
College of Education

Don Birdsell, Ph.D., Associate Dean
Walter Yoder, Ed.D., Assistant to the Dean

OBJECTIVES

The purpose of the College of Education is to further the objectives of the University by providing quality programs for the student of education and by helping the student attain the following:

- Special experiences, knowledge and skills particularly useful for teaching in urban and inner-city educational institutions, 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.
- 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 adults, and the ability to develop relationships in a wide variety of professional and social roles in an educational or community setting.

To accomplish these objectives, this college offers programs for the preparation of elementary and secondary teachers, counselors, school administrators and other educational personnel. The Bachelor of Arts in Education, Bachelor of Science in Education, Bachelor of Science in Technical Education, Master of Arts in Education, Master of Science in Education, Master of Science in Technical Education and Ph.D. and Ed.D. degrees are offered.

Programs 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 school personnel.

Educators in surrounding school districts cooperate in advisory capacities with the college. 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.

- Completion of at least 30 credits with a minimum overall grade-point average of 2.00 *
- 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 University College, by the staff in Academic Advising Services, and if necessary, by measuring performance through standardized evaluation instruments.
- Demonstrated evidence of the ability to attain a 2.50 grade-point average in a choice of major fields.

All students preparing for certification may be evaluated by the college 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 any one of the following actions:

- That the student’s admission to or retention in the program for certification be confirmed with no other action suggested.
- That the student’s admission to or retention in the program for certification be confirmed but that the student be appraised that certain weaknesses must be corrected before student teaching is approved.
- 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 correctable.

Bachelor’s Degrees

A student prepares to teach any one of the following areas or fields: nursery school, kindergarten-primary, elementary; the conventional academic fields found in middle, junior and senior high schools; 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 average of 2.00 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 Bachelor of Arts in Education degree is granted to those whose major is one of the academic fields or speech and hearing therapy. The Bachelor of Science in Education is granted to those whose major is in the other special fields or in elementary education. The Bachelor of Science in Technical Education is awarded to those who complete the requirements of that program.

Clinical and Field-Based Experiences

Each teacher education student is required to participate satisfactorily in clinical and field-based experiences for a minimum of 600 hours prior to recommendation for certification for teaching in Ohio. The total hours will be accounted on the EDATA-1 system.

Through clinical experiences under the direction, evaluation and supervision of faculty, the student shall be involved in the use of diagnostic testing instruments and observational techniques to enable an analysis of pupil-learning progress or difficulties on both individual and group basis, and prescriptions of instructional strategies, educational media and materials to maximize pupil-learning outcomes.

Field-based experiences are a series of planned, supervised and evaluated off-campus activities for which specific learning objectives have been set to assure increasing proficiency in performing the various teaching responsibilities under actual school conditions. Field-based experiences shall be completed under a variety of urban and suburban or rural settings. The clinical and field-based experiences are components to the developmental course programs.

Clinical and field-based hours are listed under the College of Education in "Courses of Instruction," Section 9 of this Bulletin.

*The secondary education student also must have eight credits in teaching fields with a 2.50 average.
Student Teaching

Student teaching is done in the public schools under the direction of cooperating teachers and a representative of the College of Education faculty. All students must complete a speech and hearing test prior to approval of the student teaching experience. Each student must have his/her education adviser’s recommendation prior to approval of the student teaching experience.

To qualify for student teaching, students must maintain a 2.50 average in methods courses (as defined by departments), foundations courses, and in their teaching field(s). Satisfactory completion of at least 300 hours of field and clinical experiences is also required before student teaching. Students identified as not meeting these requirements will be evaluated by their department and a recommendation made to the director of student teaching.*

Certification

Every teacher in Ohio public schools is required to have a certificate covering the fields in which teaching is being done. This certificate is issued by the Ohio State Department of Education upon recommendation of the dean of the college. The student must fill out an application form obtained in the office of the dean. This form should be completed about one month before the student plans to finish all requirements for teaching. The student is expected to receive recommendations for certification from the institution granting the degree. A student who expects to receive degrees from other institutions but who wishes to qualify for certification at The University of Akron will be expected to meet all the certification requirements of the University.

Students Enrolled in Other Colleges at The University of Akron

A student who receives degrees from other colleges in the University also may wish to qualify for teaching. They will be recommended for certification after completing respective major and minor requirements and the pre-professional and professional courses in the appropriate department. Such students must be closely advised during the last two years.

Any student not enrolled in the college who wishes to teach should register with the dean by completing the form, Admission to Teacher Education at the time of transfer to a degree-granting college or two years prior to eligibility to teach.

PROGRAMS OF INSTRUCTION

5200: Elementary Education

Elementary

The elementary program is for those preparing to teach in grades one through eight inclusive. The requirements for a major in elementary education are as follows:

- General Studies — 39 credits.**
- Pre-professional education:

*Music majors, before assignment for student teaching, are required to pass the General Musician 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.

**Six credits of science are included in the General Studies. Three of these six credits must be in biological sciences to meet certification requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:100</td>
<td>3</td>
</tr>
<tr>
<td>3350:350</td>
<td>3</td>
</tr>
<tr>
<td>3750:100</td>
<td>3</td>
</tr>
<tr>
<td>7100:191</td>
<td>2</td>
</tr>
<tr>
<td>One of the following three courses:</td>
<td></td>
</tr>
<tr>
<td>3400:201</td>
<td>4</td>
</tr>
<tr>
<td>3400:202</td>
<td>4</td>
</tr>
<tr>
<td>3700:100</td>
<td>4</td>
</tr>
</tbody>
</table>

- Professional education:
  - Basic:
    - 5100:150 Introduction to Professional Education 3
    - 5100:250 Human Development and Learning 3
    - 5100:310 Educational Media and Technology 3
    - 5100:350 Educational Measurement and Evaluation 2
    - 5100:450 Problems in Education 2
  - Elementary education:
    - 5200:141 Handicrafts 2
    - 5200:286 Children's Literature 3
    - 5200:321 Art for the Grades 2
    - 5200:333 Science Elementary Grades t 2
    - 5200:335 Teaching of Language Arts 5
    - 5200:336 Teaching Elementary School Mathematics t 3
    - 5200:337 Teaching of Reading t 3
    - 5200:338 Teaching of Social Studies t 3
    - 5200:339 Principles of Diagnostic Teaching of Reading t 3
    - 5200:365 Comprehensive Musicianship for the Elementary Classroom Teacher 3
    - 5550:334 Games and Rhythms — Elementary Grades 2
    - 5570:101 Personal Health 2
  - Laboratory experience:
    - 5200:200 Student Participation 1
    - 5200:300 Student Participation 1
    - 5200:343 Science for Elementary Grades — Laboratory 1
    - 5200:346 Teaching Elementary School Mathematics — Laboratory 1
    - 5200:347 Teaching of Reading — Laboratory 1
    - 5200:348 Teaching of Social Studies — Laboratory 1
    - 5200:349 Principles of Diagnostic Teaching of Reading — Laboratory 1
    - 5200:495 Student Teaching 6
    - 5200:496 Student Teaching 6
  - Area of specialization — 8-15 credits.
  - Selected by the student with approval of the adviser, the student is urged to select an area of specialization that will contribute to successful teaching. The number of credits required (8-15) is above and beyond the number of credits required in any other part of the program.

Kindergarten—Primary

With the addition of certain courses, the student in the elementary program electing this specialization can receive additional certification.

- Required:
  - 5200:330 Early Elementary Education I 3
  - 5200:331 Early Elementary Education II 3
  - 5200:346 Early Elementary Education I — Laboratory t 1
  - 5200:347 Early Elementary Education II — Laboratory t 1
  - 7400:265 Child Development 3
- Electives — five credits.

Nursery Schools

The student in the elementary program may also receive University recommendation as director of teaching in nursery schools by taking the following courses:

- Required:
  - 5200:310 Introduction to Early Childhood Education 2
  - 5200:311 Curriculum for Preschool Learning Centers 2
  - 5200:312 Introduction to Early Childhood Education — Laboratory t 1
  - 5200:313 Curriculum for Preschool Learning Centers — Laboratory t 1
  - 5200:360 Nursery School — Laboratory 3
  - 7400:265 Child Development 3
- Electives — four credits.

*The elementary education major is responsible for completing 300 field and clinical hours in addition to student teaching. It will be the responsibility of the department to assign these credits to the appropriate courses.
*Most methods courses are accompanied by a laboratory. The student must enroll for methods course and laboratory concurrently.
Certification for Teaching Foreign Language in the Elementary School

A person 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 requirements:

- Child psychology or human growth and development.
- Purpose and practices of elementary education or equivalent.
- Methods of teaching the modern foreign language.

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 the course work equivalent to that required for a major in elementary education.

- 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.
- Professional education:
  - Basic:
    - 5100:150 Introduction to Professional Education 3
    - 5100:250 Human Development and Learning 3
    - 5100:310 Educational Media and Technology 3
    - 5100:350 Educational Measurement and Evaluation 2
    - 5100:450 Problems in Education 2
    - 5200:450 Elementary Education 3
  - 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 Elementary Grades 3
    - 5200:335 Teaching of Language Arts 5
    - 5200:336 Teaching Elementary School Mathematics** 3
    - 5200:337 Teaching of Reading 3
    - 5200:338 Teaching of Social Studies 3
    - 5200:339 Principles of Diagnostic Teaching of Reading 3
    - 5200:341 Teaching Elementary School Mathematics—Laboratory†† 1
    - 5200:346 Teaching of Reading—Laboratory†† 1
    - 5200:348 Teaching of Social Studies—Laboratory†† 1
    - 5200:349 Principles of Diagnostic Teaching of Reading—Laboratory†† 1
    - 5200:350 Multicultural Education Concepts, Programs and Practices 3
    - 5200:365 Comprehensive Musicanship for the Elementary Classroom Teacher 3
    - 5200:495 Student Teaching 6
    - 5200:496 Student Teaching 6
    - 5550:334 Games and Rhythms—Elementary Grades 2
    - 5570:101 Personal Health 2

- If certification for teaching kindergarten is desired, the following courses must be scheduled:
  - 5200:330 Early Elementary Education I 3
  - 5200:331 Early Elementary Education II 3
  - 5200:340 Early Elementary Education I—Laboratory†† 1
  - 5200:341 Early Elementary Education II—Laboratory†† 1

Retraining from Secondary to Elementary Certificate

- The holder of a provisional, professional, permanent high school or special certificate may obtain a Provisional Elementary Certificate valid for elementary teaching (grades one through eight) upon submitting evidence of the satisfactory completion of the following courses:
  - Basic:
    - 5100:250 Human Development and Learning 3
    - 5200:336 Teaching Elementary School Mathematics 3
    - 5200:337 Teaching of Reading 3
    - 5200:340 Teaching Elementary School Mathematics—Laboratory†† 1
    - 5200:341 Teaching of Reading—Laboratory†† 1
    - 5200:451 Elementary Education 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:
  - 5200:141 Handicrafts 2
  - 5200:286 Children's Literature 3
  - 5200:300 Student Participation 1
  - 5200:321 Art for the Grades 2
  - 5200:336 Science for Elementary Grades 3
  - 5200:338 Teaching of Social Studies 5
  - 5200:339 Principles of Diagnostic Teaching of Reading 3
  - 5200:335 Teaching of Language Arts 5
  - 5200:336 Teaching of Reading—Laboratory†† 1
  - 5200:338 Teaching of Social Studies—Laboratory†† 1
  - 5200:340 Principles of Diagnostic Teaching of Reading—Laboratory†† 1
  - 5200:341 Teaching of Reading—Laboratory†† 1
  - 5200:346 Teaching of Reading—Laboratory†† 1
  - 5200:349 Teaching of Reading—Laboratory†† 1
  - 5200:350 Multicultural Education Concepts, Programs and Practices 3
  - 5200:365 Comprehensive Musicanship for the Elementary Classroom Teacher 3
  - 5550:334 Games and Rhythms—Elementary Grades 2
  - 5570:101 Personal Health 2

- If additional credits are needed in the social sciences, a choice should be made from the following:
  - 3350:100 Introduction to Geography 3
  - 3700:100 Government and Politics in the United States 4
  - 3400:201 United States History since Civil War 4
  - 3400:202 United States History to Civil War 4
  - 3700:100 Government and Politics in the United States 4

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:

- 7500:497 Independent Study (Music Student Teaching) 2
- 7500:107 Class Voice 2
- 7500:124 Applied Voice 2
- 7500:151.2 Music Theory I and II 6
- 7500:154.5 Music Literature I and II 4
- 7500:261 Keyboard Harmony I 2
- 7500:340 General Music 3
- 7500:341 Wind-Percussion Instrument Techniques 3
- 7500:356 Music Teaching Handicapped 2
- 7500:110 Class Guitar 2
- 7500:497 Independent Study 2
- 7510—Music Organization 2

Dual Certification Program Elementary and Secondary

This curriculum prepares teachers for both elementary and secondary school. A student completing this curriculum will receive the Four-Year Provisional Certificate to teach in the secondary school and a certificate which will qualify the holder to teach in grades one through eight in the elementary school.

A student in this program must meet the requirements for elementary education; must complete 5300:310 Principles of Secondary Education and:

†Most methods courses are accompanied by a laboratory. The student must enroll for methods course and laboratory concurrently.

§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.
and 5200:311 Instructional Techniques in Secondary Schools; 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.*
A combination elementary and special education program is offered; see "5610: Special Education."

5630: Bilingual Multicultural Education
This program provides education majors with the knowledge, skills and attitudes necessary to teach bilingual students. The program incorporates course work in the history and philosophy of bilingual multicultural education, linguistics, English as a second language instruction, culture and theories and practices for teaching bilingual students language arts, reading, mathematics, social studies and science. Students may become certified in bilingual multicultural education at either the undergraduate or graduate levels in conjunction with certification in elementary education, secondary education, special education or physical education. Students must demonstrate proficiency in English and a language other than English in order to meet the certification requirements of the Ohio State Department of Education.

- Requirements:
  - 3330:489 Seminar in English: Introduction to Bilingual Linguistics 3
  - 5630:482 Characteristics of Culturally Diverse Youth 3
  - 5630:484 Principles of Bilingual Multicultural Education 3
  - 5630:485 Field experience of bilingual classrooms/-settings 3
  - 5630:486 Teaching Mathematics, Social Studies, and Science to Bilingual Students 4
  - 5630:487 Techniques for Teaching English as a Second Language in the Bilingual Classroom 4

5300: Secondary Education
The secondary program is for the student preparing to teach in middle, junior and senior high schools. A list of the specific requirements for the various teaching fields will be provided for the student by the college advisor or by the head of the Department of Secondary Education. For information regarding employment in non-school settings which capitalize on a teacher's skills, see the department head.
A student must have completed at least eight semester credits in the teaching fields before transferring to the upper college and must have at least a C grade in English Composition or its equivalent.
The general requirements for a major in secondary education are as follows:
- General Studies — 39 credits
- Professional courses (courses must be taken in sequence):
  - 5100:150 Introduction to Professional Education 3
  - 5100:250 Human Development and Learning 3
  - 5100:310 Educational Media and Technology 3
  - 5100:350 Educational Measurement and Evaluation 2
  - 5100:450 Problems in Education 2
  - 5300:257 Introduction to Secondary Education 1
  - 5300:310 Principles of Teaching in the Secondary School 3
  - 5300:325 Content Heading in Secondary School 3
  - 5300:345 Human Relations in Secondary Education 3
  - 5300:355 Managing Classroom Behavior at the Secondary Level 1
  - 5300:375 Experiential Experience 1
  - 5300:411 Instructional Techniques Secondary Education 1
  - 5300:445 Microcomputer Applications in Secondary Classroom 1
  - 5300:455 Career Options in Secondary Education 1
  - 5300:491 Student Teaching Seminar 1
  - 5300:495 Student Teaching 8

- Professional courses effective Spring 1985 (courses must be taken in sequence):
  - 5100:150 Introduction to Professional Education 3
  - 5100:250 Human Development and Learning 3
  - 5100:310 Educational Media and Technology 3
  - 5100:350 Educational Measurement and Evaluation 2
  - 5100:450 Problems in Education 2
  - 5300:210 Principles of Teaching in the Secondary School 3
  - 5300:275 Experiential Experience 1
  - 5300:311 Instructional Techniques Secondary Education 4
  - 5300:325 Content Reading in Secondary School 3
  - 5300:375 Experiential Experience 1
  - 5300:445 Microcomputer Literacy for Secondary Teachers 2
  - 5300:485 Classroom Dynamics 2
  - 5300:496 Student Teaching 8

- Courses in teaching field(s) and electives as determined by the department.

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 Ohio 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 comprehensive or special teaching fields, as listed below, preparation in a second field will not be required.

Minimum Number of Credits Required for Approval in Various Teaching Fields†

<table>
<thead>
<tr>
<th>Field</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Education (with shorthand)</td>
<td>57-60</td>
</tr>
<tr>
<td>Business Education (without shorthand)</td>
<td>49-52</td>
</tr>
<tr>
<td>Communications</td>
<td>60</td>
</tr>
<tr>
<td>Consumer Homemaking and Multi-area Vocational</td>
<td>55</td>
</tr>
<tr>
<td>Consumer Homemaking Vocational</td>
<td>52-55</td>
</tr>
<tr>
<td>Data Processing</td>
<td>55</td>
</tr>
<tr>
<td>Family Life Education</td>
<td>60</td>
</tr>
<tr>
<td>Science</td>
<td>71-72</td>
</tr>
<tr>
<td>Social Psychology</td>
<td>52-55</td>
</tr>
<tr>
<td>Social Studies</td>
<td>60</td>
</tr>
</tbody>
</table>

Special Fields K-12

- Art — as determined by Department of Art 50
- Dental Health — as determined by Department of Dental Health and Physical Education 30
- Music — as determined by Department of Music 50
- Physical Education (Men and Women) — as determined by Department of Health and Physical Education 47
- Speech and Hearing Therapy — as determined by the Department of Communicative Disorders 60
- Special Education — as determined by Department of Counseling and Special Education 31-36

Specific Subjects by Field

<table>
<thead>
<tr>
<th>First Field</th>
<th>Second Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits</td>
<td>Credits</td>
</tr>
<tr>
<td>Biology</td>
<td>52</td>
</tr>
<tr>
<td>Business Homemaking</td>
<td>33</td>
</tr>
<tr>
<td>Consumer Homemaking</td>
<td>52</td>
</tr>
<tr>
<td>Chemistry</td>
<td>52</td>
</tr>
<tr>
<td>Consumer Homemaking Vocational</td>
<td>30-32</td>
</tr>
<tr>
<td>Consumer Homemaking Vocational</td>
<td>33</td>
</tr>
<tr>
<td>Earth Science</td>
<td>30</td>
</tr>
<tr>
<td>Economics</td>
<td>30</td>
</tr>
<tr>
<td>English</td>
<td>30</td>
</tr>
<tr>
<td>General Science</td>
<td>27</td>
</tr>
<tr>
<td>Geology</td>
<td>31</td>
</tr>
<tr>
<td>Health Education (K-12)</td>
<td>21</td>
</tr>
<tr>
<td>History</td>
<td>30</td>
</tr>
<tr>
<td>Home Economics</td>
<td>31</td>
</tr>
<tr>
<td>Home Economics — Non-Vocational</td>
<td>47</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>30</td>
</tr>
<tr>
<td>Mathematics</td>
<td>30</td>
</tr>
<tr>
<td>Physics</td>
<td>27</td>
</tr>
<tr>
<td>Physical Science</td>
<td>30</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>22</td>
</tr>
<tr>
<td>Social Science</td>
<td>29</td>
</tr>
<tr>
<td>Social Psychology</td>
<td>20</td>
</tr>
<tr>
<td>Sociology</td>
<td>20</td>
</tr>
<tr>
<td>Speech and Theatre (K-12)</td>
<td>43</td>
</tr>
</tbody>
</table>

*Many fields require more than the minimum. Please see the department for specific program.
5400: Technical Education

The undergraduate program in technical education is designed to prepare instructors and including 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 teachers in mathematics, physics, chemistry, English or other general education offerings. Graduates of this program would be awarded the degree of Bachelor of Science in Technical Education.

A student may elect other areas when the courses are available and the adviser approves.

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 advisers 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 2.00 average in all major departmental professional courses (5400), all professional education courses and a 2.50 average in all technical courses directly related to the student’s teaching field.

5550: Physical Education

5550: Physical Education*, 5560: Outdoor Education**, and 5570: Health Education*. Physical education prepares students for careers in teaching, coaching and related recreation fields, and health education prepares students for careers in teaching and related health fields. Laboratory experiences are provided in local schools, and special programs are provided at the University. Specific experiences include: learning disabilities, movement education, outdoor education, handicapped education, elementary, secondary school education and adult leisure. In addition, the department offers students the opportunities for courses and experiences in athletic training, outdoor education and recreation. All health and physical education programs are applicable to governmental and business recreational situations, but certification is not required for these areas.

Outdoor Education

The outdoor education program is designed for students in elementary or secondary education, biology, environmental studies, health, physical education or recreation. Students may become involved with existing outdoor education programs in the public schools, metropolitan, state and national park programs or private and public agencies which conduct outdoor/environmental education programs.

5610: Special Education

This program involves in-depth preparation in the areas of mental retardation, learning disabilities and orthopedically handicapped. The program incorporates courses from secondary education, elementary education, counseling and educational foundations. Components include the General Studies, general professional education, special education studies (the major field), 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

Three plans for preparation in special education:

Plan A: Dual Certification — learning disabilities and educable retarded.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5610.201</td>
<td>Student Participation: EMR/LD</td>
<td>1</td>
</tr>
<tr>
<td>5610.446</td>
<td>Developmental Characteristics of Behaviorally Disordered Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610.495</td>
<td>Student Teaching</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Plan B: Dual Certification — educable and moderately-severely-profoundly retarded.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5610.203</td>
<td>Student Participation: EMR/TMR</td>
<td>1</td>
</tr>
<tr>
<td>5610.454</td>
<td>Educational Adjustment for Moderate, Severe and Profound Mentally Retarded Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610.458</td>
<td>Interdisciplinary Programming for MSPR</td>
<td>3</td>
</tr>
<tr>
<td>5610.460</td>
<td>Working with Parents or MSPR Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610.495</td>
<td>Student Teaching</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives (determined by adviser)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100.111</td>
<td>Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>3100.112</td>
<td>Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>3100.461/561</td>
<td>Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3100.462/562</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100.485/585</td>
<td>Advanced Cardiovascular Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3100.484/584</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>5550.480</td>
<td>Special Topics: Physical Education</td>
<td>1-4</td>
</tr>
<tr>
<td>5550.490</td>
<td>Workshops in Sports Medicine</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Athletic Training for Sports Medicine

To be eligible to take the National Athletic Trainer’s Association certification test, the student must complete a course of study at The University of Akron and complete at least 1800 hours of practical field and clinical experience during a two-year period.

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100.130</td>
<td>Principles of Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>3100.206.207</td>
<td>Human Anatomy and Physiology</td>
<td>3 each</td>
</tr>
<tr>
<td>3150.129.130</td>
<td>Introduction to General, Organic and Biochemistry, I, II</td>
<td>4 each</td>
</tr>
<tr>
<td>5550.150</td>
<td>Concepts in Health and Fitness</td>
<td>3</td>
</tr>
<tr>
<td>5550.201</td>
<td>Kinesiology</td>
<td>2</td>
</tr>
<tr>
<td>5550.202</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>5550.211</td>
<td>First Aid</td>
<td>2</td>
</tr>
<tr>
<td>5550.340</td>
<td>Care and Prevention of Athletic Injuries</td>
<td>3</td>
</tr>
<tr>
<td>5550.345</td>
<td>Adapted Physical Education</td>
<td>2</td>
</tr>
<tr>
<td>5550.450</td>
<td>Organization and Administration of Health and Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>5550.495</td>
<td>Field Experience</td>
<td>1-3</td>
</tr>
<tr>
<td>5550.460</td>
<td>Practicum in Physical Education</td>
<td>3-6</td>
</tr>
<tr>
<td>5550.470</td>
<td>Seminar in Health and Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>5550.497</td>
<td>Independent Study</td>
<td>1-2</td>
</tr>
<tr>
<td>5550.441/541</td>
<td>Advanced Athletic Injury Management</td>
<td>4</td>
</tr>
<tr>
<td>5550.442/542</td>
<td>Therapeutic Modalities and Equipment in Sports Medicine</td>
<td>3</td>
</tr>
<tr>
<td>5570.202</td>
<td>Stress, Lifestyle and Your Health</td>
<td>3</td>
</tr>
<tr>
<td>7400.133</td>
<td>Nutrition Fundamentals</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives (determined by adviser)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100.111</td>
<td>Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>3100.112</td>
<td>Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>3100.461/561</td>
<td>Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3100.462/562</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100.485/585</td>
<td>Advanced Cardiovascular Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3100.484/584</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>5550.480</td>
<td>Special Topics: Physical Education</td>
<td>1-4</td>
</tr>
<tr>
<td>5550.490</td>
<td>Workshops in Sports Medicine</td>
<td>1-3</td>
</tr>
</tbody>
</table>

*Certification through the state of Ohio
**Certification through department or the University.
Plan C: Dual Certification — educable retarded and orthopedically handicapped.

5610:202 Student Participation: EMR/OH
5610:445 Developmental Characteristics of Orthopedically Handicapped Individuals
5610:495 Student Teaching Electives

Student Participation: EMR/OH

In addition, the student must complete the following:

- General Studies — 39 credits.
- Professional education:
  5100:150 Introduction to Professional Education
  5100:250 Human Development and Learning
  5100:310 Educational Media and Technology
  5100:350 Educational Measurements and Evaluation
  5100:450 Problems in Education
  5200:335 Teaching the Language Arts
  5200:336 Teaching of Elementary School Mathematics
  5200:337 Teaching of Reading
  5200:365 Comprehensive Musicianship for the Elementary Classroom Teacher
  5200:384 Games and Rhythms — Elementary Grades
- Related competency studies:
  5610:403 Student Teaching Seminar
  5610:495 Student Teaching EMR
  5610:440 Developmental Characteristics of Exceptional Individuals
  5610:441 Developmental Characteristics of Mentally Retarded Individuals
  5610:443 Developmental Characteristics of Learning Disabled Individuals
  5610:450 Educational Adjustment for Preschool and Primary Level Exceptional Individuals
  5200:321 Art for the Grades
  5550:334 Games and Rhythms — Elementary Grades
  5550:211 First Aid
  5570:101 Personal Health
- Special education studies:
  5550:211 First Aid
  5570:101 Personal Health

In addition, the student must complete the following:

Combination Special Education — Elementary Education Program

The addition of 18 to 33 special education credits, including student teaching, to the standard elementary education program in lieu of elementary education elective credits 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 31 to 36 special education credits, 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 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 students enrolled in the program prior to fall semester 1983.

Students who entered the program during fall semester 1983, can complete a certification program only as part of a master's degree. Specific program details can be obtained from the Department of Counseling and Special Education and/or the Department of Communicative Disorders.
College of Business Administration

James W. Dunlap, Ph.D., Dean
Kenneth E. Mast, D.B.A., Assistant Dean

OBJECTIVES

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.

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 the student for a professional career in commerce, industry and government. This is to be secured with the following aims:

- To instill in the student competence in the basic functional areas of business enterprise.
- To develop in the student an analytical ability and balanced judgment in the solution of business problems.
- To promote in the student an understanding of human behavior and the impact of social, political and economic forces in the decision-making process.
- To cultivate in the student a facility for the use of management tools of accounting, quantitative techniques and communications.
- To encourage in the student the development of a business code of ethics.
- To foster in the student a desire to continue the pursuit of knowledge and the achievement of excellence in the area of administration.

Additional objectives of the college are: to act as a service division by offering courses in another college; 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 the student at the master's level; to prepare the student for entering law school; and to prepare the student for advanced research and study in business and economics.

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.

COLLEGE REQUIREMENTS

Requirements for Admission

The college will accept the student who has 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 with a 2.30 overall grade-point average at the time of acceptance.

Enrollment in upper college business courses is limited to a student who has:

- Applied for transfer to the college.
- Successfully completed at least 60 credits.
- Earned at least a 2.30 overall grade-point average required for acceptance and at least a 2.00 grade-point average in business administration and economics courses.

Cooperative Education Program

A student may voluntarily participate in the University-wide Cooperative Education Program.

The requirements are as follows:

- Attain college admissions status.
- Complete 3250:201.2 and 6200:201.2 with at least a 2.00 grade-point average.
- Apply for participation in the program through the University's director of Cooperative Education.

Three employment experiences are required, with no more than one work period in a summer. The work experience must relate to the business administration area.

Transfer of Courses and Advanced Standing

For courses taken outside of the University 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. A grade of at least "C" must have been earned in pre-business accounting and economics course work for transfer consideration. 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.

Degrees

The College of Business Administration, organized on a departmental basis, offers programs of study in accounting, finance, management and marketing. Five baccalaureate degrees are offered: the Bachelor of Science in Accounting, Bachelor of Science in Business Administration, Bachelor of Science in Industrial Management, Bachelor of Science in Business Administration/Finance and the Bachelor of Science in Business Administration/Marketing.

*Exceptions to any or all of these may be granted by the dean.
Requirements for Graduation

To receive a baccalaureate degree from the College of Business Administration, a student must meet the following requirements:

- Complete a minimum of 128 semester credits with a minimum 2.00 grade-point average. Not more than one credit of physical education may be included.
- Obtain at least a 2.00 grade-point average in all courses in the major as well as in all courses in business administration and economics.
- Obtain the recommendation of the department head.
- Complete other University requirements listed in Section 3 of this Bulletin.
- General Studies — 36 credits.
- Complete the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>325:201</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>325:202</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>620:201.2</td>
<td>Accounting</td>
<td>8</td>
</tr>
</tbody>
</table>

Two sequential courses in psychology or sociology, or two courses chosen from psychology, sociology and/or cultural anthropology (minimum)

One of the following three options:

Option One

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>345:111,2,3,4</td>
<td>Modern University Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>345:121,2,3</td>
<td>Modern University Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>345:138</td>
<td>Mathematics of Finance</td>
<td>1</td>
</tr>
</tbody>
</table>

Option Two

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>345:138</td>
<td>Mathematics of Finance</td>
<td>1</td>
</tr>
<tr>
<td>345:149</td>
<td>Pre-Calculus Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>345:221</td>
<td>Analytic Geometry-Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

Option Three

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>345:138</td>
<td>Mathematics of Finance</td>
<td>1</td>
</tr>
<tr>
<td>345:147,8</td>
<td>Elementary Functions I, II</td>
<td>6</td>
</tr>
<tr>
<td>345:149</td>
<td>Precalculus Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>345:215</td>
<td>Concepts of Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

The following core program in business administration:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>620:355</td>
<td>Accounting Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>640:320</td>
<td>Legal Environment of Business**</td>
<td>4</td>
</tr>
<tr>
<td>640:321,2</td>
<td>Business Law I, II</td>
<td>6</td>
</tr>
<tr>
<td>650:301</td>
<td>Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>650:321,2</td>
<td>Quantitative Business Analysis I and II</td>
<td>6</td>
</tr>
<tr>
<td>650:303</td>
<td>Computer Applications for Business**</td>
<td>3</td>
</tr>
<tr>
<td>650:430</td>
<td>Business Policy</td>
<td>4</td>
</tr>
<tr>
<td>650:490</td>
<td>Marketing Principles</td>
<td>3</td>
</tr>
</tbody>
</table>

Minor Areas of Study

For an explanation of minor areas of study in the College of Business Administration, see Section 5 of this Bulletin.

PROGRAMS 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.

The three major fields of employment for accountants are public, private and governmental accounting. Regardless of the area of concentration, standards, ethics and the mastery of accounting concepts and procedures are essential. An accounting graduate who chooses public accounting may become a senior, manager, principal or partner 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 or professional advancement regardless of the type of institution a graduate may choose.

The accounting curriculum is designed to prepare the student for professional service, including sitting for the uniform certified public accounting examination and other professional accounting examinations and to prepare the student to undertake advanced study. To receive the Bachelor of Science in Accounting degree, a student must complete the college requirements and the following departmental requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>620:381</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>620:317</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>620:318</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>620:430</td>
<td>Taxation I</td>
<td>4</td>
</tr>
<tr>
<td>620:440</td>
<td>Auditing</td>
<td>3</td>
</tr>
<tr>
<td>620:454</td>
<td>Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Six additional credits in courses in accounting (6200), including at least three credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>620:420</td>
<td>Advanced Accounting</td>
<td>3</td>
</tr>
<tr>
<td>620:431</td>
<td>Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>620:460</td>
<td>Controllership Problems</td>
<td>3</td>
</tr>
</tbody>
</table>

And at least three credits from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>620:410</td>
<td>Advanced Accounting</td>
<td>3</td>
</tr>
<tr>
<td>620:425</td>
<td>Current Developments in Accounting</td>
<td>3</td>
</tr>
<tr>
<td>620:431</td>
<td>Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>620:460</td>
<td>Controllership Problems</td>
<td>3</td>
</tr>
<tr>
<td>620:470</td>
<td>Governmental &amp; Institutional Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Communication skills are vital, so a major is urged to take 3300:275, Specialized Writing in Business, and to participate in the Student Toastmasters organization. Because of the increasing demand for accountants with a knowledge of computer usage, additional courses in mathematics and computer science are strongly recommended. A major preparing for an industrial accounting career should take electives in management.

6400: Finance

Courses in the Department of Finance are designed 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; on-the-job training is required in allied fields. It is for this reason our suggested preparation is broad in scope.
The Finance major must complete four required major courses with a minimum grade of "C" (2.0) in each required course:

Core:  
6400:338 Financial Intermediaries 3  
6400:343 Investments 3  
6400:479 Advanced Business Finance 3  
6400:373 Financial Statement Analysis 3  
or  
6200:317 Intermediate Accounting I 4

The finance major must also select at least four elective courses (two must be 6400 courses) totaling at least 12 credits from the following list:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6400:400</td>
<td></td>
</tr>
<tr>
<td>Real Estate Principles: A Value Approach</td>
<td>3</td>
</tr>
<tr>
<td>6400:401</td>
<td></td>
</tr>
<tr>
<td>Real Estate Investment</td>
<td>3</td>
</tr>
<tr>
<td>6400:402</td>
<td></td>
</tr>
<tr>
<td>Income Property Appraisal</td>
<td>3</td>
</tr>
<tr>
<td>6400:403</td>
<td></td>
</tr>
<tr>
<td>Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>6440:318</td>
<td></td>
</tr>
<tr>
<td>Risk Management and Insurance</td>
<td>3</td>
</tr>
<tr>
<td>6440:351</td>
<td></td>
</tr>
<tr>
<td>Financial Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>6400:417</td>
<td></td>
</tr>
<tr>
<td>Life and Health Insurance</td>
<td>3</td>
</tr>
<tr>
<td>6400:419</td>
<td></td>
</tr>
<tr>
<td>Property and Liability Insurance</td>
<td>3</td>
</tr>
<tr>
<td>6400:432</td>
<td></td>
</tr>
<tr>
<td>Personal Financial Planning</td>
<td>3</td>
</tr>
<tr>
<td>6400:436</td>
<td></td>
</tr>
<tr>
<td>Commercial Bank Management</td>
<td>3</td>
</tr>
<tr>
<td>6400:447</td>
<td></td>
</tr>
<tr>
<td>Security Analysis</td>
<td>3</td>
</tr>
<tr>
<td>6400:475</td>
<td></td>
</tr>
<tr>
<td>Commercial and Consumer Credit Management</td>
<td>3</td>
</tr>
<tr>
<td>6400:481</td>
<td></td>
</tr>
<tr>
<td>International Business Finance</td>
<td>3</td>
</tr>
<tr>
<td>6400:497</td>
<td></td>
</tr>
<tr>
<td>Honors Project</td>
<td>1-3</td>
</tr>
<tr>
<td>6200:301</td>
<td></td>
</tr>
<tr>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:318</td>
<td></td>
</tr>
<tr>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>6200:460</td>
<td></td>
</tr>
<tr>
<td>Control Systems Problems</td>
<td>3</td>
</tr>
<tr>
<td>6200:340</td>
<td></td>
</tr>
<tr>
<td>Taxation I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits for a finance major — eight courses with 24-27 credit hour minimum depending on how many four credit courses taken.

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 producers' goods.

The graduate with an industrial management degree finds many employment opportunities with industrial firms in staff, supervisory and other management positions. The graduate possesses, in addition, 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 and an option. The common departmental requirements are as follows:

- 6500:331: Production and Systems Management 3
- 6500:332: Production and Operations Management 3
- 6500:341: Personnel Management 3

And one of the following:

- 6500:471: Management Problems 3
- 6500:472: Management Problems - Production 3
- 6500:473: Management Problems - Personnel 3

The student, then, must select one of the options listed below:

**Production Option**

- 6500:433: Business Operational Planning 3
- 6500:434: Production Planning and Control 3

**Personnel Option**

- 6500:342: Personnel Relations 3
- 6500:443: Advanced Personnel Management 3

**Industrial Accounting Emphasis**

The industrial accounting emphasis jointly administered by the Department of Accounting and the Department of Management is designed to benefit the student who may wish to pursue a career in the field of accounting but does not wish to become a CPA. 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 Bachelor of Science in Industrial Management degree.

The student selecting the industrial accounting emphasis must successfully complete the college requirements and the following courses:

- 6200:301: Cost Accounting 3
- 6200:355: Accounting Information Processing 3
- 6500:323: Introduction to Computer Applications for Business 3
- 6500:460: Controls and Systems Management 3
- 6500:331: Production and Systems Management 3
- 6500:332: Production and Operations Management 3
- 6500:341: Personnel Management 3
- 6500:433: Business Operational Planning 3
- 6500:434: Production Planning and Control 3

Recommended electives:

- 6200:317: Intermediate Accounting I 4
- 6200:318: Intermediate Accounting II 4

**6600: Marketing**

The chief marketing executive in the firm is responsible for sustaining customer acceptance of the firm's products and services, and for finding new opportunities for the 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. The marketing executive is also responsible for organizing the various functions involved in the marketing effort. The executive attempts to allocate the resources of the firm for maximum impact in the markets which the executive 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 the basic understanding and insight required for the successful performance and management of the marketing activities of either profit-making or nonprofit organizations. It is also organized to provide the student who has an interest in a specific area of marketing study with alternative approaches to marketing knowledge by means of five specific marketing tracks and one general marketing studies option. The marketing tracks are:

Industrial Marketing  Marketing Communications  Retail Marketing  Physical Distribution  International Marketing

The general marketing studies option allows the student to tailor the curriculum to individual needs, to engage in an exploratory study which will provide the basis for future studies, to facilitate access to a wider range of entry-level employment opportunities or to enable the student to relate the curriculum to the needs of a small or family business.
To receive a Bachelor of Science in Business Administration/Marketing the student must successfully complete 18 credits in one of the five marketing tracks or the general marketing option as follows:

**Industrial Marketing Track**
- Required:
  - 6600:360 Industrial Marketing 3
  - 6600:370 Purchasing 3
  - 6600:380 Sales Management 3
  - 6600:460 Marketing Research 3
- Electives:
  - 6600:320 Physical Distribution 3
  - 6600:390 Management of Marketing Channels 3
  - 6600:440 Product Planning 3
  - 6600:465 Forecasting and Quantitative Methods in Marketing 3

**Retail Marketing Track**
- Required:
  - 6600:310 Buyer Behavior 3
  - 6600:340 Retail Management 3
  - 6600:460 Marketing Research 3
- Electives:
  - 6200:301 Cost Accounting 3
  - 6600:350 Advertising and Marketing Communications 3
  - 6600:380 Sales Management 3
  - 6600:390 Management of Marketing Channels 3
  - 6600:465 Forecasting and Quantitative Methods in Marketing 3

**International Marketing Track**
- Required:
  - 6600:330 International Marketing 3
  - 6600:460 Marketing Research 3
  - 6800:405 Multi National Corporations 3
- Electives:
  - 3250:450 Comparative Economic Systems 3
  - 3250:461 Principles of International Economics 3
  - 6600:310 Buyer Behavior 3

**Marketing Communications Track**
- Required:
  - 6600:310 Buyer Behavior 3
  - 6600:350 Advertising and Marketing Communications 3
  - 6600:430 Promotional Campaigns 3
  - 6600:460 Marketing Research 3
- Electives:
  - 6600:390 Retail Management 3
  - 6600:390 Sales Management 3
  - 6600:440 Product Planning 3
  - 6600:465 Forecasting and Quantitative Methods in Marketing 3

**Physical Distribution Track**
- Required:
  - 6600:320 Physical Distribution 3
  - 6600:420 Logistics Systems Analysis 3
  - 6600:460 Marketing Research 3
- Electives:
  - 6200:301 Cost Accounting 3
  - 6600:380 Sales Management 3
  - 6600:390 Management of Marketing Channels 3
  - 6600:465 Forecasting and Quantitative Methods in Marketing 3

**General Marketing Studies Option**
Any 18 credits from the 6600 listings, including one departmental requirement of 6600:460 Marketing Research will complete the general marketing studies option.

To further guide the student, the department has available a brochure detailing the program, career opportunities and electives from other colleges and departments recommended for and tailored to each of the tracks.
College of Fine and Applied Arts

Gerard L. Knieter, Ed.D., Dean
Kelvie C. Comer, Ed.D., Associate Dean

OBJECTIVES

The purpose of the College of Fine and Applied Arts is to further the objectives of the University by providing a quality program of undergraduate and graduate education in the artistic, technological, clinical and studio experience in speech, the dramatic arts, music, social welfare, the visual arts and the family life arts, as well as:

• To maintain curricula for the preparation of a student majoring in these areas.
• To prepare a student for graduate study and career opportunities on a professional competence level.
• To provide instruction designed to meet specific curricular needs of all the colleges of the University.
• To serve the elective interests of the student seeking diversity; enrichment in academic programs.
• To encourage the development of technical knowledge and professional skills which underlie the communicative functions of human expression.
• 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 the student’s specialization.

COLLEGE REQUIREMENTS

Requirements for Admission

To be admitted to the College of Fine and Applied Arts, the student must have completed at least 30 credits of work with at least a 2.00 grade-point average or above and have the approval of the dean. A student transferring to the Department of Art from another institution must submit a portfolio of work for approval before admission. A student transferring from another college or institution into the music program must submit to a placement examination. 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 Academic Advising. The shorter majors need not be declared before the student is ready for transfer to the college.

Requirements for Baccalaureate Degrees

• Compliance with University requirements, Section 3 of this Bulletin.
• Electives consisting of 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 credits of applied music or four credits 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, application toward graduation will depend upon the nature of the student’s program of study.
• The recommendation of the head of the student’s major department.
• Demonstrated ability to use English. One other language depending upon the degree program.

Degrees

The following baccalaureate degrees are granted in the College of Fine and Applied Arts:

Bachelor of Arts
Bachelor of Arts in Business and Organizational Communication
Bachelor of Arts in Communication and Rhetoric
Bachelor of Arts in Communicative Disorders
Bachelor of Arts in Dance
Bachelor of Arts in Family and Child Development
Bachelor of Arts in Foods and Nutrition
Bachelor of Arts in General Speech
Bachelor of Arts in Mass Media-Communication
Bachelor of Arts in Textiles and Clothing
Bachelor of Arts in Theatre
Bachelor of Arts/Social Work
Bachelor of Fine Arts
Bachelor of Music
Bachelor of Science in Dietetics

Graduation Requirements

A student must earn a major in a department of the college. A major consists of 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. The exact requirements for each major will be found on the following pages in the section headed "Programs of Instruction." At the time of admission to the college, the student is assigned an adviser by the department head.

Minor Areas of Study

For an explanation of minor areas of study in the College of Fine and Applied Arts, see Section 5 of this Bulletin.

PROGRAMS OF INSTRUCTION

7100: Art

Bachelor of Arts

• General Studies and completion of a second year of a foreign language — 53 credits.
• Completion of studio art or history of art option.
• Electives — 23-25 credits.

Studio Art Option

• Studio art course work including one course in each of six different areas of emphasis: e.g., printmaking, sculpture — 41 credits.

Survey of History of Art I and II (7100:100,1) plus one additional advanced-level art history course — 11 credits.

History of Art Option

• History of art including one history of art seminar, one special problems in history of art course and one special topic in history of art course. 7100:100,1 Survey of History of Art (eight credits) included — 38 credits.
### Bachelor of Fine Arts

- **General Studies — 39 credits**
- **Foundations Curriculum in Art**
  - 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 Introduction to Drawing 3
  - 7100:132 Instrument Drawing 3
  - 7100:144 Two-Dimensional Design 3
  - 7100:266 Commercial Design Theory 3
  - 7100:233 Life Drawing 3

- **Electives — 13 credits.**
- **Two advanced level art history courses (one in graphic design, three credits).**
- **Senior exhibition: Student must secure a faculty adviser in the major during the first week of the semester the student plans a senior show. The exhibition must be approved by the adviser prior to presentation.**
- **Portfolio review as specified for student's area of emphasis.**
- **Studio art courses must include one area of major emphasis as described below, plus studio electives to total no less than 62 credits.**

#### Ceramics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>7100:222 Introduction to Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>7100:231 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>7100:254 Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>7100:254 Ceramics II</td>
<td>3</td>
</tr>
<tr>
<td>7100:454 Advanced Ceramics (to be repeated)</td>
<td>15</td>
</tr>
</tbody>
</table>

#### Drawing

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100:221 Design Applications</td>
<td>3</td>
</tr>
<tr>
<td>7100:221 Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:221 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>7100:282 Architectural Presentations I</td>
<td>3</td>
</tr>
<tr>
<td>7100:283 Drawing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>7100:331 Drawing III</td>
<td>3</td>
</tr>
<tr>
<td>7100:333 Advanced Life Drawing (to be repeated)</td>
<td>6</td>
</tr>
<tr>
<td>7100:341 Drawing IV (to be repeated)</td>
<td>6</td>
</tr>
<tr>
<td>7105 Printmaking</td>
<td>3</td>
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#### Graphic Design

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>2240:222 Advertising Photography</td>
<td>2</td>
</tr>
<tr>
<td>7100:131 Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:221 Instrument Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:222 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>7100:222 Introduction to Photography</td>
<td>3</td>
</tr>
<tr>
<td>7100:222 Drawing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>7100:224 Introduction to Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:226 Letter Form and Typography</td>
<td>3</td>
</tr>
<tr>
<td>7100:286 Packaging Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:287 Advertising Layout Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:288 Advertising Production and Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:480 Advanced Graphic Design (may be repeated 12 credits)</td>
<td>3</td>
</tr>
<tr>
<td>7100:482 Corporate Identity and Graphic Systems</td>
<td>3</td>
</tr>
<tr>
<td>7100:494 Illustration</td>
<td>3</td>
</tr>
<tr>
<td>7100:495 Advanced Illustration (may be repeated 12 credits)</td>
<td>3</td>
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<tr>
<td>7100:486 Publication Design</td>
<td>3</td>
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</tbody>
</table>

#### Metallurgy

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2920:247 Technology of Machine Tools</td>
<td>3</td>
</tr>
<tr>
<td>7100:222 Introduction to Jewelry</td>
<td>3</td>
</tr>
<tr>
<td>7100:226 Introduction to Metal</td>
<td>3</td>
</tr>
<tr>
<td>7100:248 Enameling on Metal</td>
<td>3</td>
</tr>
<tr>
<td>7100:283 Drawing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>7100:356 Metallurgy II</td>
<td>3</td>
</tr>
<tr>
<td>7100:466 Advanced Metallurgy (to be repeated)</td>
<td>17</td>
</tr>
</tbody>
</table>

### Honors Program

As a participant in the program, the student must complete a minimum of 12 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 (7100:405,9,90). The maximum number of credits possible would be sixteen.

The student must complete a written or studio project with a grade of "B" or higher.

### Art Education

A student wishing state teachers certification has several degree options; further information can be obtained from the department and in the College of Education.

- Bachelor of Fine Arts — College of Fine and Applied Arts/Certification in Teacher Education
- Bachelor of Art — College of Fine and Applied Arts/Generic Emphasis and Certification in Teacher Education
- Bachelor of Science — College of Education/Certification in Teacher Education
- Bachelor of Science — College of Education/Certification in Visual Arts for the Elementary School

*Required to be repeated twice for drawing majors only.*
7400: Home Economics and Family Ecology*

The mission of the Department of Home Economics and Family Ecology is to prepare professionals to take leadership positions as generalists and specialists in the areas of home economics. These include dietetics, family and child development, foods and nutrition and textiles and clothing. Graduates are employed in public and private sectors in retailing, health and human services, dietetics, nutrition education and counseling, commercial and interior design, child care in hospital and community settings and food product development.

- **General Studies** — 39 credits **
- **Home Economics and Family Ecology Core**
  All students enrolled in baccalaureate programs in the Department of Home Economics and Family Ecology are required to complete the following core of requirements:
  - 1 Home Economics Survey
  - 1 Critical Issues in Home Economics

  One course to be chosen from each of the following divisions outside the area of specialization.

- **Clothing, Textiles and Interiors**
  - 4 Textiles
  - 3 Family Housing
  - 3 Clothing Communication

- **Family and Child Development**
  - 3 Relational Patterns in Marriage and Family
  - 3 Child Development

- **Foods and Nutrition**
  - 3 Nutrition Fundamentals
  - 3 Food for the Family

- **Management**
  - 3 Home Management Theory

**Bachelor of Arts in Family and Child Development**

This degree offers the following emphases: Family development, child development and child life specialist. In addition to departmental requirements listed under 7400: Home Economics and Family Ecology a student must complete one of the following options:

**Family Development**

- 3 Introduction to Psychology
- 4 Developmental Psychology
- 2 Fatherhood: The Parent Role
- 3 Consumer Education
- 3 Parent-Child Relations
- 2 Family Relationships in Middle and Later Years
- 2 Family Life Patterns in Economically Deprived Home
- 3 Adolescence in the Family Context
- 3 Advanced Management
- 3 Family Crisis
- 3 Human Sexuality
- 3 Public Policy and The American Family
- 3 Parenting Skills
- 5 Internship in Home Economics
- 4 Electives selected in consultation with adviser

**Child Development**

- 3 Early Childhood Nutrition
- 2 Fatherhood: The Parent Role
- 4 Play and Creative Expression Act
- 3 Administration of Child Care Centers
- 3 Consumer Education
- 3 Parent-Child Relations
- 2 Family Life Patterns in Economically Deprived Home
- 3 Adolescents in the Family Context
- 3 Organization and Supervision of Child Care Centers
- 3 Parent Skills
- 4 Introduction to Social Welfare
- Electives selected in consultation with adviser

**Child Life Specialist**

- 3 Introduction to Psychology
- 4 Developmental Psychology
- 4 Psychological Disorders of Children
- 3 Sociology of Health and Illness
- 3 Nursery School Laboratory
- 3 Developmental Characteristics of Exceptional Individuals
- 4 Play and Creative Expression
- 4 Administration of Child Care Centers
- 4 Direct Experiences in the Hospital
- 4 The Child in the Hospital
- 5 Practicum: Establishing and Supervising a Child Life Program
- 3 Organization and Supervision of Child Care Centers
- 2 Orientation to the Hospital Setting
- 3 Internship: Guided Experience in a Child Life Program
- 3 Parenting Skills
- Electives selected in consultation with adviser

**Bachelor of Arts in Foods and Nutrition**

- 3 Introduction to Information Processing
- 3 Introduction to Psychology
- 3 Management Principles and Concepts
- 5 Basic Food Theory and Applications
- 3 Consumer Education
- 3 Introduction to Food Systems Management
- 3 Science of Nutrition
- 2 Meal Service
- 3 Advanced Food Preparation
- 3 Quantity Food Preparation
- 3 Experimental Foods
- 2 Demonstration Techniques

Complete one of the following options:

- **Business option:**
  - 3 Marketing Principles
  - 3 Merchandising
  - 3 Advertising and Marketing Communication
  - 3 Media Production Techniques

- **Food Science/Product Development option:**
  - 3 Introduction to Microbiology
  - 3 Qualitative Analysis
  - 3 Marketing Principles
  - 3 Product Planning

- **General electives:** 10 credits

**Bachelor of Arts in Textiles and Clothing**

- 3 Textiles
- 3 Clothing Construction
- 3 Introduction to Interior Design and Furnishings
- 3 Family Housing
- 3 Consumer Education
- 3 Advanced Construction and Tailoring
- 3 Contemporary Needle Arts
- 3 Historical Costume
- 3 The Fashion Industry
- 3 Clothing Communication
- 5 Advanced Home Management and/or Elective

Completion of one of the following options:

- **Business option:**
  - 4 Accounting I
  - 4 Basic Accounting I
  - 3 Marketing Principles

- 3 Elements of Distribution

*The University College's requirement for general studies for the Bachelor of Science in Dietetics and the Bachelor of Arts in Foods and Nutrition is 42 credits. The additional three credits come from the use of 3150.129.30 General Chemistry (eight credits) to meet the natural science requirements, and from the use of 3850.100 Introduction to Sociology (four credits) and 3250.100 Introduction to Economics (three credits) to meet the Social Studies requirement. The above mentioned courses are required by the American Dietetic Association.

**Required for B.S. in Dietetics and B.A. in Foods and Nutrition
Bachelor of Science in Dietetics

Both the Coordinated Undergraduate Program (CUP) and the traditional program in general dietetics lead to a Bachelor of Arts degree. The Coordinated Undergraduate Program integrates clinical experiences within the junior and senior years, allowing American Dietetic Association membership and eligibility to take the registration examination after graduation from the four-year program. The traditional program requires an approved internship following graduation (or an advanced degree) to become eligible for membership in the American Dietetic Association and to take the registration examination.

Basic American Dietetic Association Requirements for Coordinated Undergraduate and Traditional Dietetics Programs

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2420:211</td>
<td>Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>6200:201</td>
<td>Principles of Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>3101:130</td>
<td>Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3101:207</td>
<td>Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3152:035</td>
<td>Nutritional Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>3500:100</td>
<td>Introduction to Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>5400:351</td>
<td>Consumer-Homemaking Methods</td>
<td>3</td>
</tr>
<tr>
<td>6500:301</td>
<td>Management, Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>Introduction to Health Care Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:341</td>
<td>Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>7400:245</td>
<td>Basic Food Theory and Application</td>
<td>3</td>
</tr>
<tr>
<td>7400:313</td>
<td>Introduction to Food Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>7400:316</td>
<td>Science of Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>7400:328</td>
<td>Introduction to Nutrition in Medical Science</td>
<td>3</td>
</tr>
<tr>
<td>7400:43</td>
<td>Food Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>7400:416</td>
<td>Quantity Food Preparation</td>
<td>3</td>
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<tr>
<td>7400:420</td>
<td>Experimental Foods</td>
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<tr>
<td>7400:428</td>
<td>Nutrition in Medical Science</td>
<td>3</td>
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<tr>
<td>7400:431</td>
<td>Additional coordinated undergraduate program</td>
<td>3</td>
</tr>
<tr>
<td>7400:529</td>
<td>Introduction to Nutrition in Medical Science</td>
<td>3</td>
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<tr>
<td>7400:529</td>
<td>Introduction to Community Nutrition</td>
<td>3</td>
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<tr>
<td>7400:529</td>
<td>Food Systems Management-Clinical</td>
<td>3</td>
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<td>7400:429</td>
<td>Nutrition in Medical Science-Clinical</td>
<td>3</td>
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<tr>
<td>7400:480</td>
<td>Community Nutrition I</td>
<td>3</td>
</tr>
<tr>
<td>7400:481</td>
<td>Community Nutrition II</td>
<td>3</td>
</tr>
<tr>
<td>7400:482</td>
<td>Community Nutrition II</td>
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<tr>
<td>7400:483</td>
<td>Community Nutrition II</td>
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</tr>
<tr>
<td>7400:486</td>
<td>Staff Relief</td>
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Additional traditional dietetics requirements:

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>2420:212</td>
<td>Basic Accounting II</td>
<td>3</td>
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<tr>
<td>or</td>
<td>Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>6200:202</td>
<td>Consumer Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Home Economics Education

Home economics education majors receive training and preparation to teach in grades 7 through 12. Options are available in vocational consumer homemaking, vocational job training and non-vocational home economics. Vocational job training specialization classes are available in food service, fabric service, child care service, health and community service and multi-area. Home economics education students may elect to graduate from the College of Education or the College of Fine and Applied Arts.

Senior Honors Program

Senior honors project in home economics and family ecology is one to three credits per semester and may be repeated for a total of six credits. Prerequisites: Senior standing in the honors program and approval of honors project by faculty preceptor.

7500: Music

Prior to entrance to the University, a written and aural/oral examination in the fundamentals of music and an audition in a performance area are administered to the student who intends to follow a music degree program. Contact the Department of Music, Theatre and Dance to arrange for the examination.

Bachelor of Arts

- General Studies and the second year of a foreign language – 53 credits.
- Core curriculum in music:
  - 7500:151 Theory I
  - 7500:152 Theory II
  - 7500:154 Music Literature I
  - 7500:155 Music Literature II
  - 7500:161 Aural/Oral Music Reading Skills
  - 7500:251 Theory III
  - 7500:252 Theory IV
  - 7500:261 Keyboard Harmony I
  - 7500:262 Keyboard Harmony II
  - 7500:351 Music History I
  - 7500:352 Music History II

- Performance courses:
  - 7500:156 Student Recital (four semesters)
  - 7500:156 Music Organization (four semesters)
  - 7500:261 Applied Music

- Electives – 33 credits

The Bachelor of Arts program is intended as a cultural course or as a preparation for graduate study but not as professional preparation for a performance or teaching career.

Bachelor of Music

Accompanying for Keyboard Majors

- General Studies – 39 credits.
- Core curriculum in music:
  - 7500:151 Music Theory I
  - 7500:152 Music Theory II
  - 7500:251 Music Theory III
  - 7500:252 Music Theory IV
  - 7500:154 Music Literature I
  - 7500:155 Music Literature II
  - 7500:161 Aural/Oral Music Reading Skills
  - 7500:261 Keyboard Harmony I
  - 7500:262 Keyboard Harmony II
  - 7500:351 Music History I
  - 7500:352 Music History II

- Other Music Courses:
  - 7500:265 Independent Study (Chamber Music)
  - 7500:265 Conducting
  - 7500:265 String Literature
  - 7500:265 Analytical Techniques
  - 7500:265 Introduction to Musicology
  - 7500:265 Composition
  - 7500:265 Independent Study (Chamber Music)
History and Literature
- Core curriculum in music (see B.A.) — 30 credits.
- Performance courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510:114 Music Organization
  - 7520:16 Applied Music — primary instrument
- Additional music courses:
  - 7500:252 Research in Music
  - 7500:261 Conducting
  - 7500:271 Analytical Techniques
  - 7500:281 Introduction to Musicology
  - 7500:292 Composition
  - 7500:312 Orchestration
  - 7500:322 Advanced Conducting: Instrumental
- Electives:
  - 7500:497 Independent Study
  - 7500:371 Analytical Techniques
  - 7500:361 Orchestration
  - 7500:352 Advanced Conducting: Instrumental
  - 7500:342 Advanced Conducting: Choral
- Electives — six credits.
- Senior recital (full recital required).

Performance
- Core curriculum in music (see B.A.) — 30 credits.
- Additional performance courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510:114 Music Organization (eight semesters)
  - 7520:16 Applied Music — primary instrument
- Additional music courses:
  - 7500:252 Research in Music
  - 7500:261 Conducting
  - 7500:271 Analytical Techniques
  - 7500:281 Introduction to Musicology
  - 7500:292 Composition
  - 7500:312 Orchestration
  - 7500:322 Advanced Conducting: Instrumental
  - 7500:342 Advanced Conducting: Choral
- Electives — six credits.
- Senior recital (full recital required).

Theory-Composition
- Core curriculum in music (see B.A.)
- Additional music courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510:114 Music Organization (eight semesters)
  - 7520:16 Applied Music — primary instrument
- Additional music courses:
  - 7500:322 Research in Music
  - 7500:361 Conducting
  - 7500:362 Choral Arranging
  - 7500:371 Analytical Techniques
  - 7500:372 Techniques for Analysis: Twentieth Century Music
  - 7500:491 Introduction to Musicology
  - 7500:452 Composition
  - 7500:454 Orchestration

*Passage to the 500 level in the primary applied area is required prior to graduation.
**For those with piano as their major performing instrument 7500:264 is taken in place of 7500:455.
†Passage to the 300 level in the primary applied area is required prior to graduation.

Jazz Studies:
- Core curriculum in music (see B.A.)
- Performance courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510:114 Music Organization (eight semesters)
  - 7520:16 Applied Music — primary instrument
- Additional music courses:
  - 7500:252 Research in Music
  - 7500:261 Conducting
  - 7500:271 Analytical Techniques
  - 7500:281 Introduction to Musicology
  - 7500:292 Composition
  - 7500:312 Orchestration
  - 7500:322 Advanced Conducting: Instrumental
  - 7500:342 Advanced Conducting: Choral
- Electives — eight credits.
- Senior recital.

Music Education:
- Core curriculum in music (see B.A.)
- Performance courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510:114 Music Organization (eight semesters)
  - 7520:16 Applied Music — primary instrument
- Additional music courses:
  - 7500:252 Research in Music
  - 7500:261 Conducting
  - 7500:271 Analytical Techniques
  - 7500:281 Introduction to Musicology
  - 7500:292 Composition
  - 7500:312 Orchestration
  - 7500:322 Advanced Conducting: Instrumental
  - 7500:342 Advanced Conducting: Choral
- Electives by major:
  - Vocal and Keyboard
  - General Music (second semester)
  - Choral Arranging
  - Advanced Conducting: Choral
  - Approved electives
- Professional education and psychology including student teaching — 25 credits.
- One-half recital during 12 months prior to graduation but not during the semester of student teaching.
- Minimum vocal, keyboard and conducting proficiency must be attained before assignment to student teaching.

For details of the above requirements and minimum standards of achievement, please see the Music Handbook available from the Department of Music, Theatre and Dance, Guzzetta Hall.
7600: Communication

Bachelor of Arts
- General Studies and second year of a foreign language — 53 credits.
- Core — 18 credits.
  Grade of "C-" or better required for all core courses.

- Concentration in business and organizational communication, communication and rhetoric or mass media-communication — 15-16 credits.
- Elective mass media-communication courses — 12-15 credits.
- Electives — 27 credits.

Bachelor of Arts in Business and Organizational Communication

Bachelor of Arts in Communication and Rhetoric

Bachelor of Arts in Mass Media-Communication
- General Studies and the second year of a foreign language — 53 credits.*
- Core — 18 credits.
- Area of specialization (see below) — 15-18 credits.
- Elective mass media-communication courses — 12-15 credits.
- Electives — 27 credits.

Business and Organizational Communication

Communication and Rhetoric

Mass Media-Communication

Management

News

7700: Communicative Disorders

Bachelor of Arts

Bachelor of Arts in Communicative Disorders
- Completion of the General Studies and the second year of a foreign language — 54 credits.**
- Completion of the following:

Communication and Rhetoric

Business and Organizational Communication

7750: Social Work

Program Description

The social work curriculum is an accredited undergraduate program preparing students for entry-level professional practice in health, mental health, mental retardation, family service, public welfare, corrections, juvenile justice, child welfare, aging and in alcohol and drug abuse, community action and development, and human relations.

Programs can be designed for the student wishing to prepare specifically for practice in the above mentioned areas. Students will also be prepared for entry into graduate schools of social work for completion of the Master of Social Work Degree.

**Courses in the Department of Biology are required to fulfill the natural sciences requirement (1100:264 S). A B.A. in Communicative Disorders substitutes a core of courses in psychology and related disciplines for the foreign language (see advisor for specific courses).
The Bachelor of Arts degree with a major in Social Work requires completion of two years of a foreign language (Spanish is recommended). The Bachelor of Arts Social Work degree does not require a language. It requires some additional course work in social work and the social sciences.

Curricula have been developed so that students completing the two year associate degree programs in Community Services Technology (C& T) and Social Services Technology (WGT) with social services emphasis programs can complete either the BA or BA/SW four year curriculum in social work with two additional years of course work. Similarly, curricula have been developed so that students completing the two year associate degree program in Criminal Justice Technology can complete either the BA or BA/SW four year curriculum in Social Work in the two additional years’ course work.

Certificate programs can be designed in Afro-American Studies, Life Span Development: Adulthood and Aging; Gender Identity and Roles.

**Bachelor of Arts**
- Completion of the General Studies and the second year of a foreign language —53 credits.*

<table>
<thead>
<tr>
<th>Social Work courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7750:270 Poverty in the United States</td>
</tr>
<tr>
<td>7750:276 Introduction to Social Welfare</td>
</tr>
<tr>
<td>7750:412,2,3 Social Work Practice I, II, III</td>
</tr>
<tr>
<td>7750:410 Minority Issues in Social Work Practice</td>
</tr>
<tr>
<td>7750:421 Field Experience Seminar</td>
</tr>
<tr>
<td>7750:427 Human Development for Social Workers</td>
</tr>
<tr>
<td>7750:430 Human Behavior and Social Environment</td>
</tr>
<tr>
<td>7750:440 Social Work Research</td>
</tr>
<tr>
<td>7750:441 Social Work Research II</td>
</tr>
<tr>
<td>7750:495 Field Experience in Social Agency</td>
</tr>
<tr>
<td>7750:495 Field Experience in Social Agency</td>
</tr>
</tbody>
</table>

*Electives should be selected in consultation with an adviser — 29 credits.

**Bachelor of Arts (2+2) with C&T [Community Services Technology (Social Service Emphasis)]**

<table>
<thead>
<tr>
<th>General studies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:320.1 Western Cultural Traditions</td>
</tr>
<tr>
<td>1100:22— Natural Science Biology</td>
</tr>
<tr>
<td>1100:33— Eastern Civilization</td>
</tr>
<tr>
<td>1100:34— Mathematics</td>
</tr>
<tr>
<td>1100:35— Natural Science</td>
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<table>
<thead>
<tr>
<th>Foreign language: Complete second year</th>
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</thead>
<tbody>
<tr>
<td>14</td>
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<table>
<thead>
<tr>
<th>Social work:</th>
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</thead>
<tbody>
<tr>
<td>7750:412,2,3 Social Work Practice I, II, III</td>
</tr>
<tr>
<td>7750:410 Minority Issues in Social Work Practice</td>
</tr>
<tr>
<td>7750:415 Field Experience Seminar</td>
</tr>
<tr>
<td>7750:427 Human Development for Social Workers</td>
</tr>
<tr>
<td>7750:430 Human Behavior and Social Environment</td>
</tr>
<tr>
<td>7750:440 Social Work Research I</td>
</tr>
<tr>
<td>7750:441 Social Work Research II</td>
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<table>
<thead>
<tr>
<th>Electives:</th>
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<tbody>
<tr>
<td>7750:45 Social Work Electives</td>
</tr>
<tr>
<td>7750:46 Social Science Electives</td>
</tr>
<tr>
<td>7750:47 Social Science Electives</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Other electives — 29 credits.</th>
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</table>

**Bachelor of Arts/Social Work**
- General Studies — 40 credits.

<table>
<thead>
<tr>
<th>Social work courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7750:270 Poverty in the United States</td>
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</tr>
<tr>
<td>7750:425 Social Work Ethics</td>
</tr>
<tr>
<td>7750:427 Law for Social Workers</td>
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<tr>
<td>7750:427 Human Development for Social Workers</td>
</tr>
<tr>
<td>7750:430 Human Behavior and Social Environment</td>
</tr>
<tr>
<td>7750:440 Social Work Research I</td>
</tr>
<tr>
<td>7750:441 Social Work Research II</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Field experience:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7750:421 Field Experience Seminar (two semesters required concurrent with 7750:495)</td>
</tr>
<tr>
<td>7750:495 Field Experience in a Social Agency (two required)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives:</th>
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</thead>
<tbody>
<tr>
<td>7750:45 Social Work Electives</td>
</tr>
<tr>
<td>7750:46 Social Science Electives</td>
</tr>
</tbody>
</table>

**Bachelor of Arts/Social Work (2+2) with C&T [Community Services Technology (Social Service Emphasis)]**

<table>
<thead>
<tr>
<th>General studies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:221 Natural Science Biology</td>
</tr>
<tr>
<td>1100:320.1 Western Cultural Traditions</td>
</tr>
<tr>
<td>1100:33— Eastern Civilization</td>
</tr>
<tr>
<td>1100:34— Mathematics</td>
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<table>
<thead>
<tr>
<th>Electives:</th>
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</thead>
<tbody>
<tr>
<td>7750:45 Social Work Electives</td>
</tr>
</tbody>
</table>

**Bachelor of Arts/Social Work (2+2) with C&T (Criminal Justice Technology)**

<table>
<thead>
<tr>
<th>General studies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:111 Western Cultural Traditions</td>
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</table>

<table>
<thead>
<tr>
<th>Electives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:320.1 Western Cultural Traditions</td>
</tr>
</tbody>
</table>

*The student must complete 3400:100 Introduction to Sociology as part of the social sciences requirement and 1100:221 Natural Science Biology or some other biology course as part of the natural sciences requirement and 3450:112 Algebraic Functions and Graphing, 3470:251 Descriptive Statistics and Probability and 3470:252 Distributions as the mathematics requirement.*

1. 3450:112, 3470:251.2 are prerequisites for 7750:440 Social Work Research I.
2. 3450:112, 3470:251.2 are prerequisites for 7750:440 Social Work Research I.
Bachelor of Arts/Social Work (2+2) with C&T
(Criminal Justice Technology)

- General Studies:
  1100:112 English Composition
  1100:221 Natural Science/Biology
  1100:3201 Western Cultural Traditions
  1100:33 Eastern Civilizations

- Social Work:
  7750:401,2,3 Social Work Practice I, II, III
  7750:410 Minority Issues in Social Work Practice
  7750:421 Field Experience Seminar
  7750:425 Social Work Ethics
  7750:441 Social Work Research II
  7750:444 Social Policy Analysis for Social Work
  7750:495 Field Experience in Social Agency

Bachelor of Arts/Social Work (2+2) with Wayne College
(Social Service Technology (Social Service Emphasis))

- General Studies:
  1100:3201 Western Cultural Traditions
  1100:33 Eastern Civilizations
  Mathematics

- Social work:
  7750:401,2,3 Social Work Practice I, II, III
  7750:410 Minority Issues in Social Work Practice
  7750:421 Field Experience Seminar
  7750:425 Social Work Ethics
  7750:441 Social Work Research II
  7750:444 Social Policy Analysis for Social Work
  7750:495 Field Experience in Social Agency

Bachelor of Arts in Theatre**

Theatre Arts
The concentration is designed to prepare the student for competency in all areas of theatre — acting/directing, theatre history/criticism and design/technical theatre — in order that the student can acquire the skills to teach theatre, to undertake graduate work in theatre or to undertake professional work in commercial or regional theatre. Consult an advisor.

Acting
- General Studies — 39 credits.
  - Acting:
    7800:112 Acting I
    7800:12 Acting II
    7800:37 Acting III
    7800:474 Acting IV

- Voice:
  7800:151 Voice for the Stage
  7800:350 Advanced Voice for the Stage
  7800:495 Applied Voice

- Dance:
  7800:321 Jazz Technique I
  7800:329 Movement/Dance
  7800:119,20 Introduction to Contemporary Dance
  7800:124,5 Introduction to Ballet

- Theatre:
  7800:100 Experiential Theatre
  7800:262 Stage Makeup
  7800:265 Basic Stagecraft I
  7800:271 Directing I
  7800:367 History of Theatre I: Greek to Renaissance
  7800:368 History of Theatre II: Restoration to Present
  7800:445,6 Movement for Actors I, II
  7800:464 Production/Performance Laboratory

- Electives (with approval of advisor) — 14 credits.

Design/Technology
- General Studies — 39 credits.
  - Basic preparation:
    7800:104 Introduction to Technical Theatre
    7800:262 Stage Makeup
    7800:265 Basic Stagecraft I
    7800:362 Advanced Stagecraft

- Studio courses:
  7800:105 Introduction to Stage Design
  7800:283 Scene Painting
  7800:334 Stage Costume Construction
  7800:335 Introduction to Stage Costume History/Design
  7800:336 History/Construction of Period Furnishing for the Stage
  7800:464 Stage Lighting

- Design/Technology:
  7800:365 Stage Design
  7800:435 Stage Costume Design
  7800:436 Styles of Scene Design
  7800:437 Styles of Stage Costume Design
  7800:465 Stage Lighting Design
  7800:469 Problems in Lighting Design

- Production practice courses:
  7800:470 Practicum in Production Design/Technology

- Theatre:
  7800:100 Experiential Theatre
  7800:271 Directing I
  7800:172 Acting I

**The student in B.A. in Theatre and B.A. in Dance program substitutes a related sequence of 14 additional credits either from departmental offerings or offerings of other departments, approved by advisor for the second year of a foreign language.

††See Department of Music, Theatre and Dance regarding audition for placement.
### 7900: Dance

**Bachelor of Arts in Dance**

The dance major is designed for the student who wishes to pursue professional training in dance for the Bachelor of Arts degree. It is expected that the student will be able to work as a performer or teacher on a professional level upon completion of the degree.

Admission to the program is by audition only.

Every student must pass a sophomore jury in ballet technique at the completion of two years of study to be admitted to upper-division standing in the dance area. All students are required to study ballet technique every semester they are enrolled and to complete two semesters of *Ballet Technique IV* for graduation.

- **General Studies program and second year of a foreign language — 53 credits.**
- **Required dance courses:**
  - 7900:115 Dance As An Art Form 2
  - 7900:116.7 Dance Analysis I, II 4
  - 7900:122, 222 Ballet Technique I, II 20
  - 7900:229 Contemporary Technique I 6
  - 7900:316.7 Choreography I, II 4
  - 7900:320 Dance Notation 2
  - 7900:322, 422 Ballet Technique III, IV 20
  - 7900:329 Contemporary Dance Technique 6
  - 7900:423 History of the Dance 2
  - 7900:424 Twentieth Century Dance 2
  - 7900:425 Development of Ballet 2
  - 7900:426.7 Techniques of Teaching Ballet I, II 4
- **Sophomore Jury taken by all majors at the completion of two years' study.**
- **Electives (with approval of adviser) — 15 credits.**
- **All candidates for the B.A. degree will be required to earn at least eight credits of 7910: Dance Organization.**

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*See Department of Music, Theatre and Dance regarding audition for placement.*

**Notes:**

*The student in B.A. in Theatre and B.A. in Dance program substitutes a related sequence of 14 additional credits either from departmental offerings or offerings of other departments, approved by adviser for the second year of a foreign language.*
College of Nursing

Lillian J. DeYoung, R.N., Ph.D., Dean
Phyllis A. Fitzgerald, R.N., Ph.D., Assistant Dean,
Undergraduate Programs
A. Jeanne Hoffer, R.N., Ed.D., Assistant Dean, Graduate Program
Carol A. Ambrecht, R.N., M.S., Director, Continuing Education

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 primary focus of professional nursing is man: a complex, holistic being having physiological, psychosocial, spiritual and cultural dimensions. Man is unique and universal. Man is further defined as a thinking, interacting, adapting, valuing being constantly in the process of becoming and whose goal is self-actualization. Man is an ecological being who affects and is affected 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 affect 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 disequilibrium 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 as a series of progressive 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 theories and research from nursing and other disciplines to add to the body of nursing knowledge and to improve health care services to clients. The professional nurse is accountable to clients and colleagues in the health professions and accepts responsibility for quality nursing care in any environment.

The emerging role of the professional nurse includes the exercise of social responsibility and independence in decision-making processes which affect the delivery of nursing care within the existing and changing social system. An important dimension of the emerging role of the professional nurse is to support the client who assumes the responsibility for making those decisions necessary for optimal health.

The faculty views general education at the baccalaureate level as the base for rational thinking, which provides the student with an inquiring approach to life and self with an opportunity to become a contributing member of the community.

Baccalaureate nursing education provides opportunities for a student to apply concepts, knowledge and skills from the biologic, social, behavioral sciences and nursing science to professional practice. This education prepares a generalist who is capable of practicing in any environment and provides a foundation for research, continued study and leadership. Research is viewed as a quest for new knowledge pertinent to an identified area of interest through the application of the scientific process. Leadership is viewed as the ability to facilitate the movement of a person, group, family or community toward the establishment and attainment of a goal.

The faculty defines education as a life-long 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 education program.

It is the faculty's responsibility to facilitate an environment conducive to learning. A student has 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.

OBJECTIVES

The undergraduate program in nursing is designed to prepare the graduate to do the following:

• Utilize the nursing process to move the client toward a higher level of functioning.
• Maintain stability, to restore equilibrium and/or to be supportive when optimal levels of health cannot be achieved.
• Initiate and/or adapt to changes affecting the health care system.
• Accept responsibility for own nursing interventions and be accountable to clients and colleagues in the health professions for nursing practice.
• Demonstrate personal growth by participating in self-directed learning activities.
• Utilize relevant nursing theories and concepts from the physical, biologic, social and behavioral sciences in the application of the nursing process.
• Utilize political, cultural and social processes to affect the health of man and the environment.
• Utilize research findings to promote the practice of nursing and to extend nursing research.
• Utilize leadership skills for the advancement of professional nursing and health care.
• Share in the responsibility for optimal health care of clients by collaborating, consulting and coordinating with clients and members of the health team.
• Clarify own values in relation to nursing practice.
• Utilize concepts from human ecology in the practice of nursing.

REQUIREMENTS

Admission

Four classifications of students will be considered for admission to the college: a) the generic student (entering freshman), b) the registered nurse, c) the postbaccalaureate student and d) the transfer student from other colleges and universities. A transfer student may receive credit for quality work earned in approved colleges. Enrollment of a transfer student is contingent upon availability of University facilities and an assessment of the sufficiency of prior academic work. Transfer course grades shall be taken into account in placing students in rank order for admission purposes.

*The basic collegiate program is approved by the State of Ohio Board of Nursing Education and Nurse Registration and is accredited by the National League for Nursing.
A registered nurse (RN) who receives preparation in hospital or associate degree programs is evaluated individually. An RN student is expected to meet the same course requirements as the generic student and those of The University of Akron. In addition, anatomy and physiology and microbiology must have been completed within the past 10 years at the time of admission to the College of Nursing. This 10 year limit applies to all students.

A student who wishes to be considered for admission must meet the following requirements:

• Complete all University College requirements and College of Nursing prerequisites by the end of spring semester of the sophomore year.
• Have a 2.50 grade point average or higher.
• All grades of transfer work will be combined with those earned at The University of Akron in the computation of a GPA for admission ranking purposes to the College of Nursing.

All applicants will be considered at once and will be selected each spring. All applicants will be ranked in order along with generic students. Transfer student applicants with a combined GPA of 2.75 or above (University of Akron grades plus transfer grades) will be ranked in order along with generic students. Transfer student applicants with a combined GPA between 2.50 and 2.7499 will be admitted if openings still exist. Having a GPA of 2.50 will not guarantee admission to the college. A student will be notified of provisional admission to the College of Nursing prior to fall scheduling requirements and will be given final approval at the end of spring semester.

Of students selected, one half will begin in the summer with the other half beginning in the fall. The program consists of four academic years and one semester. Students admitted to the college in the summer would complete the program (five semesters) for graduation in May, and those entering fall semester would complete the program (five semesters) for graduation in December. An active alternate list of students will be selected to take the place of students who choose not to continue.

Applications for the college are only effective for the current academic year.

Acceptance of the student into the college is the responsibility of the dean in consultation with the dean of the University College and the Admissions Committee of the College of Nursing. Admission to the program in nursing does not guarantee the student’s placement in the nursing courses at the time the student may wish to pursue them. The college reserves the right to approve admission to those individuals whose abilities, attitudes and character promise satisfactory achievement to the college objectives.

Continuation in the Baccalaureate Program

A student must achieve a grade-point average of 2.30 or higher on a 4.0 scale in the nursing major. A student receiving a “D+” or “F” in any nursing course will be required to repeat the course. The student may repeat the course only once.

The following policies must be adhered to by all students once they are admitted to the baccalaureate program:

• Obtain a two-year liability insurance policy prior to July 15 and maintain the policy throughout the program.
• If a licensed nurse, provide a copy of valid Ohio nurse’s license.
• Complete necessary immunization requirements prior to July 15.
• Complete CPR (cardiopulmonary resuscitation) certification prior to or concurrent with 8200:300 (if registered nurse 8200:305).
• Maintain a current CPR certification throughout the program.

Evidence of completion of these requirements will be submitted to the records coordinator prior to July 15, otherwise course registration will be closed.

Reapplying to the College of Nursing

Students seeking re-enrollment must submit their request by mid-term prior to the semester desired by writing to the Student Admissions, Progression and Graduation Committee. The letter must include the student’s social security number, the reasons for withdrawal and the date of desired re-entry. The committee will evaluate the situation and communicate the decision to the student by letter.

Probation and Retention

A student must achieve and maintain a grade-point average of 2.30 or higher on a 4.00 scale in the nursing major. A student who fails to maintain the 2.30 average will be placed on probation. Failure to raise the average to 2.30 in a period of one semester or one 10-week summer session will result in dismissal from the program.

A student receiving a “D” or “F” in any clinical nursing course (theory and/or practice) will be required to repeat the course. A student may repeat the course only once.

Upon completion of the repeated course, the student shall withdraw from the college if a grade of 2.30 is not attained. The student may not apply for readmission for at least one semester.

A student may be on probation only once in the College of Nursing, and the academic probation period is to be no longer than one semester, or one 10-week summer session.

Requirements for Graduation

• Complete all University requirements as listed in Section 3 of this Bulletin.
• Complete a minimum of 131 semester credits for the degree and earn a minimum of 2.30 grade-point average in the nursing major and a 2.00 grade-point average for all collegiate work attempted at The University of Akron.
• Complete all courses required in the Program for Nursing Students.
• Complete the last 32 credits in the baccalaureate program at The University of Akron.
• Complete all requirements which were in effect at the time of transfer to the College of Nursing.

Program of Studies

Generic Student

Freshman Year

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:111</td>
<td>English Composition</td>
</tr>
<tr>
<td>1100:115</td>
<td>Institutions in the United States*</td>
</tr>
<tr>
<td>3150:129</td>
<td>Introduction to General, Organic and Biochemistry I</td>
</tr>
<tr>
<td>3450:111.2</td>
<td>Mathematics Modules</td>
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<tr>
<td>3470:251.2</td>
<td>Descriptive Statistics</td>
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<tr>
<td>8200:180</td>
<td>Introduction to Nursing</td>
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<tr>
<td>1100——</td>
<td>Physical Education</td>
</tr>
<tr>
<td>1100:112</td>
<td>English Composition</td>
</tr>
<tr>
<td>1100:116</td>
<td>Institutions in the United States*</td>
</tr>
<tr>
<td>3150:130</td>
<td>Introduction to General, Organic and Biochemistry II</td>
</tr>
<tr>
<td>3850:100</td>
<td>Introduction to Sociology*</td>
</tr>
</tbody>
</table>

*The six-credit requirement in the social sciences area usually designated by 1100:115 & Institutions in the United States can be met through several options as listed in the University College requirements. A nursing student who elects to use 3850:100 Introduction to Sociology as the part of the social sciences requirement for University College MUST complete an additional three or four-credit sociology requirement to meet the prerequisites for the College of Nursing. This must be completed prior to application to the college.
The student may use courses numbered 1-120 or appropriate electives.

The following is mandatory that the student provide transportation to meet the course criteria for safe practice by the instructor.

Students may use courses numbered 100 and up as electives. Students planning to fulfill their elective requirements prior to admission to the college may contact the college for assistance in selecting appropriate electives. The student shall satisfy the course criteria for safe nursing practice before being permitted to participate in clinical learning experiences. The student will be informed of these criteria for safe practice by the instructor.

It is mandatory that the student provide transportation to meet requirements of the nursing courses.

**Registered Nurse**
*(limited to licensed registered nurses)*

**Freshman Year**

| Semester I | 1100:101 | English Composition | 4 |
| 1100:111 | Institutions in the United States* | 3 |

| Semester II | 1100:116 | Institutions in the United States* | 3 |
| 3150:130 | Introduction to General, Organic and Biochemistry II | 4 |
| 3850:100 | Introduction to Sociology* | 4 |

**Sophomore Year**

| Semester I | 1100:106 | Effective Oral Communication | 3 |
| 3100:130 | Principles of Microbiology | 3 |
| 3100:206 | Anatomy and Physiology | 3 |
| 3600:101 | Introduction to Philosophy | 3 |
| or | 3600:120 | Introduction to Ethics | 3 |
| or | 3600:170 | Introduction to Logic | 3 |
| 3750:120 | Introduction to Psychology | 3 |

| Semester II | 1100:112 | English Composition | 4 |
| 1700:116 | Institutions in the United States* | 3 |
| 3150:130 | Introduction to General, Organic and Biochemistry II | 4 |
| 3850:100 | Introduction to Sociology* | 4 |

**Sophomore Year**

| Semester I | 1100:105 | Ecology and Biological Resources | 2 |
| 1830:201 | Man and His Environment | 2 |
| or | 3350:310 | Physical and Environmental Geography | 3 |
| 3100:207 | Anatomy and Physiology | 3 |
| 3100:381 | Human Genetics | 2 |
| 3750:130 | Developmental Psychology | 4 |
| 3850:340 | The Family | 3 |
| or | 7400:201 | Relational Patterns in Marriage and Family | 3 |

| Semester II | 3100:105 | Ecology and Biological Resources | 2 |
| 1830:201 | Man and His Environment | 2 |
| or | 3350:310 | Physical and Environmental Geography | 3 |
| 3100:207 | Anatomy and Physiology | 3 |
| 3100:381 | Human Genetics | 2 |
| 3750:130 | Developmental Psychology | 4 |
| 3850:340 | The Family | 3 |
| or | 7400:201 | Relational Patterns in Marriage and Family | 3 |

**Option #1**

| Summer | 1100:33 | Eastern Civilizations | 2 |
| 8200:305 | Nursing Theories, Concepts and Research | 6 |
| or | Elective | 5 |

| Fall | 1100:320 | Western Cultural Traditions | 4 |
| 1100:33 | Eastern Civilizations | 2 |
| 8200:405 | Health Maintenance Nursing | 5 |
| 8200:415 | Diminished Health Nursing | 6 |

**Option #2**

| Summer | 1100:305 | Nursing Theories, Concepts and Research | 6 |
| 1100:33 | Eastern Civilizations | 2 |
| or | Electives | 5 |

| Fall | 1100:320 | Western Cultural Traditions | 4 |
| 1100:33 | Eastern Civilizations | 2 |
| 8200:405 | Health Maintenance Nursing | 5 |

| Spring | 1100:321 | Western Cultural Traditions | 4 |
| 8200:415 | Diminished Health Nursing | 6 |
| or | Elective | 4 |

**Bypass credit will be granted for the following course: upon successful completion of 8200:420 Nursing: Synthesis**

| 8200:320 | Nursing: Diminished Health I | 12 |
| 8200:400 | Nursing: Diminished Health II | 12 |

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*The six-credit requirement in the social sciences area usually designated by 1100:115.8 Institutions in the United States can be met through several options as listed in the University College requirements. A nursing student who elects to use 3850:100 Introduction to Sociology as one part of the social sciences requirement for University College must complete an additional three or four-credit sociology requirement to meet the prerequisites for the College of Nursing. This must be completed prior to application to the college.

**Nursing: Synthesis**

**College of Nursing**
Students may use courses numbered 100 and up as electives. Students planning to fulfill their elective requirements prior to admission to the College of Nursing may contact the College of Nursing for assistance in selecting appropriate electives.

Agencies

The agencies cooperating in providing the laboratory experiences in the courses in nursing are:

- Akron City Health Department
- Akron City Hospital
- Akron General Medical Center
- Akron Metropolitan Housing Authority
- American Diabetes Association
- Barberton Citizens Hospital
- Canton Preschool Day Care Center
- Children's Hospital Medical Health Center
- Cuyahoga Falls General Hospital
- CYO Adult Day Care Center
- Edwin Shaw Hospital
- Fallsview Psychiatric Hospital
- Hattie Latham Foundation
- Henry Center for Child Care and Learning
- Nurse's House Call
- Rockynol Presbyterian Home
- St. Edward Nursing Home
- St. Thomas Hospital Medical Center
- Salvation Army
- Slow Day Care Center
- Summit County General Health District
- The University of Akron Nursery and Day Care Center
- Tudor house
- Visiting Nurse Service
- Weaver School
- West Knoll ElderCare Home

**Bypass credit will be granted for the following courses upon successful completion of 8200:420 Nursing: Synthesis**
- 8200:320 Nursing: Diminished Health I
- 8200:400 Nursing: Diminished Health II
Northeastern Ohio Universities College of Medicine

HISTORY AND PURPOSE 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 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 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. 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.

ADMISSION

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. These students, who have not attended college, should write to the Office of Admissions, The University of Akron, Akron, OH 44325 for application forms. Complete application indicating interest in the Phase I, BS/MD Program and return prior to December 31.

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 for admission to Phase II (year three of the program). These students should contact the College of Medicine, Rootstown, OH 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.

PROGRAM

The curriculum requires that the student be enrolled for 11 months in each of six academic years. The first two years (Phase I) are 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. Progress through 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 faculty, will assess these factors and will recommend the Phase I student for promotion and formal admission to Phase II, or the third year of the program.

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 campus 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 part of one term in each of these last three years to complete the requirements for the Bachelor of Science 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 Bachelor of Science degree by one of the universities and the Doctor of Medicine degree by the College of Medicine.

COST

Normal undergraduate fees will be assessed for years one and two. Fees for years three through six are set by the College of Medicine Board of Trustees and are commensurate with those at publicly supported medical schools elsewhere in this state.

LOCATION

The campus is located on S.R. 44 in Rootstown just south of the I-76 intersection, across from the Rootstown High School.

*See BS/MD program. Section 4 of this bulletin for a description of the requirements for the Bachelor of Science part of this program.
University Honors Program

Arno K. Lepke, Ph.D., Master

INTRODUCTION
The University of Akron's Honors Program is designed to recognize and to support the highly motivated and achievement-oriented student in any major program. To help the participant discover inherent potential, capabilities and sense of direction this unique learning experience emphasizes a close student-faculty relationship.

ADMISSION
The requirements for admission to the University Honors Program are:
- A high school grade-point average of 3.50 or better
- Scores on the Scholastic Aptitude Test (SAT) or American College Test (ACT) which place the applicant in the 90th percentile or higher of freshman college norms in the field of interest.
- An interview with a member of the University Honors Council.
- Enrollment in a baccalaureate degree program.

For information on the annual deadline for applications call (216) 375-7423 or the Office of Admissions (216) 375-7100.

PROGRAM

General Studies
An honors student is not required to complete the General Studies 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 the student's major field. The student and preceptor plan the components of this requirement which is subject to the approval of the Honors Council.

Colloquia
Beginning at the sophomore level, an honors student attends one colloquium per year: one in the humanities; another in the social sciences; 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 and 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 the previous sphere of intellectual curiosity.

Major Requirements
An honors student completes 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.

A faculty preceptor serves as a special advisor for the student in each department. The preceptor assists 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.

Senior Honors Project
The honors student is expected to complete a senior honors thesis, an original or creative work which reflects the student's area of interest in the major field. This senior project may well become the basis for a future master's thesis in graduate school. Study abroad or field experience may be recognized as part of the project.

The citation: "University Scholar" will appear on the diplomas and the transcripts of the students who complete the University Honors Program. At commencement exercises, they will be properly recognized as University Scholars.

OTHER FEATURES

Scholarships
An honors student who maintains a minimum 3.40 cumulative grade-point average is eligible for substantial honors scholarships which are renewable annually.

Acceleration
To meet degree requirements, an honors student may use credits awarded for satisfactory achievement on Advanced Placement high school tests (AP), 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.

Open Classroom
An honors student may attend undergraduate classes or lectures for which the student is not formally enrolled. Free access is available.

Access to Graduate Courses
With the permission of the student's preceptor and the instructor, an honors student 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/Noncredit Option
Upon completion of one-half of all degree requirements, an honors student may enroll in one course per semester on a credit/noncredit basis. All elective credits thus earned are not considered in calculating grade-point average, but count as credits completed toward graduation requirements.

University Honors Council
Seven faculty members representing the degree-granting colleges and two 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.
Distinguished Student Program for Associate Degree Students

PURPOSE
The purpose of the Distinguished Student Program shall be to encourage and assist exceptionally talented students who are enrolled in associate degree programs to achieve excellence in their academic work. The program is also intended to expose these students to the total offerings of this University. Every attempt will be made to make available to students the broad expanse of knowledge available on this campus.

ADMISSION
Students shall be admitted to the program based on their academic achievement and potential for scholarship. These persons shall be identified at the time of admission to The University of Akron. The requirement for admission to the program shall include: (1) high school grade point average of 3.50 or higher on a 4.00 scale; (2) scores on the Scholastic Aptitude Test (SAT) or American College Test (ACT) which places the student in the 90th percentile or higher of freshman college norms; (3) rank in the top 10 percent or higher of the high school class; (4) recommendations from high school principal, teachers or counselors; and, (5) approval of the council. In exceptional circumstances where an applicant is able to demonstrate extraordinary academic promise, the high school grade point average, class rank, and the SAT or ACT requirement may be waived by the Distinguished Student Council. Students desiring to enter the program after they have been enrolled at The University of Akron may make application to the council.

PROGRAM
A distinguished student's program of study shall consist of, for the most part, courses within the major. The Distinguished Student Colloquium (taken the first semester of the second year) and the Honors Colloquium (taken the second semester of the second year) shall provide an opportunity for all distinguished students to meet and explore the breadth and interrelationships of the various academic disciplines. These one-semester, two-credit colloquia shall be suitably scheduled over the span of the academic year. The coordinator, with the assistance of the Distinguished Student Council, shall determine the sequence in which these colloquia shall be offered and also approve the course content of the Distinguished Student Colloquium. Distinguished students may be permitted to attend classes or lectures within the Community and Technical College for which they are not formally enrolled.

The designation Distinguished Student will appear on the academic record of all students who have met all graduation requirements. At commencement exercises, the students will be properly recognized as such.

Graduation Requirements
The distinguished student shall earn the minimum total credits required for a particular degree and for a program major. Progress toward completing the degree requirements may be accelerated by credit by examination, bypassed credit and credit awarded for satisfactory achievement on high school advanced placement examinations in accordance with University policies.

Colloquia
Beginning at the sophomore level, all distinguished students attend one colloquium per semester. The first will be in the fall semester and be restricted to distinguished students. The second will be in the spring semester and will be offered through the University Honors Program if possible. These one-semester, two-credit lecture and discussion sessions are interdisciplinary in scope. These seminars provide an opportunity for students to meet and explore the breadth and the interrelations of academic studies. A major objective of the colloquia is to provide significant insights, especially in areas which lie outside the student's major field and may have been excluded from a previous sphere of intellectual curiosity.

ADVISEMENT
Immediately upon admission to the program, the student shall be assigned a program adviser. The adviser shall assist in the selection of courses which are appropriate for the distribution requirement and the formulation of an integrated major program.

The coordinator consults with the adviser in all matters relating to the student's academic performance and the completion of requirements for graduation as a distinguished student. The college advising staff shall be available for assistance in all matters pertaining to the program.

A distinguished student who does not immediately choose a major shall be assigned to the Community and Technical College advising staff. The distinguished student shall be admitted to the college immediately upon being admitted to the program.

RETENTION
A distinguished student must maintain a minimum grade-point average which would qualify the student for graduation With Distinction. The Distinguished Student Council shall review each distinguished student's record at the end of each semester.

Students who achieve a 3.25 to a 3.39 accumulative grade-point average for their first semester of attendance shall be placed on probation. If they raise their accumulative grade-point average to the required 3.40 by the end of their second semester of attendance, they will be permitted to continue in the Distinguished Student Program. Any student whose accumulative grade-point average falls below a 3.25 overall shall be withdrawn from the programs. Students may be readmitted to the program at a later date if they raise their accumulative grade-point average to at least 3.40.

A student who transfers to a baccalaureate program will no longer be eligible for the Distinguished Student Program but may apply to the University Honors Program for admission.
OTHER FEATURES

Scholarships

Distinguished students who meet the requirements for retention in the program are eligible for scholarships renewable each semester.

Library Privileges

All distinguished students receive a special borrower's card which entitles them to:

• Unlimited renewal of regularly circulating library materials, if no one has requested their return. All materials must be presented to the library for renewal.

• Privilege of using closed carrels.

• Privilege of borrowing materials on interlibrary loan.

The special borrower’s card is renewable annually. Library handbooks are issued to all entering distinguished students.

Open Classrooms

Distinguished students may attend undergraduate classes or lectures for which they are not formally enrolled. Access to all courses and academic programs will be for a limited time with the approval of their adviser and in accordance with University policy.
Evening College and Summer Sessions

Caesar A. Carrino, Ph.D., Dean
Elmore J. Houston, M.A., Assistant Dean

EVENING COLLEGE

The University of Akron has a rich and historic tradition of service to the student who attends classes after 5 p.m. Evening class offerings run the full range from the Community and Technical College through the Ph.D. level. Through evening and Saturday credit courses, the Evening College keeps its 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 full-time faculty members teach and are available to the student in the evening. 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 course work.

The president and his top-level administrators and the collegiate deans are vitally concerned and supportive of our effort to serve the needs of the evening student — all 7,500 of them.

SUMMER SESSIONS

The Summer Sessions reemphasize 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: the regular full-time student accelerating a program, a recent high school graduate, a transfer student from other institutions of higher learning, an older person with life-long learning interests, the part-time student and, equally important, those who rejuvenate their intellectual energies in summer study only.

Summer Sessions serve more than 18,000 students, young and old, local and commuting, at all stages from noncredit avocational courses to the professional and Ph.D. levels. Faculty, students, administration and the community contribute talents and resources to further the dynamics of the academic and cultural process.
Minor Areas of Study

REGULATIONS

The University of Akron has approved minor fields of study that may be placed on a student's record when all requirements have been completed. The following rules apply to all minors:

- The student must complete at least 18 credits.
- All students must complete a minimum of six credits in each minor.
- A minimum grade-point average of 2.00 in each minor is required.
- A minor may be designated at any time during the student's career up to and including the time the degree clearance is processed.
- All credits must be earned (that is, bypassed credit may not be used).
- Courses for a minor may not be taken credit/noncredit.
- A minor will be placed on the student's record only at the time the student receives a degree and only on application.
- A minor need not be completed before all requirements have been completed.
- A minor may be repeated for a total of 15 credits.

ADVISEMENT

Although not required to do so, students are advised to contact faculty in the department(s) in which they may wish to earn minors early in their undergraduate programs.

SPECIFIC PROGRAM REQUIREMENTS*

Anthropology

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3870:150 Cultural Anthro</td>
<td>4</td>
</tr>
<tr>
<td>3870:151 Physical Anthro</td>
<td>3</td>
</tr>
<tr>
<td>3870:356 New World Prem</td>
<td>3</td>
</tr>
<tr>
<td>3870:461 Language and Culture</td>
<td>3</td>
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</tbody>
</table>
- A minimum of six additional credits of anthropology courses.
- Nineteen total credits are required.

Art

Art History

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>7100:100 Survey of History of Art I</td>
<td>4</td>
</tr>
<tr>
<td>7100:101 Survey of History of Art II</td>
<td>4</td>
</tr>
<tr>
<td>7100:300 Art since 1945</td>
<td>3</td>
</tr>
<tr>
<td>7100:302 Art in Europe during the 17th and 18th Centuries</td>
<td>3</td>
</tr>
<tr>
<td>7100:303 Renaissance Art in Italy</td>
<td>3</td>
</tr>
<tr>
<td>7100:304 Art in Europe during the 19th Century</td>
<td>3</td>
</tr>
<tr>
<td>7100:400 Art in the US before World War II</td>
<td>3</td>
</tr>
<tr>
<td>7100:401 Special Topics in History of Art</td>
<td>3</td>
</tr>
<tr>
<td>7100:405 History of Art Symposium</td>
<td>3</td>
</tr>
<tr>
<td>7100:498 Special Problems in History of Art</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Art

- Core need not be completed
- Prerequisites must be honored
- Student may complete any department courses except 7100:191

Ceramics

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>7100:254 Introduction to Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>7100:354 Ceramics II</td>
<td>3</td>
</tr>
<tr>
<td>7100:454 Advanced Ceramics**</td>
<td>3</td>
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</tbody>
</table>

Crafts

- Prerequisites must be honored
- Students must complete courses in two of these three areas: ceramics, metalsmithing/enameling or weaving

Drawing

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>7100:131 Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:231 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>7100:232 Instrument Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:233 Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:283 Drawing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>7100:331 Drawing III</td>
<td>3</td>
</tr>
<tr>
<td>7100:333 Advanced Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:431 Drawing IV</td>
<td>3</td>
</tr>
<tr>
<td>7100:484 Illustration</td>
<td>3</td>
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<tr>
<td>7100:485 Advanced Illustration</td>
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Graphic Design

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>7100:283 Drawing Techniques</td>
<td>3</td>
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<tr>
<td>7100:284 Introduction to Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:286 Commercial Design Theory</td>
<td>3</td>
</tr>
<tr>
<td>7100:288 Letter Form and Typography</td>
<td>3</td>
</tr>
<tr>
<td>7100:380 Graphic Video</td>
<td>3</td>
</tr>
<tr>
<td>7100:387 Advertising Layout Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:388 Advertising Production Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:389 Corporate Identity</td>
<td>3</td>
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<tr>
<td>7100:480 Advanced Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:484 Illustration</td>
<td>3</td>
</tr>
<tr>
<td>7100:485 Advanced Illustration</td>
<td>3</td>
</tr>
<tr>
<td>7100:486 Packaging Design</td>
<td>3</td>
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<tr>
<td>7100:488 Publication Design</td>
<td>3</td>
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Illustration

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<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>7100:283 Drawing Techniques</td>
<td>3</td>
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<tr>
<td>7100:333 Advanced Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:480 Advanced Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:484 Illustration</td>
<td>3</td>
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<tr>
<td>7100:485 Advanced Illustration</td>
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Interior Design

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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>7100:282 Architectural Presentations</td>
<td>3</td>
</tr>
<tr>
<td>7400:121 Textiles</td>
<td>3</td>
</tr>
<tr>
<td>7400:331 Applied Home Furnishings</td>
<td>3</td>
</tr>
<tr>
<td>7400:333 Interior Design I</td>
<td>3</td>
</tr>
<tr>
<td>7400:334 Interior Design II</td>
<td>3</td>
</tr>
<tr>
<td>7400:335 Fundamentals of Buying Home Furnishings</td>
<td>3</td>
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Metalsmithing

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>7100:296 Introduction to Jewelry</td>
<td>3</td>
</tr>
<tr>
<td>7100:298 Enameling on Metal</td>
<td>3</td>
</tr>
<tr>
<td>7100:396 Metalsmithing II</td>
<td>3</td>
</tr>
<tr>
<td>7100:388 Advanced Enameling</td>
<td>3</td>
</tr>
<tr>
<td>7100:496 Advanced Metalsmithing</td>
<td>3</td>
</tr>
</tbody>
</table>

*All programs are listed in alphabetical order.

**May be repeated for a total of 15 credits.
Painting
710245 Introduction to Polymer Acrylic Painting 3
710246 Introduction to Water Color Painting 3
710348 Painting II* 3
710449 Advanced Painting** 3

Photography
224022 Advertising Photography 3
710027 Introduction to Photography 3
712537 Photography II 3
710376 Photographics 3
710647 Advanced Photography 3

Printmaking
710213 Introduction to Lithography 3
710214 Introduction to Screen Printing 3
710215 Introduction to Relief Printing 3
710216 Introduction to Intaglio Printing 3
710317 Printmaking II 3
710418 Advanced Printmaking 3

Sculpture
710221 Design Applications 3
710222 Introduction to Sculpture 3
710225 Introduction to Ceramics 3
or 710266 Introduction to Jewelry 3
710321 Figurative Sculpture 3
710322 Sculpture: Casting 3
710422 Advanced Sculpture 3

Biology
• Total credits required for a minor in biology: 23-24.
3100111 Principles of Biology 8
3100211 General Genetics 3
3100217 General Ecology 3
3100311 Cell Biology 3
or 3100130 Principles of Microbiology 3
3100316 Evolutionary Biology 3
3100 — A 300/400 level course approved by department head

Business Administration
6200201 Accounting I, II 8
6400320 Legal Environment 4
6400371 Business Finance 3
6503301 Management Principles and Concepts 3
6503321 Quantitative Business Analysis I, II 6
6503323 Computer Applications for Business 3
6600300 Marketing Principles 3

Business Management Technology
2020247 Survey of Basic Economics 3
2420101 Elements of Distribution 3
2420103 Role of Supervision in Management 3
2420202 Personnel Practices 3
2420211 Basic Accounting I 3
2420280 Essentials of Law 3
2420 — Elective 3

Elective: 2420170 Business Mathematics 3
or 2420212 Basic Accounting II 3
or 2420243 Survey in Finance 3

Chemistry
• Total credits required for a minor in Chemistry: 19-22.
• Core comprised of one of the following options:
  3150123 Principles of Chemistry I, II 7
  3150283 Organic Chemistry Lecture I, II 6
  or 3150129,30 Introduction to General, Organic and Biochemistry I, II 8
  3150201 Organic Chemistry and Biochemistry I, II 8
• An additional six credits from 300/400 level courses. For example, a pre-med or biology student might take 3150240.1 Biochemistry (three credits each). An engineer or physics major might select 3150313,4 Physical Chemistry (three credits each). Analytical or instrumental courses might be attractive to others.
• Medical technology students automatically have a chemistry minor.
• Chemical engineering majors also fulfill the requirements for a minor in chemistry.
• Students who intend to minor in chemistry may seek advice about the 300/400 level courses that would be most relevant to their interests.

Classics
• Total credits required for a minor in classics: 21 credits.
  3200189 Mythology 3
  3200313/14 Archaeology of Greece and Rome 6
  or 3200361/2 Literature of Greece and Rome 6
  3210303/4 Advanced Greek 6
  or 3220303/4 Advanced Latin 6
  Electives in Classics 6
• It is strongly recommended that a minor in classics take at least three credits of 3400354,5,6,7 Survey in Ancient History.

Classical Civilization
3200189 Mythology 3
3200304,5,6,7 Ancient History (select one) 6
3200313/14 Archaeology of Greece and Rome 6
3200361/2 Literature of Greece and Rome 6
Electives in Classics 6
• It is strongly recommended that a minor in classical civilization fulfill the language requirement by taking 3220121,2,223,4 or 3210121,2,223,4.

Community Services Technology
2020240 Human Relations 3
2260100 Introduction to Community Services 3
2260150 Introduction to Gerontological Services 3
2260260 Alcohol Use and Abuse 3
2260240 Drug Use and Abuse 3
2260278 Techniques of Community Work 4

Criminal Justice Technology
• Core courses
  2220100 Introduction to Criminal Justice 3
  2220102 Criminal Law for Police 3
  2220204 Criminal Evidence and Court Procedures 3
• Additional courses for general criminal justice minor
  2220240 Vice Crime and Substance Abuse 3
  2220250 Criminal Case Management 6
  2250260 Administration and Supervision: Public Service 3

*Must be taken in a medium previously taken or at the introductory level. May be repeated for a total of nine credits but limited to a maximum of three credits in any of the three media.
**Must be taken in a medium previously taken in Painting II. May be repeated for a total of nine credits.
American Literature

Professional Writing

3300.301 Professional Writing I

• One from the following:
  3300.381 Legal Writing
  3300.481 Advanced Management Reports
  3300.483 Science Writing

• One departmental linguistics or language course.

• Two additional courses from any of the literature, language, or writing offerings in the department.

Creative Writing

• Two introductory courses in creative writing from the following:
  3300.277 Introduction to Poetry Writing
  3300.278 Introduction to Fiction Writing
  3300.279 Introduction to Script Writing

• One advanced course in creative writing from the following:
  3300.371 Advanced Poetry Writing
  3300.378 Advanced Fiction Writing

• One literature course primarily concerned with modern work.

• Two additional courses from any of the literature, language offerings of the department, which may include a second advanced course in the writing of fiction or poetry.

Fire Protection

2230.100 Introduction to Fire Protection

Geography

• Minimum of 20 credits of departmental courses; 17 of which must be in courses having a laboratory.

• Student should consult with the department faculty advisor for minors.

English

English

English Literature
Cartography
At least five courses (15 credits) from:
3350:440 Cartography 3
3350:443 Geographic Information Systems 3
3350:442 Thematic Cartography 3
3350:444 Map Computation and Reproduction 3
3350:447 Introduction to Remote Sensing 3
3350:448 Automated Computer Mapping 3
3350:449 Advanced Remote Sensing 3
At least one course (three credits) from:
3350:481 Geographic Research Methods 3
3350:483 Spatial Analysis 3
3350:496 Field Research Methods 3

History
- Twelve of the 18 credits must be at the upper division level (300/400). A combination of courses in United States and non-United States history is required.
- A student may work primarily in United States history, European, Medieval, Latin American and the like, provided in both cases there is some combination or distribution between United States and non-United States history.

Home Economics and Family Ecology

Apparel Design and Construction
7400:121 Textiles 3
7400:123 Clothing Construction 3
7400:305 Advanced Construction & Tailoring 3
7400:311 Contemporary Needle Arts 3
7400:449 Flat Pattern Design 3
7400:— Elective in Clothing and Textiles Area 3

Fashion
7400:121 Textiles 3
7400:127 Historic Costume 3
7400:331 History of Textiles and Furnishings 3
7400:339 The Fashion Industry 3
7400:419 Outfitting Communication 3
7400:— Elective in Clothing and Textiles Area 3

Interior Design
See Art Department Listing

Clinical Nutrition
7400:133 Nutrition Fundamentals 3
7400:316 Science of Nutrition 4
7400:328 Introduction to Nutrition in Medical Science 4
7400:424 Nutrition in the Life Cycle 3
7400:428 Nutrition in Medical Sciences 5

Community Nutrition
7400:133 Nutrition Fundamentals 3
7400:316 Science of Nutrition 4
7400:380 Introduction to Community Nutrition 1
7400:424 Nutrition in the Life Cycle 3
7400:480 Community Nutrition I 3
7400:482 Community Nutrition II 3
7400:485 Practicum in Dietetics 1

Food Systems Administration
2280:236 Food and Beverage Cost Control 3
6500:341 Personnel Management 3
7400:133 Nutrition Fundamentals 3

7400:245* Basic Food Theory and Applications 5
7400:213 Introduction to Food Systems Mgmt 3
7400:416* Quantity Food Preparation 3

Food Science
7400:133 Nutrition Fundamentals 3
7400:445* Basic Food Theory and Applications 5
7400:402 Advanced Food Preparation 3
7400:420 Experimental Foods 4
7400:485 Sensory Evaluation of Food (or other appropriate seminar) 3

Family Development
(Prerequisites must be honored)
7400:201 Relational Patterns in Marriage and Family 3
7400:265 Child Development 3
The remaining 12 credits may be selected from the following:
7400:255 Fatherhood The Parent Role 2
7400:361 Parent-Child Relations 2
7400:361 Home Management Theory 3
7400:390 Family Relationships in Middle and Later Years 2
7400:401 Family Life Patterns in Economically Depressed Homes 2
7400:404 Adolescence in the Family Context 3
7400:440 Family Crisis 3
7400:442 Human Sexuality 3
7400:445 Public Policy and the American Family 3
7400:496* Parenting Skills 3
7400:485 Seminar Family Communication 3

Child Development
(Prerequisites must be honored)
7400:201 Relational Patterns in Marriage and Family 3
7400:265 Child Development 3
The remaining 12 credits may be selected from the following:
7400:132 Early Childhood Nutrition 2
7400:255 Fatherhood The Parent Role 2
7400:275 Play and Creative Expression Activities 4
7400:290* Administration of Child Care Centers 3
7400:360 Parent-Child Relations 2
7400:401 Family Life Patterns in Economically Depressed Homes 2
7400:404 Adolescents in the Family Context 3
7400:406 Organization and Supervision of Child Care Centers 3
7400:496* Parenting Skills 3

Hospitality Management
2290:121 Fundamentals of Food Preparation I 4
2290:122 Fundamentals of Food Preparation II 4
2290:135 Menu Planning and Purchasing 3
2290:232 Dining Room Service and Training 2
2290:233 Restaurant Operations and Food Management 4
2290:236 Food and Beverage Cost Control 3

Culinary Arts
2290:122 Fundamentals of Food Preparation I 4
2290:160 Wine and Beverage Service 2
2290:222 Fundamentals of Food Preparation II 4
2290:123 Meat Technology 2
2290:232 Dining Room Service and Training 2
2290:261 Baking and Classical Desserts 3
2290:262 Classical Cuisine 3
2290:263 International Foods 2

Hotel/Motel Management
2290:160 Front Office Procedures 3
2290:152 Maintenance and Engineering Management 3
2290:153 Principles of Fire Protection and Life Safety 3
2290:240 System Management and Personnel 3
2290:256 Hospitality Law 3
2290:258 Hotel/Motel Sales Promotion 3
2290:254 Hotel/Motel Housing Management 3

"*Prerequisites required"
### Interpreting for the Deaf

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2210:100</td>
<td>Introduction to Interpreting for the Deaf</td>
<td>4</td>
</tr>
<tr>
<td>2210:154</td>
<td>Sign Language, Gesture and Mime</td>
<td>3</td>
</tr>
<tr>
<td>2210:105</td>
<td>Specialized Interpreting I</td>
<td>3</td>
</tr>
<tr>
<td>2210:150</td>
<td>Handspradd Service Practicum (must be repeated by eight credits)</td>
<td>1.4</td>
</tr>
<tr>
<td>2210:200</td>
<td>Reverse Interpreting</td>
<td>3</td>
</tr>
<tr>
<td>2210:230</td>
<td>Specialized Interpreting II</td>
<td>3</td>
</tr>
<tr>
<td>7700:100</td>
<td>Manual Communication I</td>
<td>5</td>
</tr>
<tr>
<td>7700:110</td>
<td>Introduction to Audiology/Aural Rehabilitation</td>
<td>3</td>
</tr>
<tr>
<td>7700:150</td>
<td>Manual Communication II</td>
<td>4</td>
</tr>
<tr>
<td>7700:200</td>
<td>Manual Communication III</td>
<td>4</td>
</tr>
<tr>
<td>7700:222</td>
<td>Introduction to Deaf Culture and Its Origin</td>
<td>2</td>
</tr>
<tr>
<td>7700:271</td>
<td>Language of Signs I</td>
<td>3</td>
</tr>
</tbody>
</table>

### Library

- **Courses offered in alternate years:**
  - 220:100 Introduction to Library Technology
  - 220:201 Cataloging, Classifying, and Processing Materials
  - 220:202 Organizing and Operating Library/Media Centers
  - 220:203 Materials Selection
  - 220:204 Reference Procedure
  - 220:205 Information Retrieval Systems in Library Technology
  - 220:297 Independent Study

- **Additional:**
  - Introduction to Library Technology
  - Cataloging, Classifying, and Processing Materials
  - Organizing and Operating Library/Media Centers
  - Materials Selection
  - Reference Procedure
  - Information Retrieval Systems in Library Technology
  - Independent Study

### Mathematical Sciences

- **Total credits required for majors in mathematical sciences:** 24.

### Mathematics/Applied Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:212</td>
<td>Analytic Geometry-Calculus I, II, III</td>
<td>12</td>
</tr>
<tr>
<td>3450:235</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>3450:312</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Approved 300/400 level mathematical sciences electives (at least three credits in 3450 courses):**

### Statistics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3410:212</td>
<td>Analytic Geometry-Calculus I, II</td>
<td>8</td>
</tr>
<tr>
<td>3450:312</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>3450:461</td>
<td>Applied Statistics</td>
<td>4</td>
</tr>
<tr>
<td>3450:462</td>
<td>Experimental Design I</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Approved 300/400 level mathematical sciences electives:**

### Computer Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:212</td>
<td>Analytic Geometry-Calculus I, II</td>
<td>8</td>
</tr>
<tr>
<td>3450:215</td>
<td>Concepts of Calculus I, II</td>
<td>3</td>
</tr>
<tr>
<td>3450:209</td>
<td>Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>3450:210</td>
<td>Computer Programming II</td>
<td>3</td>
</tr>
<tr>
<td>3460:316</td>
<td>Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>3460:306</td>
<td>Assembly Language Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Approved 300/400 level computer science electives:** 6

### Modern Languages

**French, German, Spanish, Russian or Italian**

- A minimum of 18 credits is required.
- The student must have at least 12 credits beyond the second year excluding courses which are not counted for credit toward a major.

### Music, Theatre and Dance

#### Jazz Studies

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7500:210</td>
<td>Jazz Improvisation I</td>
<td>2</td>
</tr>
<tr>
<td>7500:211</td>
<td>Jazz Improvisation II</td>
<td>2</td>
</tr>
<tr>
<td>7500:112</td>
<td>Music Industry Survey</td>
<td>2</td>
</tr>
<tr>
<td>7500:307</td>
<td>Tech of State Band Per and Dir</td>
<td>2</td>
</tr>
<tr>
<td>7500:308</td>
<td>Jazz History and Literature</td>
<td>3</td>
</tr>
<tr>
<td>7500:491*</td>
<td>Elective in Jazz</td>
<td></td>
</tr>
<tr>
<td>7510:115</td>
<td>Jazz Ensemble</td>
<td>4</td>
</tr>
<tr>
<td>7520</td>
<td>Applied Jazz Study</td>
<td>8</td>
</tr>
</tbody>
</table>

#### Theatre Arts

**(requires a minimum of 24 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7800:100</td>
<td>Introduction to Theatre</td>
<td>3</td>
</tr>
<tr>
<td>7800:102</td>
<td>Introduction to Technical Theatre</td>
<td>3</td>
</tr>
</tbody>
</table>

- Thirteen additional credits are required: three credits from each of the following areas, four credits of theatre electives, plus two credits of practical theatre experience.

#### Design/Technology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7800:106</td>
<td>Introduction to Stage Design</td>
<td>3</td>
</tr>
<tr>
<td>7800:355</td>
<td>Basic Stagecraft I</td>
<td>3</td>
</tr>
<tr>
<td>7800:464</td>
<td>Stage Lighting</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Acting/Directing

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7800:171</td>
<td>Acting I</td>
<td>3</td>
</tr>
<tr>
<td>7800:271</td>
<td>Directing I</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Musical Theatre

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7800:421</td>
<td>Music Theatre Production</td>
<td>3</td>
</tr>
<tr>
<td>7800:475</td>
<td>Acting for the Musical Theatre</td>
<td>3</td>
</tr>
</tbody>
</table>

#### History/Dramatic Literature

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7800:106</td>
<td>The American Theatre</td>
<td>3</td>
</tr>
<tr>
<td>7800:467</td>
<td>Contemporary Theatre Styles</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Theatre Production/Performance

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7810</td>
<td>Production/Performance</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Theatre Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

#### Office Administration

- **Core:**
  - 2540:150:1 or 2540:155:1 Typewriting
  - 2540:125 Business Machines

- **Additional courses for general secretarial area**
  - 2540:171, 274 or 276 Shorthand/Transcription
  - 2540:141 Information Management
  - 2540:121 Office Problems

- **Additional courses for word processing area**
  - 2540:241 Information Management
  - 2540:280 Word Processing Concepts
  - 2540:281 Machine Transcription
  - 2540:285 Keyboarding of Word Processing Equipment

- **Additional courses for information management area**
  - 2540:201 Accounting I
  - 2540:121 Office Problems
  - 2540:241 Information Management
  - 2540:281 Machine Transcription

*Elective to be determined in consultation with the Director of Jazz Studies.*
Philosophy

Requirements
- A total of 18 semester credits in Philosophy including: (a) at least three semester credits at the introductory level (Introduction to Philosophy, Logic or Ethics); and (b) at least six semester credits at the 300/400 level.
- Students may select a minor related to their major area of study.

Minors

<table>
<thead>
<tr>
<th>Major Area</th>
<th>Philosophy Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>philosophy of art</td>
</tr>
<tr>
<td>Humanities</td>
<td>philosophy</td>
</tr>
<tr>
<td>Natural sciences</td>
<td>philosophy</td>
</tr>
<tr>
<td>Computer sciences/mathematics</td>
<td>philosophy</td>
</tr>
<tr>
<td>Law</td>
<td>philosophy</td>
</tr>
<tr>
<td>Business</td>
<td>philosophy of management</td>
</tr>
<tr>
<td>Teaching</td>
<td>philosophy of education</td>
</tr>
<tr>
<td>Political science</td>
<td>political philosophy</td>
</tr>
<tr>
<td>Communication/journalism</td>
<td>philosophy of communication</td>
</tr>
<tr>
<td>Social work</td>
<td>social philosophy</td>
</tr>
<tr>
<td>Health professions</td>
<td>biomedical philosophy</td>
</tr>
<tr>
<td>Technical writing</td>
<td>philosophy of language</td>
</tr>
<tr>
<td>Engineering</td>
<td>philosophy of technology</td>
</tr>
</tbody>
</table>

- Other minors in philosophy may be designed with the approval of the Department of Philosophy.
- Students should consult with the Department of Philosophy for courses appropriate to their minors.

Examples
- Examples of courses available for students majoring in arts, humanities and natural sciences follow:
  - Arts (philosophy of art)
    - 3600:120, 223 Ethics
    - 3600:350 Philosophy of Art
  - 3600:211, 312 History of Philosophy
    - 3600:481, 581 Philosophy of Language
  - 3600:232 Philosophy of Religion
    - 3600:424, 524 Existentialism
    - 3600:426, 526 Phenomenology
  - Humanities (philosophy)
    - 3600:120, 223 Ethics
    - 3600:170, 374 Logic
    - 3600:211, 312 History of Philosophy
    - 3600:350 Philosophy of Art
    - 3600:462, 562 Theory of Knowledge
    - 3600:481, 581 Philosophy of Language
    - 3600:424, 524 Existentialism
    - 3600:426, 526 Phenomenology
    - 3600:471, 571 Metaphysics

  Natural sciences (philosophy of science)
    - 3600:120, 223 Ethics
    - 3600:170, 374 Logic
    - 3600:464, 564 Philosophy of Science
    - 3600:418, 518 Analytic Philosophy
    - 3600:471, 571 Metaphysics
    - 3600:426, 526 Phenomenology
    - 3600:462, 562 Theory of Knowledge
    - 3600:211 History of Ancient Philosophy

Physics

- Requirements for a minor in physics include: 3650:291, 2 Elementary Classical Physics I, II — eight credits; and, physics electives at the 300/400 level — 10 credits. Note: 3650:261, 2, Physics for the Life Sciences, may be substituted for 3650:291, 2, in whole or in part.

  Recommended physics electives: most students should elect 3650:301. Unless a student has already acquired considerable expertise in electronics, courses 3650:311, 312 and 321 should prove valuable. Finally, 3650:302 provides an important background in optics, useful to engineers, geophysicists and others.

Political Science

- Each student shall complete at least nine of the required courses in 300/400 level course work in Political Science.
- A student may select a minor concentration from one of the five following course sequences.

American Politics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:100</td>
<td>Government and Politics</td>
<td>1</td>
</tr>
<tr>
<td>3700:210</td>
<td>State and Local Government and Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:302</td>
<td>American Political Ideas</td>
<td>3</td>
</tr>
<tr>
<td>3700:340</td>
<td>American Political Parties and Interest Groups</td>
<td>3</td>
</tr>
<tr>
<td>3700:341</td>
<td>The American Congress</td>
<td>3</td>
</tr>
<tr>
<td>3700:342</td>
<td>Minority Group Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:350</td>
<td>The American Presidency</td>
<td>3</td>
</tr>
<tr>
<td>3700:360</td>
<td>The Judicial Process</td>
<td>3</td>
</tr>
<tr>
<td>3700:370</td>
<td>The American Bureaucracy</td>
<td>4</td>
</tr>
<tr>
<td>3700:380</td>
<td>Urban Politics and Policies</td>
<td>4</td>
</tr>
<tr>
<td>3700:381</td>
<td>State Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:390</td>
<td>Intergovernmental Relations</td>
<td>3</td>
</tr>
<tr>
<td>3700:420</td>
<td>Politics and the Media</td>
<td>3</td>
</tr>
<tr>
<td>3700:430</td>
<td>Public Opinion and Political Behavior</td>
<td>4</td>
</tr>
</tbody>
</table>

Comparative Politics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:200</td>
<td>Comparative Politics</td>
<td>4</td>
</tr>
<tr>
<td>3700:304</td>
<td>Modern Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>3700:320</td>
<td>Britain and the Commonwealth</td>
<td>3</td>
</tr>
<tr>
<td>3700:321</td>
<td>Western European Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:322</td>
<td>Soviet and East European Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:323</td>
<td>Politics of China and Japan</td>
<td>3</td>
</tr>
<tr>
<td>3700:325</td>
<td>Comparative Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>3700:326</td>
<td>Politics of Developing Nations</td>
<td>3</td>
</tr>
<tr>
<td>3700:327</td>
<td>African Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:330</td>
<td>Canadian Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:405</td>
<td>Politics in the Middle East</td>
<td>3</td>
</tr>
<tr>
<td>3700:425</td>
<td>Latin American Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

International Politics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:100</td>
<td>Government and Politics</td>
<td>4</td>
</tr>
<tr>
<td>3700:310</td>
<td>International Politics and Institutions</td>
<td>4</td>
</tr>
<tr>
<td>3700:415</td>
<td>Comparative Foreign Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

Seven credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:200</td>
<td>Comparative Politics</td>
<td>4</td>
</tr>
<tr>
<td>3700:220</td>
<td>American Foreign Policy</td>
<td>3</td>
</tr>
<tr>
<td>3700:304</td>
<td>Modern Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>3700:320</td>
<td>Britain and the Commonwealth</td>
<td>3</td>
</tr>
<tr>
<td>3700:321</td>
<td>Western European Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:322</td>
<td>Soviet and East European Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:323</td>
<td>Politics of China and Japan</td>
<td>3</td>
</tr>
<tr>
<td>3700:325</td>
<td>Comparative Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>3700:326</td>
<td>Politics of Developing Nations</td>
<td>3</td>
</tr>
<tr>
<td>3700:327</td>
<td>African Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:330</td>
<td>Canadian Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:405</td>
<td>Politics in the Middle East</td>
<td>3</td>
</tr>
<tr>
<td>3700:425</td>
<td>Latin American Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

Public Policy Analysis

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:100</td>
<td>Government and Politics</td>
<td>4</td>
</tr>
<tr>
<td>3700:201</td>
<td>Introduction to Public Science</td>
<td>3</td>
</tr>
<tr>
<td>3700:441</td>
<td>The Policy Process</td>
<td>3</td>
</tr>
<tr>
<td>3700:442</td>
<td>Methods of Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3700:480</td>
<td>Policy Problems</td>
<td>3</td>
</tr>
</tbody>
</table>

Two credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:325</td>
<td>Comparative Public Policy</td>
<td>3</td>
</tr>
<tr>
<td>3700:370</td>
<td>The American Bureaucracy</td>
<td>4</td>
</tr>
<tr>
<td>3700:382</td>
<td>Intergovernmental Relations</td>
<td>3</td>
</tr>
<tr>
<td>3700:402</td>
<td>Politics and the Media</td>
<td>3</td>
</tr>
<tr>
<td>3700:440</td>
<td>Public Opinion and Political Behavior</td>
<td>4</td>
</tr>
</tbody>
</table>

Pre-Law

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:100</td>
<td>Government and Politics</td>
<td>4</td>
</tr>
<tr>
<td>3700:290</td>
<td>The Judicial Process</td>
<td>3</td>
</tr>
<tr>
<td>3700:461</td>
<td>The Supreme Court and Constitutional Law</td>
<td>4</td>
</tr>
</tbody>
</table>
Seven credits from the following:

- 3700.210 State and Local Government and Politics 3
- 3700.302 American Political Ideas 3
- 3700.341 The American Congress 3
- 3700.381 State Politics 3
- 3700.392 Special Topic: Criminal Law and Procedures 1-3


Psychology

- Required for all students:
  - 3750.100 Introduction to Psychology 3

- At least one course from each of the following three groups (two of which must be on the 300/400 level).

  **Group I**
  - 3750.120 Introduction to Experimental Psychology 4
  - 3750.310 Sensory and Perceptual Experience 4
  - 3750.320 Physiological Psychology 4
  - 3750.430 Learning and Cognition 3

  **Group II**
  - 3750.140 Introduction to Industrial and Organizational Psychology 4
  - 3750.470 Advanced Industrial and Organizational Psychology 4
  - 3750.400 Personality 3
  - 3750.410 Tests and Measures (prerequisites are by permission of instructor for non-psychology majors only) 3

  **Group III**
  - 3750.130 Developmental Psychology 4
  - 3750.340 Social Psychology 4
  - 3750.350 The Psychology of Small Group Behavior 3
  - 3750.360 Cross Cultural Psychology 3
  - 3750.460 History of Psychology 3

- Up to four credits of 3750.480 Special Topics or 3750.497 Independent Reading and Research can be included in all minors. Prior approval required.

- Students may select a minor related to their major or may select a minor in psychology relevant to any of the following areas: natural sciences, humanities, social sciences, business, pre-law, education, sociology/social work.

Sociology

- Nineteen total credits are required.
- Required for all students:
  - 3850.100 Introduction to Sociology 4

- A minimum of 15 additional credits of sociology courses at the 300/400 level are required. Students may wish to select courses which relate to a particular interest area (e.g., family, health and illness, sex roles, urban life, gerontology). These areas are outlined in materials available in the Department of Sociology. Students with such interest should see an adviser in the Department of Sociology for assistance in course selection for the minor program.

Transportation

- Core
  - 2560.110 Transportation Economic Policy 3
  - 2560.118 Transportation Rate Systems 3
  - 2560.221 Transportation Principles and Practices 3
  - 2560.224 Transportation Regulation 4

- Five credits from the following:
  - 2560.115 Motor Transportation 3
  - 2560.116 Air Transportation 2
  - 2560.117 Water Transportation 2
  - 2560.220 Terminal Management and Safety 2
  - 2560.227 Transportation of Hazard Materials and Wastes 2
  - 2560.228 Introduction to Travel 2
SECTION 6

Interdisciplinary and Certificate Programs
Interdisciplinary and Certificate Programs of Study

OVERVIEW
To add to the dimensions of the traditional disciplines, the University has established interdisciplinary and interdepartmental programs of study. In addition to a major, the student may elect to pursue one of these programs.

Upon completion of any of these programs, a statement will be placed on the student's permanent record indicating the area of concentration. The certificate indicating the area of concentration will be awarded when the student completes requirements for a degree unless otherwise specified.

AFRO-AMERICAN STUDIES
Mr. N. Holmes, assistant director

Requirements
To satisfy the requirements for the certificate, a student must complete at least 11 semester credits and four courses with a minimum 2.00 GPA from the list of acceptable courses or other courses identified by the director. The following are required:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:336</td>
<td>Eastern Civilizations — Africa</td>
<td>2</td>
</tr>
<tr>
<td>1310:401</td>
<td>General Seminar in Afro-American Studies</td>
<td>3</td>
</tr>
<tr>
<td>2020:254</td>
<td>The Black American</td>
<td>2</td>
</tr>
<tr>
<td>2340:410</td>
<td>Black American Literature</td>
<td>3</td>
</tr>
<tr>
<td>2350:300</td>
<td>United States Dialects: Black and White</td>
<td>3</td>
</tr>
<tr>
<td>2350:380</td>
<td>Africa South of the Sahara</td>
<td>3</td>
</tr>
<tr>
<td>2340:220</td>
<td>Black People in the United States</td>
<td>3</td>
</tr>
<tr>
<td>3300:417</td>
<td>Black Social and Intellectual History</td>
<td>3</td>
</tr>
<tr>
<td>3300:392</td>
<td>African Politics</td>
<td>3</td>
</tr>
<tr>
<td>3350:401</td>
<td>Racial and Cultural Intergroup Relations</td>
<td>3</td>
</tr>
<tr>
<td>7750:270</td>
<td>Poverty in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7750:276</td>
<td>Introduction to Social Welfare</td>
<td>4</td>
</tr>
<tr>
<td>7750:410</td>
<td>Minority Issues in Social Work</td>
<td>3</td>
</tr>
</tbody>
</table>

Acceptable Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:350</td>
<td>Black American Literature: United States</td>
<td>3</td>
</tr>
<tr>
<td>2260:390</td>
<td>General Seminar in Afro-American Studies</td>
<td>3</td>
</tr>
<tr>
<td>2260:360</td>
<td>United States Dialects: Black and White</td>
<td>3</td>
</tr>
<tr>
<td>2260:250</td>
<td>The Black American</td>
<td>3</td>
</tr>
<tr>
<td>2260:240</td>
<td>African Politics</td>
<td>3</td>
</tr>
<tr>
<td>2260:230</td>
<td>Black People in the United States</td>
<td>3</td>
</tr>
<tr>
<td>2260:241</td>
<td>Black Social and Intellectual History</td>
<td>3</td>
</tr>
<tr>
<td>2260:232</td>
<td>African Politics</td>
<td>3</td>
</tr>
<tr>
<td>2260:234</td>
<td>Racial and Cultural Intergroup Relations</td>
<td>3</td>
</tr>
<tr>
<td>7750:270</td>
<td>Poverty in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7750:276</td>
<td>Introduction to Social Welfare</td>
<td>4</td>
</tr>
<tr>
<td>7750:410</td>
<td>Minority Issues in Social Work</td>
<td>3</td>
</tr>
</tbody>
</table>

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, 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.

A student undertaking the Afro-American Studies Certificate Program must have prior consultation with the director of Afro-American Studies.

AGING SERVICES
Mr. John Mumper, coordinator

Requirements*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:210</td>
<td>English</td>
<td>3</td>
</tr>
<tr>
<td>2260:220</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>2260:230</td>
<td>Introduction to Gerontological Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:240</td>
<td>Senior Citizen Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:250</td>
<td>Techniques of Community Work</td>
<td>4</td>
</tr>
<tr>
<td>2260:260</td>
<td>Technical Experience: Community and Social Services</td>
<td>5</td>
</tr>
</tbody>
</table>

Any two of the following four courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:270</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>2260:280</td>
<td>Death and Dying</td>
<td>2</td>
</tr>
<tr>
<td>2260:290</td>
<td>Resident Activity Coordination</td>
<td>3</td>
</tr>
<tr>
<td>2260:300</td>
<td>Special Topics: The World of Retirement</td>
<td>3</td>
</tr>
</tbody>
</table>

ALCOHOL SERVICES AIDE
Mr. John Mumper, coordinator

Requirements*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:210</td>
<td>English</td>
<td>3</td>
</tr>
<tr>
<td>2260:220</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>2260:230</td>
<td>Alcohol Use and Abuse</td>
<td>3</td>
</tr>
<tr>
<td>2260:240</td>
<td>Alcohol Treatment</td>
<td>3</td>
</tr>
<tr>
<td>2260:250</td>
<td>Techniques of Community Work</td>
<td>3</td>
</tr>
<tr>
<td>2260:260</td>
<td>Basic Helping Skills in Alcohol Problems</td>
<td>3</td>
</tr>
<tr>
<td>2260:270</td>
<td>Group Principles in Alcoholism</td>
<td>4</td>
</tr>
<tr>
<td>2260:280</td>
<td>Technical Experience: Community and Social Services</td>
<td>5</td>
</tr>
</tbody>
</table>

CARTOGRAPHIC SPECIALIZATION
Dr. A. Noble, department head

Requirements
This 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 traditional cartographic skills to the student in a wide spectrum of disciplines offered through the laboratory for cartographic and spatial analysis housed in the Department of Geography. These training opportunities provide for specialized study in the rapidly changing and significant area of cartography as a method of graphic communication. The program is flexible to meet the varied backgrounds and interests of the individual student.

In addition to cartographic courses in the Department of Geography, many useful courses are found in other departments. The program is designed to permit the student to combine interesting and useful elements of art, science and technology.

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade point average; graduate certificate programs require a 3.00 grade point average.
Cartography has a very long and rich history and, while it is eminently practical, has a strong component of theory. For this reason, a student on an interesting and exciting liberal arts subject may elect to take cartographic courses simply because they are focused cartography courses with the thought of increasing their potential of the certificate program. In the five core courses, an average grade of the program. A minimum grade of Mrs. Harriet K. Herskowitz, industry and government, as well as the academic community.

Core

Complete five of the following basic courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:240</td>
<td>Maps and Map Reading</td>
<td>3</td>
</tr>
<tr>
<td>3350:340</td>
<td>Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350:442</td>
<td>Theriogen Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350:444</td>
<td>Map Compaction and Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>3350:447</td>
<td>Introduction to Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:448</td>
<td>Automatic Computer Mapping</td>
<td>3</td>
</tr>
<tr>
<td>3350:449</td>
<td>Advanced Remote Sensing</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives

Each student must complete at least seven credits distributed between professional, technical and research offerings in departments other than the Department of Geography. These courses will be selected in consultation with the program’s director. Similar courses completed at other universities, up to five years prior to admission to candidacy, may be approved by the director.

The electives help develop a diverse cartographic skill and perspective which is significant and useful for persons working with data systems management, urban planning and environmental impact studies. To be truly effective and comprehensive in a career, the student must know a variety of professional and technical approaches to cope with social, economic, political, geographical, physical design and governmental problems. Selecting courses that duplicate or continue topical interests already well established in a particular student’s background will be discouraged.

Internship

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.

Final Examination and Defense of Cartographic Works

After the completion of course work each student undergoes an oral examination covering samples of the student’s cartography, conducted by two members of the department and one from the elective area. Questions cover the specific projects and topics covered in the course work completed specifically for the program. One week before the scheduled examination, the student submits samples of cartographic work.

The works must be 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.

A minimum grade of “C” is required in all elective courses taken as part of the certificate program. In the five core courses, an average grade of “B” is required.

**CHILD CARE WORKER**

Mrs. Harriet K. Herskowitz, coordinator

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade point average; graduate certificate programs require a 3.00 grade point average

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**COMPUTER PHYSICS CERTIFICATE**

Dr. E. VonMeerwall, director

**Requirements**

The establishment of this certificate program provides basic vocational training for child care practitioners. The course of study is a means of meeting the short range goals of students interested in acquiring skills for immediate job placement.

- 2200:240 Infant/Toddler Day Care Programs
- 2200:250 Observing and Recording Children’s Behavior
- 5200:360 Nursery School Laboratory
- 5550:265 Educational Technology Field Experience
- 7400:152 Early Childhood Nutrition
- 7400:265 Child Development
- 7400:275 Play and Creative Expression Activities
- 7400:280 Administration of Child Care Centers

**Technical Course Requirements**

**Physics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:291</td>
<td>Elementary Classical Physics I, II</td>
<td>8</td>
</tr>
<tr>
<td>3650:301</td>
<td>Elementary Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>3650:310</td>
<td>Electronics</td>
<td>3</td>
</tr>
<tr>
<td>3650:322</td>
<td>Intermediate Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>3650:325</td>
<td>Laboratory Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3650:436</td>
<td>Electromagnetism I</td>
<td>3</td>
</tr>
<tr>
<td>3650:468</td>
<td>Digital Data Acquisition</td>
<td>2</td>
</tr>
</tbody>
</table>

**Mathematics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:221</td>
<td>Analytic Geometry-Calculus I, II, III</td>
<td>12</td>
</tr>
<tr>
<td>3450:235</td>
<td>Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>3450:427</td>
<td>Introduction to Numerical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3450:428</td>
<td>Numerical Linear Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

**Computer Science; Engineering Computer Science**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460:210</td>
<td>Introduction to Computer Concepts</td>
<td>3</td>
</tr>
<tr>
<td>3460:316</td>
<td>Introduction to Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>3460:455</td>
<td>Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>3460:457</td>
<td>Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>4450:206</td>
<td>Assembler Programming</td>
<td>3</td>
</tr>
<tr>
<td>4450:206</td>
<td>Fortran (SCI/ENG) or equivalent</td>
<td>2</td>
</tr>
<tr>
<td>4450:410</td>
<td>Computer Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

The certificate has been structured so as to be accessible to students working toward both the B.S. and B.A. degrees in physics. Contact program codirectors for specific requirements.

This certificate may also be earned by students working toward the B.S. in natural science. The major area of concentration would be physics, with one minor area in mathematics. The other minor area(s) could be computer science, engineering or another discipline.
**COMPOSITION**

Dr. Martin McKoski, director

**Requirements**

To be eligible for the certificate in composition, a person must be admitted to the University as a graduate student (with either regular graduate status or special non-degree status). An eligible person interested in the program should contact the program director. Five courses in composition and linguistics required. Other appropriate English courses in composition or linguistics may be substituted as optional courses with the permission of the director.

**Required Courses:**

- 3300:576 Seminar Theory and Teaching of Basic Composition 3
- 7200:673 Theories of Composition 3
- 3300:575 Seminar: Research Methodologies in Composition 3

**Optional Courses**

- 3300:570 History of the English Language 3
- 3300:571 U.S. Dialects: Black and White 3
- 3300:589 Grammatical Structures of Modern English 3
- 3300:575 Theory of Phonetics 2
- 3300:589 Seminar: Sociolinguistics 3
- 3300:670 Modern Linguistics 3
- 3300:689 Seminar: Stylistics 3
- 3300:689 Seminar: Contextual Linguistics 3

**COMPUTER SCIENCE**

Dr. William C. Beyer, department head

**Requirements**

**Entrance**

To qualify for the Computer Science Certificate Program, a student must be in good academic standing in the major department, must have completed four credits of mathematics in the Department of Mathematical Sciences and must submit to the department head a written request for admission to the program. The request will outline the student’s reasons and goals for enrolling in the program. The area of concentration adds a further dimension of both mathematics and computer science to the student’s major in one of the traditional academic disciplines.

**Courses**

- 3450:215 Concepts of Calculus I 4
- 3450:216 Concepts of Calculus II 4
- 3450:221 Analytic Geometry-Calculus I 4
- 3450:222 Analytic Geometry-Calculus II 4
- 3450:209 Computer Programming I 3
- 3450:210 Computer Programming II 3
- 3460:316 Introduction to Data Structures 3
- 3460:306 Assembly Language Programming 3
- 3460:420 Structured Programming 3
- Approved 300/400 level Computer Science electives 3

**CRIMINAL JUSTICE TECHNOLOGY**

Mr. Kenneth L. McCormick, coordinator

**Requirements**

The program specified is designed to provide background, proficiency and updating in the criminal justice area. In the immediate geographic area, there are approximately 2,200 police officers and support personnel in police departments. While many of these police officers have completed a degree, many more would benefit by this type of approach. The designed program would provide a measure of recognition for those students enrolled and completing the program. The program would be continually monitored and has been included in many localities as an incentive for promotion, pay increases and lateral movement within the police agency.

- 2220:101 Introduction to Criminal Justice 3
- 2220:102 Criminal Law for Police 3
- 2220:104 Evidence and Criminal Legal Process 3
- 2220:250 Criminal Cases Management 6
- 2220:240 Dynamics of Vice Crime and Substance Abuse 3
- 3850:100 Introduction to Sociology 4

**CRIMINAL JUSTICE/ SECURITY EMPHASIS**

Mr. Kenneth L. McCormick, coordinator

**Requirements**

The program specified is designed as an integrated approach to provide proficiency and updating in the security field. The security field is one of the fastest growing areas of business today. There are approximately 750,000 individuals in the United States dealing with security problems. In the state of Ohio, there are approximately 70,000 and in the local area, 2,500 security personnel. The field is upgrading very rapidly by accepted state training and there is a move now for more education to be provided at the college level.

- 2220:101 Introduction to Security 4
- 2220:290 Special Topics in Security 3
- 2220:204 Fire Prevention Practices 3
- 2220:250 Hazardous Materials 4
- 2250:260 Administration and Supervision for Public Service 3
- 2886:141 Safety Procedures 3

**ENVIRONMENTAL HEALTH**

Dr. Walter Sheppe, Coordinator

Students majoring in any department may earn the certificate in environmental health by completing a program agreed on in advance by the coordinator and the major adviser, to include at least 21 credits in approved core and elective courses. Students must also complete a course in statistics approved by the Environmental Health Committee. The certificate program is designed to supplement the student's major and therefore the certificate will be awarded only upon completion of the bachelor's degree.

**Core Courses**

- 1890:400 Introduction to Environmental Health 3
- 1850:410 Epidemiology 3
- 1890:437 Individual Studies or Internship in Environmental Health 1-3

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.
Electives

Students will complete courses in at least two departments in the natural sciences and two in the social sciences, not to include the major department, from the following list or others approved by the Environmental Health Committee.

Environmental Health

1930.450 Seminar in Environmental Health 1
1890.480 Special Topics in Environmental Health 1-3

NATURAL SCIENCES

Biology

3100.130 Principles of Microbiology (non-majors) 3
3100.531 Microbiology (majors) 4
3100.393 Lab Techniques and Instrumentation in Biology 2
3100.426 Applied Aquatic Ecology 3
3100.480 Radiation Biology 3
3110.495 Animal Physiology

Chemistry

3150.486 Special Topics: Environmental Chemistry 3

Geography

3350.495 Soil and Water Field Studies 3

Geology

3370.201 Environmental Geology 3
3370.470 Geochemistry 3
3370.474 Groundwater Hydrology 3

Civil Engineering

4300.423 Water Pollution Principles 4

SOCIAL SCIENCES

Political Science

3700.441 Policy Processes 3
3700.442 Methods of Policy Analysis 3
2700.480 Policy Problems 3

Psychology

3750.460 Social Psychology 4

Sociology

3810.323 Social Change 3
3850.342 Sociology of Health and Illness 3
3850.467 Culture and Medicine 3

Health Education

5570.400 Environmental Aspects of Health Education 3

Home Economics and Family Ecology

1400.133 Fundamentals of Nutrition 3
7400.316 Science of Nutrition 4
7400.380 Introduction to Community Nutrition 1

Social Work

7750.430 Social Needs and Services: Aging 3
7750.452 Social Work Mental Health 3
7750.456 Social Work in Health Services 3

Requirements

To qualify for the certificate program, a student must be in good academic standing with the major department and request admission to the program. The request will outline the student’s reasons and goals for enrolling in the program.

The student will take a minimum of six courses from a list approved by the committee on environmental studies. Two of these courses will be:

1830.201 Man and the Environment 2
1830.401 Seminar in Environmental Studies 2

The student will be required to select courses from areas other than the major since the purpose of the program is to broaden the student’s background.

The student’s plan of study for this certificate will be developed in consultation with the director of the Center for Environmental Studies.

Courses

1830.201 Man and the Environment 2
1830.401 Seminar in Environmental Studies 2
1830.490 Workshop in Environmental Studies 1-4
1830.502 Evaluation of Environmental Data 3
1830.661 Graduate Seminar in Environmental Studies 3
3100.105 Ecology and Biological Resources 2
3100.21Y General Ecology 3
3100.422 Conservation of Biological Resources 3
3100.424 Limnology 3
3100.426 Applied Aquatic Ecology 3
3250.385 Economics: Natural Resources and Environment 3
3350.314 Demography 3
3350.335 Recreational Resource Planning 3
3350.436 Urban Land Use Analysis 3
3350.447 Introduction to Remote Sensing 3
3350.495 Soil and Water Field Studies 3
3370.200 Environmental Geology 3
3370.474 Groundwater Hydrology 3
3370.678 Urban Geology 3
3400.434 American Environmental History 3
3850.331 Population 3
3850.425 Sociology of Human Life 3
4100.201 Energy and Environment 2
4100.202 Air Pollution Control 2
4300.460 Pollution Control 3
4300.421 Environmental Engineering 3
4300.426 Environmental Engineering Laboratory 2
5800.491 Workshop: Arithmetic in Physical Science 3

FIRE PROTECTION TECHNOLOGY

Mr. David H. Hoover, coordinator

Requirements*

Although fire continues to be a growing problem in Ohio with more than 72,000 fires in 1981 causing 223 fatalities and 2,381 injuries, many municipalities are financially unable to provide a full-time fire department and instead must depend upon the dedicated volunteer firefighter. As this trend continues, the need for the well-educated volunteers will be even more critical as these citizens assume responsible officer positions.

The Fire Protection Technology certificate will assist the student in acquiring the skills and knowledge to function effectively as a volunteer paid on-call firefighter or officer in addition to receiving a certificate of completion and accomplishment.

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.
**HIGHER EDUCATION**

Contact: Dr. Don Birdsell, Associate Dean

**Requirements**

This certificate program in higher education requires a minimum of 15 credits. The program of studies has been designed to serve the practicing or prospective college or university administrator or instructor.

**Admission**

All applicants to the program should have previously earned a master's degree. Special admission for concurrent studies toward a master's degree and the higher education certificate may be allowed for persons currently employed in higher education. Students interested in this admission category should first meet with the director of the Center for the Study of Higher Education. The person wishing to pursue a doctorate in an academic department may concurrently undertake the certificate program as a cognate or minor. Such students must apply to the Graduate School for admission to the academic department and also apply for admission to the Center for the Study of Higher Education and must be admitted to both programs. Applicants wishing to pursue only the certificate program must apply to the Graduate School for admission as a special non-degree student.

**Program**

Courses and internships in higher education are directed toward the study of administrative and academic operations of colleges and universities. Specific program options include: administration, student services, curriculum and instruction. Each of the options requires an internship. In the case of the curriculum and instruction option, a higher education teaching internship developed in conjunction with the student's major academic advisor and the center staff may be anticipated. Internships may be completed at the University or at one of several cooperating institutions. Required:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:703</td>
<td>Seminar: History and Philosophy of Higher Education</td>
<td>2</td>
</tr>
<tr>
<td>5900:700</td>
<td>Introductory Administrative Colloquium in Higher Education</td>
<td>1</td>
</tr>
<tr>
<td>5900:701</td>
<td>Advanced Administrative Colloquium in Higher Education</td>
<td>1</td>
</tr>
<tr>
<td>5900:501.2</td>
<td>Internship and Internship Seminar</td>
<td>2</td>
</tr>
<tr>
<td>5900:501.3</td>
<td>Independent Study or course work to support concentration and bring total hours to a minimum of 15.</td>
<td>6</td>
</tr>
</tbody>
</table>

**Options**

A student may select all three courses listed as "A" and omit "B" or may select an area of concentration and take one course from "A" under I, II or III and the supporting course from "B" from the same heading.

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**Organization and Administration in Higher Education (I)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5700:704</td>
<td>Administrative Organization in Education (A)</td>
<td>2</td>
</tr>
<tr>
<td>5900:715</td>
<td>Seminar in Higher Education Administration in Higher Education (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Student Services in Higher Education (II)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:649</td>
<td>Counseling and Personnel Services in Higher Education (A)</td>
<td>3</td>
</tr>
<tr>
<td>5900:725</td>
<td>Seminar in Higher Education: Student Services (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Planning, Curriculum and Instruction in Higher Education (III)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5900:725</td>
<td>Higher Education Curriculum and Program Planning (A)</td>
<td>3</td>
</tr>
<tr>
<td>5900:735</td>
<td>Instructional Strategies and Techniques for the College Instructor (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5700:710</td>
<td>Principles of Curriculum Development (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

**HOSPITALITY MANAGEMENT**

Mr. Donald V. Laconi, Coordinator

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2280:120</td>
<td>Safety and Sanitation</td>
<td>3</td>
</tr>
<tr>
<td>2290:121.2</td>
<td>Fundamentals of Food Preparation I</td>
<td>8</td>
</tr>
<tr>
<td>2290:160</td>
<td>Wine and Beverage Service</td>
<td>2</td>
</tr>
<tr>
<td>2290:123</td>
<td>Meat Technology</td>
<td>2</td>
</tr>
<tr>
<td>2290:232</td>
<td>Dining Room Service and Training</td>
<td>2</td>
</tr>
<tr>
<td>2290:241</td>
<td>Systems Management and Personnel</td>
<td>3</td>
</tr>
<tr>
<td>2290:256</td>
<td>Baking and Classical Desserts</td>
<td>3</td>
</tr>
<tr>
<td>2290:262</td>
<td>Classical Cuisine</td>
<td>3</td>
</tr>
<tr>
<td>2290:232</td>
<td>Hotel/Motel Operations and Management</td>
<td>4</td>
</tr>
<tr>
<td>2290:263</td>
<td>International Foods</td>
<td>2</td>
</tr>
</tbody>
</table>

The awarding of this certificate is not contingent upon completion of a degree program.

**Hotel/Motel Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2280:150</td>
<td>Front Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>2290:120</td>
<td>Safety and Sanitation</td>
<td>3</td>
</tr>
<tr>
<td>2290:135</td>
<td>Menu Planning and Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>2290:152</td>
<td>Maintenance and Engineering for Hotels and Motels</td>
<td>3</td>
</tr>
<tr>
<td>2290:153</td>
<td>Food Protection and Life Safety</td>
<td>3</td>
</tr>
<tr>
<td>2290:232</td>
<td>Dining Room Service and Training</td>
<td>2</td>
</tr>
<tr>
<td>2290:243</td>
<td>Systems Management and Personnel</td>
<td>3</td>
</tr>
<tr>
<td>2290:236</td>
<td>Food and Beverage Cost Control</td>
<td>3</td>
</tr>
<tr>
<td>2290:256</td>
<td>Hospitality Law</td>
<td>3</td>
</tr>
<tr>
<td>2280:255</td>
<td>Hotel/Motel Sales Promotion</td>
<td>1</td>
</tr>
<tr>
<td>2280:254</td>
<td>Hotel/Motel Housing Management</td>
<td>3</td>
</tr>
</tbody>
</table>

The awarding of this certificate is not contingent upon completion of a degree program.

**Restaurant Management Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2280:120</td>
<td>Safety and Sanitation</td>
<td>3</td>
</tr>
<tr>
<td>2290:121</td>
<td>Fundamentals of Food Preparation I</td>
<td>4</td>
</tr>
<tr>
<td>2290:135</td>
<td>Menu Planning and Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>2290:122</td>
<td>Fundamentals of Food Preparation II</td>
<td>4</td>
</tr>
<tr>
<td>2290:123</td>
<td>Meat Technology</td>
<td>2</td>
</tr>
<tr>
<td>2290:232</td>
<td>Dining Room Service and Training</td>
<td>2</td>
</tr>
<tr>
<td>2290:243</td>
<td>Systems Management and Personnel</td>
<td>3</td>
</tr>
<tr>
<td>2290:236</td>
<td>Food Equipment and Plant Operations</td>
<td>3</td>
</tr>
<tr>
<td>2290:256</td>
<td>Food and Beverage Cost Control</td>
<td>3</td>
</tr>
<tr>
<td>2290:233</td>
<td>Restaurant Operation and Management</td>
<td>1</td>
</tr>
<tr>
<td>2290:257</td>
<td>Internship</td>
<td>1</td>
</tr>
</tbody>
</table>

The awarding of this certificate is not contingent upon completion of a degree program.

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*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.*
INTERIOR DESIGN
Mrs. Carolyn Albanese, assistant professor

Requirements
This certificate program represents a concentration of study in interior design emphasizing an interdisciplinary approach between the Department of Home Economics and Family Ecology and the Department of Art. The program is designed to add another dimension to the four-year baccalaureate degree in clothing and textiles and the four-year baccalaureate degree in graphic design. The certificate program is open to undergraduates in other disciplines as well as persons with baccalaureate degrees from the University or other accredited institutions. The certificate must be issued simultaneously with a baccalaureate degree or to those already holding a baccalaureate degree. The requirements must be met:

- 3870356 Principles of Graphic Design
- 3870257 Three-Dimensional Design
- 7400.434 Interior Design I
- 7400.433 Applied Design
- 7400.431 Interdisciplinary Design
- 7400.432 Principles and Practices of Interior Design

LIFE-SPAN DEVELOPMENT: ADULTHOOD AND AGING
Dr. Harvey Sterns, director

Requirements
This certificate represents a concentration of study involving current knowledge and research in adulthood and aging. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that are becoming specialized in adapting the student's training, research and service to the needs of adults and older adults. This program coordinates the training of personnel in adult development and aging and helps to meet the critical shortage of trained manpower in the field of gerontology.

The graduate curriculum committee of the institute will oversee this certificate program and certify through the director of the institute that all requirements for the certificate have been completed.

Admission
To participate in the program, a student should:
- be formally admitted to The University of Akron as an associate, undergraduate, postbaccalaureate or graduate student;
- receive permission from the faculty adviser;
- have an interview with a designated graduate faculty member of the Institute for Life-Span Development and Gerontology, and;
- make formal application to the program.

Program
Graduate
Minimum credits: 12 credits

Core
- 1850:660 Interdisciplinary Seminar in Life-Span Development and Gerontology
- 1850:696 Practicum Internship

Electives**
- 3100:688 Research in the Biology of Aging
- 3700:620 Methods and Theories in Human Development
- 3750:777 Psychology of Adulthood and Aging
- 3850:678 Social Gerontology
- 3900:691 Cross Cultural Perspectives in Aging
- 3980:691 Special Topics: Urban Gerontology
- 5400:654 Educational Gerontology Seminar
- 4000:661 Current Issues in Higher Education: Life-Span and Community Education
- 6500:889 Seminar in Health Care Systems Management
- 7400:603 Family Middle and Later Years

**Select a minimum of three courses. A student is required to take two of the three electives outside the major or degree department.

*Some prerequisites to these courses are core courses that are sequenced. The other courses, that are prerequisites, are presently part of the clothing and textiles and graphic design curricula. The student going to take the certificate program who is from other disciplines is required to take the prerequisite to test the level of competency to that of a major in clothing and textile and/or graphic design.
Undergraduate
Minimum credits: 17 credits

Core
1850:450 Interdisciplinary Seminar in Life-Span Development and Gerontology (to be repeated two times at one credit each) 2
1850:495 Practicum/Internship (within institute individual department) 2
3100:150 Biology of Aging 3
5550:300 Physiology of Exercise for the Adult and Elderly 2

Electives**
Two of the following:
3750:440 Special Topics: Childhood and Aging 3
3850:343 Sociology of Aging 3
7400:485 Seminar in Home Economics Family, Middle and Later Years 3
7700:483 Communication Disorders: Genetic Population 3
One of the following:
5400:440 Life-Span and Community Education 2
5400:541 Educational Gerontology Seminar 3
6000:485 Special Topics in Health Services Administration 3
7700:450 Social Needs and Services in Later Adulthood and Aging 3
8200:489 A Survey: Health Care and the Aged 3

LIFE-SPAN DEVELOPMENT:
GENDER IDENTITY
AND ROLES
Dr. Harvey Sterns, director
Mrs. Faye Dambrot, administrative assistant

Requirements
This program centers on investigating the origins and functions of gender — the designations male and female — in human life. The primary objective is to provide the student with the opportunity to do multidisciplinary and interdisciplinary investigations of this fundamental aspect of human development. The student examines gender as a biological, psychological, political, sociological, historical and intellectual phenomenon; the biological roots of sexual and gender differences; the ways societies mold these differences into the division between male and female; and the historical changes that gender definitions have undergone and their functioning in the contemporary world. By looking at gender, the student looks at human society in a new way. This specialized area of study enriches the student's major and aids those preparing for human service careers.

Admission
To participate in the program, the student must:
• be formally admitted to The University of Akron as an undergraduate seeking a baccalaureate degree or as a postbaccalaureate student;
• make written application to the program after consulting a representative of the major department;
• receive notification of admission from the director of the institute; and
• have an interview with a faculty member to formulate program. The faculty member thus designated will continue to act as the student's certificate program adviser until the student has completed the program.

**Select a minimum of three courses. A student is required to take two of the three electives outside the major or degree department.

Program
Requirements
Minimum credits: 16 credits.

Core:
1850:360 Perspectives on Gender Identity and Roles 3
1850:493 Independent Study in Gender Identity and Roles 3

Electives: 12 credits.*
No more than four credits can come from a single department including the student’s major department. Only one course of 200-level work will be permitted for elective credit toward the certificate. Only two workshops will be permitted for elective credit toward the certificate. A course not included in the suggested list may be used for elective credit if the course is appropriate and if the student obtains prior approval from the faculty adviser and the Curriculum Committee of the Institute for Life-Span Development and Gerontology.

1850:489 Workshop: Women and the Law 2
1860:378 Introduction to Human Rights Concepts 3
2220:290 Special Topics: Women in Crime 2
3100:428 Biology of Behavior 2
3250:431 Socialization: Child to Adult 3
3250:489 Special Topics: Women in Labor Force 3
3300:275 Special Topics: Women and the Law 3
3300:386 Special Topics in Literature and Languages: Women in Modern Novels 3
3300:389 Special Topics in Literature and Languages: Women Writers 3
3300:391 Women in the United States 3
3400:350 Selected Topics in History, Soviet and United States Women in the Twentieth Century 3
3400:437 Special Topics: Women in Modern Europe 3
3750:483 Special Topics: Psychology of Sex Differences and Similarities 4
3750:489 Special Topics: Psychology of Adulthood and Aging 4
3850:348 The Family 3
3850:344 Sociology of Sex Roles 3
3850:412 A Socialization: Child to Adult 3
3870:455 Culture and Personality 3
3875:403 Types of Kinship and Social Organization 3
5100:490 Workshop: Men and Women, Equality of Educational Opportunities 3
5400:405 Vocational Education for Youth and Adults 2
5400:415 Vocational and Technical Training in Business and Industry 3
5400:440 Life-Span and Community Education 2
7400:201 Relational Patterns in Marriage and Family 3
7400:255 Fatherhood: The Parent Role 2
7400:485 Seminar: Human Sexuality 3
7400:490 Workshop: Women and Men in Transition 2
7600:125 Intercultural Communication 3
7750:483 Special Topics: Women's Issues in Social Work 3
8200:493 Workshop: Health of Women 3

LINGUISTIC STUDIES
Dr. Arthur Palacas, director

Requirements
Completion of six linguistically-oriented courses as follows: the foundation course, two core courses and at least three elective courses. Three of more of the courses must be at the 300/400 level. (Subject to approval by the program director, other theoretically-oriented linguistics courses may substitute for core courses.)

*Minimum four courses from four academic departments.
To obtain the certificate, the student must have at least two semesters of language. A student entering the program should discuss plans with the director.

Foundation

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>3300:270</td>
<td>Introduction to Linguistics</td>
<td>3</td>
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Core

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>3300:370</td>
<td>Intermediate Linguistics</td>
<td>3</td>
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<tr>
<td>3600:481</td>
<td>Philosophy of Language</td>
<td>3</td>
</tr>
<tr>
<td>3700:461</td>
<td>Language and Culture</td>
<td>3</td>
</tr>
<tr>
<td>7700:240</td>
<td>Speech and Language Development</td>
<td>3</td>
</tr>
<tr>
<td>7700:430</td>
<td>Aspects of Normal Language Development</td>
<td>3</td>
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Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3300:389</td>
<td>Special Topics in Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3300:400</td>
<td>Anglo Saxon</td>
<td>3</td>
</tr>
<tr>
<td>3300:470</td>
<td>History of the English Language</td>
<td>3</td>
</tr>
<tr>
<td>3460:460</td>
<td>Artificial Intelligences Programming</td>
<td>3</td>
</tr>
<tr>
<td>3465:410</td>
<td>Automata, Computability and Formal Language</td>
<td>3</td>
</tr>
<tr>
<td>3560:459</td>
<td>Linguistics (Spanish)</td>
<td>3</td>
</tr>
<tr>
<td>3580:410</td>
<td>Linguistics (Spanish)</td>
<td>3</td>
</tr>
<tr>
<td>3600:170</td>
<td>Introduction to Logic</td>
<td>3</td>
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<tr>
<td>3600:274</td>
<td>Symbolic Logic</td>
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<tr>
<td>3600:418</td>
<td>Analytic Philosophy</td>
<td>3</td>
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<tr>
<td>3606:471</td>
<td>Introduction to Metaphysics</td>
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<tr>
<td>5200:355</td>
<td>Teaching of Language Arts</td>
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<tr>
<td>5500:481</td>
<td>Multicultural Education in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7600:510</td>
<td>Intercultural Communication</td>
<td>2</td>
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<tr>
<td>7600:531</td>
<td>Survey of Speech Communication</td>
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<tr>
<td>7700:111</td>
<td>Introduction to Phonetics</td>
<td>2</td>
</tr>
<tr>
<td>7700:211</td>
<td>Language of Signs I</td>
<td>2</td>
</tr>
</tbody>
</table>

MANUAL COMMUNICATION

Dr. Thomas Black, coordinator

Requirements

This certificate, designed for those who communicate with the deaf population, is open to undergraduate majors in any discipline as well as persons with a baccalaureate degree from the University or any other accredited institution. The following requirements must be met.

Core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>2010:104</td>
<td>Sign Language, Gesture and Mime</td>
<td>3</td>
</tr>
<tr>
<td>7700:100</td>
<td>Manual Communication I</td>
<td>5</td>
</tr>
<tr>
<td>7700:120</td>
<td>Introduction to Audiology/Aural Rehabilitation</td>
<td>3</td>
</tr>
<tr>
<td>7700:150</td>
<td>Manual Communication II</td>
<td>4</td>
</tr>
<tr>
<td>7700:200</td>
<td>Manual Communication III</td>
<td>4</td>
</tr>
<tr>
<td>7700:224</td>
<td>Introduction to the Deaf Culture and Its Origins</td>
<td>2</td>
</tr>
<tr>
<td>7700:271</td>
<td>Language of Signs</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7700:121</td>
<td>Psychosocial Aspects of Deafness</td>
<td>3</td>
</tr>
<tr>
<td>7700:223</td>
<td>Speech and Language of the Deaf Child and Adult</td>
<td>4</td>
</tr>
</tbody>
</table>

MID-CAREERS PROGRAM IN URBAN STUDIES

Dr. James Richardson, department head

Requirements

The program will require the completion of 16 graduate credits in a single area or in several areas in the urban field. Upon the completion of the program, a certificate will be granted.

Admission

A student must satisfy the requirements for entrance in graduate programs or have a bachelor's degree and the equivalent of five years' experience in a professional, administrative or leadership position, in which case the student shall be admitted as a special non-degree student. A student may wish to pursue additional electives. However, a student admitted to this program will be limited to 20 credits. If the student wishes to pursue more than 20 credits, the student must be admitted to the M.A. program in urban studies.

Program

The Mid-Careers Certificate Program in Urban Studies will require the successful completion of a plan of study which must include a minimum of 16 credits of work in existing courses offered by the Department of Urban Studies. The core program and areas of study are listed below. Electives will be chosen in consultation with the advisor from the approved list of courses. Courses offered by other departments will be accepted if they are urban-related and will specifically contribute to the student's objectives.

Core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:600</td>
<td>Basic Analytical Research*</td>
<td>3</td>
</tr>
<tr>
<td>3980:601</td>
<td>Advanced Research and Statistical Methods*</td>
<td>3</td>
</tr>
</tbody>
</table>

Options

Urban Public Administration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:611</td>
<td>Urban Administration</td>
<td>4</td>
</tr>
<tr>
<td>3980:649</td>
<td>Fiscal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3980:661</td>
<td>Urban Policy Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

Urban Research Methods

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:610</td>
<td>Seminar in Urban Research Design</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elective(s)</td>
<td></td>
</tr>
</tbody>
</table>

Urban Planning

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:650</td>
<td>Planning Concepts and Methods</td>
<td>3</td>
</tr>
<tr>
<td>3980:661</td>
<td>Planning Theory and Innovation</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elective(s)</td>
<td></td>
</tr>
</tbody>
</table>

Urban Service Systems

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:620</td>
<td>Social Service Planning</td>
<td>4</td>
</tr>
<tr>
<td>3980:621</td>
<td>Urban Society and Service Systems</td>
<td>3</td>
</tr>
<tr>
<td>3980:681</td>
<td>Program Evaluation</td>
<td>3</td>
</tr>
</tbody>
</table>

*Both required in Urban Research Methods option.
OFFICE ADMINISTRATION
Mrs. Virginia J. Watkins, coordinator

Administrative Secretarial

Requirements
The administrative secretarial program provides intensive administrative secretarial training in two 15-week semesters. It is designed for the individual who has completed at least two years of college and who wishes to add administrative secretarial skills to enhance career opportunities. Training is provided to type at 50-65 net words-a-minute and to transcribe accurately business correspondence dictated at 70-90 net words-a-minute. The student will develop effective letter writing ability, use new office machines and correlate secretarial skills and administrative ability.

To enroll in this option, a student must have completed at least two years of college.

Courses
Core
2420:121 Business Communications 3
2540:286 Keyboarding on Word Processing Equipment 3
2540:287 Word Processing Applications 3

Administrative Secretarial Option
2420:103 Business Machines 2
2420:125 Business Communications 3
2420:128 Information Management 3
2420:151 Shorthand Principles 3
2420:173 Shorthand and Transcription 3

Word Processing

Requirements
The word processing option is designed to enable the student who has some beginning typing skills to prepare for an entry-level job in word processing. The program is a study of the applied use of word processing procedures and equipment in a simulated word processing office environment. The total work flow of office communications will be covered from input through output. Using automated typewriting equipment, the student will produce office documents from machine transcription, handwritten copy and typewritten copy. All courses taken may be applied toward an associate degree in secretarial science.

Courses
Core
2420:120 Office Problems 3
2420:121 Business Machines 2
2420:125 Office Problems 3
2420:241 Information Management 2

Peace Studies

Dr. Warren Kuehl, director

Requirements*
To satisfy the requirements for a certificate in peace studies, an undergraduate student at The University of Akron must complete at least 15 credits from the list of acceptable courses. These courses must be distributed so that work will be included from three separate departments. 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. 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. A paper or project is to be completed in conjunction with one of the 300/400-level courses chosen and in consultation with the instructor involved. The student undertaking the Peace Studies Certificate Program must have prior consultation with the director of the Center for Peace Studies.

The following two courses are required for everyone in the program:

1860:301 Special Topics in Peace Studies 3
3400:340 Peace, War and Mankind 3

Courses
1860:301 Peace, War and Mankind 1-3
1860:302 Introduction to Geography 3
1860:303 Peace, War and Mankind 1-3
1860:304 Human Rights Concepts 3
1860:390 Workshop on Peace Studies 1-3
2540:450 Comparative Economic Systems 3
3700:400 Economic Development and Planning for Underdeveloped Countries 3
3700:415 Comparative Foreign Policy 3
3700:420 Cultural Anthropology 4
3700:430 International Marketing 3

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.
PLANNING WITH AN EMPHASIS ON CITY OR REGIONAL RESOURCE STUDIES

Dr. Alan Noble, department head

Requirements

This program is intended to enhance understanding of the planning function and to increase the research and analytical abilities of the person preparing for work in, or who is currently engaged in, city, urban, regional, environmental and resource planning. The program is open to the undergraduate as well as a person with a baccalaureate degree, employed in local agencies doing related work, e.g., urban renewal, community redevelopment, community action, environmental protection and private industry. The person with a degree can enroll as a postbaccalaureate or special student.

Program

- 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.
- A statement by the applicant giving reasons for wishing to participate in the planning certificate program.

Courses

Core

Complete five of the following

- 3350:04 Introduction to Economic Analysis 3
- 3350:22 Economic Geography 3
- 3350:43 Urban, Regional and Resource Planning 3
- 3350:43 World Metropolitan Areas 3
- 3450:06 The American City 3
- 3700:38 Metropolitan Politics 4
- 5600:05 Sociology of Urban Life 3
- 4300:40 Urban Planning 2

Electives

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 director, elective courses will be selected from University 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 perspective 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 to cope with social, geographical, physical design, economical and governmental problems. Selecting courses that duplicate or continue interests already well established in a student's background will be discouraged.

Project

Upon completion of the core and elective course requirements, the student will take 3350:385 Planning Seminar (one 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.

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.

PROFESSIONAL COMMUNICATION

Dr. Joseph F. Ceccio, Dr. James Fee, codirectors

Requirements

The program will help meet our technological society's growing need for educated people who can develop sophisticated strategies for effective communication of business and technical information. People in the business community increasingly depend on communication to solve complex management, sales and information-processing problems. The communication demands of business and industry are significant, and in many ways, different from those dealt with in traditional courses and majors. Undergraduates in various fields and those who already possess a baccalaureate degree will wish to study specifically to meet communication demands. A formal certificate will recognize their preparation for handling the communication needs of business and industry.

Program

- 3300:396 Professional Writing I 3
- 3300:391 Professional Writing II 3
- 7600:309 Publications Production 3
- 7600:345 Business and Professional Speaking 3

The two 3300 courses listed cannot count toward the 35 credits in English required of English majors.

PUBLIC POLICY

Dr. Carl Lieberman, chairman coordinating committee

Program

This program will assist the person in understanding, formulating and implementing decisions in the public realm. A person who is interested in government service, administration of publicly-supported institutions and the teaching of government at the college level should find such an interdisciplinary program to be of great value.

Admission

Persons are eligible for admission to the graduate Certificate in Public Policy Program if they have been admitted to graduate study as special, non-degree students in the departments of economics, political science or sociology, or are pursuing a master's or doctoral degree in one of those three departments. Students who are pursuing a graduate degree in other departments at the University may be admitted upon the recommendation of the head of the department in which they are enrolled.
The student must successfully complete an interdisciplinary seminar in Sociology or the seven required for the Graduate Certificate in public policy. Each student shall write and present a paper dealing with public policy during the seminar. Faculty members and other persons who have a knowledge of the policy-making process shall make appropriate presentations regarding the formulation and implementation of public policy.

All persons enrolled in the Graduate Certificate Program in Public Policy must successfully complete 3750:791 Internship in Political Science, a course which will permit a student to gain experience working with public officials, government agencies, political parties or interest groups. A student will normally enroll in this course after having completed at least 12 semester credits of work relating to public policy. A person with extensive administrative or governmental experience may be permitted, with the approval of the student's adviser, to substitute another course dealing with public policy in place of the Internship in Political Science.

At least two-thirds of the credits earned for this certificate must be in 600- or 700-level courses. No more than three courses in which the student enrolls, of the seven required for the Graduate Certificate in Public Policy, may also apply toward meeting requirements for a graduate degree at The University of Akron.

The student must maintain at least a "B" (3.00) average in course work for the certificate.

The awarding of this certificate is not contingent upon completion of a degree program.

Mr. Jack D. Huggins, coordinator

Mr. Jack D. Huggins, coordinator

The awarding of this certificate is not contingent upon completion of a degree program.

Dr. Barbara Clements, coordinator

The student in this program will major in the respective disciplines (economics, geography, history, philosophy, political science and Russian). In addition to the requirements for the major, the student will take 12 credits in three or more separate disciplines with a concentration in the area of Soviet studies.

<table>
<thead>
<tr>
<th>Economics</th>
<th>Geography</th>
<th>History</th>
<th>Political Science</th>
<th>Russian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative Economic Systems</td>
<td>U.S.S.R</td>
<td>Russia to 1801</td>
<td>Comparative Politics</td>
<td>Soviet and East European Politics</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Three years of study or the equivalent.
TEACHING ENGLISH AS A SECOND LANGUAGE*†
Dr. Kenneth J. Pakenham, director

Requirements
This program is intended for those who seek training in the teaching of English as a second language at the elementary or high school level or who wish to obtain an initial qualification in teaching ESL in order to teach in settings other than the Ohio public school system.

The program is designed to introduce the student to the central issues in the theory and practice of teaching English to nonnative speakers through courses in modern and applied linguistics, in second language pedagogy and in related disciplines.

Students who do not have English as a native language must demonstrate adequate proficiency in English with a valid TOEFL score of at least 550.

Program

Graduate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:589</td>
<td>Special Topics: Theory and Method of ESL</td>
<td>3</td>
</tr>
<tr>
<td>3300:599</td>
<td>Special Topics: Grammatical Structures of English</td>
<td>3</td>
</tr>
<tr>
<td>5630:581</td>
<td>Multicultural Education in the U.S.*</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td>3300:399</td>
<td>Multicultural Education in the U.S.**</td>
</tr>
<tr>
<td>5630:587</td>
<td>Techniques for Teaching ESL</td>
<td>3</td>
</tr>
</tbody>
</table>

Undergraduate

This certificate requires the completion of four core courses and two elective courses for a minimum of 18 credits.

Core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3900:489</td>
<td>Special Topics: Theory and Method of ESL</td>
<td>3</td>
</tr>
<tr>
<td>3900:488</td>
<td>Special Topics: Grammatical Structures of English</td>
<td>3</td>
</tr>
<tr>
<td>5630:481</td>
<td>Multicultural Education in the U.S.*</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td>3300:489</td>
<td>Multicultural Education in the U.S.**</td>
</tr>
<tr>
<td>3900:487</td>
<td>Techniques for Teaching ESL</td>
<td>5</td>
</tr>
</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3900:270</td>
<td>Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3900:270</td>
<td>Intermediate Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3900:299</td>
<td>Special Topics in Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3900:470</td>
<td>History of the English Language</td>
<td>3</td>
</tr>
<tr>
<td>3900:489</td>
<td>Special Topics: Sociolinguistics**</td>
<td>3</td>
</tr>
<tr>
<td>3900:499</td>
<td>(Spanish) Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3566:410</td>
<td>(Spanish) Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3870:461</td>
<td>Language and Culture</td>
<td>3</td>
</tr>
<tr>
<td>5630:485</td>
<td>Teaching Reading and Language Arts to Bilingual Students</td>
<td>4</td>
</tr>
<tr>
<td>7600:265</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>7700:230</td>
<td>Speech and Language Development</td>
<td>3</td>
</tr>
<tr>
<td>7700:430</td>
<td>Aspects of Normal Language Development</td>
<td>5</td>
</tr>
</tbody>
</table>

VOLUNTEER PROGRAM MANAGEMENT***

Mr. John Mumper, coordinator

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020:121</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>2020:222</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>2260:100</td>
<td>Introduction to Community Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:276</td>
<td>Techniques of Community Work</td>
<td>4</td>
</tr>
<tr>
<td>2260:279</td>
<td>Technical Experience: Community and Social Services</td>
<td>5</td>
</tr>
<tr>
<td>2260:280</td>
<td>Fundamentals of Volunteer Program Management</td>
<td>3</td>
</tr>
<tr>
<td>2260:281</td>
<td>Recruitment and Interviewing Volunteers</td>
<td>3</td>
</tr>
</tbody>
</table>

*Recommended for students intending to teach in Ohio public schools: two years of college level foreign language learning experience or its equivalent; two credits of field experience in English as a Second Language (5200:395/695 or 5300:395) or its equivalent at the discretion of the director.

†May not be taken both as an elective and as a core course.

**Choice to be decided in consultation with the program director.

***The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.
Graduate, Professional and Law Academic Programs
Graduate School

Alan N. Gent, Ph.D., Dean of Graduate Studies and Research
Joseph M. Walton, Ph.D., Associate Dean of Graduate Studies and Research
John E. Mulhassa, M.A., J.D., Director of Research Services and Sponsored Programs

OBJECTIVES

The purpose of the Graduate School is to provide a quality program of education by the following means:

- Advanced courses in various fields of knowledge beyond the baccalaureate level.
- Opportunities to develop and apply research techniques and to use the resources appropriate to various graduate programs.
- Advancement of student's knowledge for the benefit of mankind through the efforts of its faculty and students.

Nature of Graduate Education

The Graduate School provides a qualified student with education which may be required for the full development of 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 an able and enthusiastic advanced student who joins 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.

History of the Graduate School

Graduate study 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, the Colleges of Engineering and Business Administration in 1959, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1979. The Department of Communicative Disorders (previously the Department of Speech), now housed in the College of Fine and Applied Arts, was formerly a part of the Buchtel College and conferred a master's degree in 1963. The first earned doctoral degrees were conferred in 1955. Professor Charles Bulger was appointed first dean of graduate study in 1923, and he continued in that capacity until 1950. Professor Ernest H. Herrington, Jr. served as director of graduate studies from 1955 to 1963 and as dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Ahnert was appointed dean of Graduate Studies in 1967, being succeeded in 1968 by Dr. Edwin E. Lively. Dr. Ciapercia E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977. Dr. Joseph M. Walton, associate dean of Graduate Studies and Research, is administrative head of the Graduate School during the 1977-78 academic year.

Dr. Alan N. Gent is now dean of Graduate Studies and Research.

The administrative functions of the Graduate School include establishment of suitable entrance requirements, admission of qualified students, maintenance of high-quality instruction and approval of graduation requirements for advanced degrees.

Graduate Programs

A qualified student who has completed the baccalaureate program with sufficiently high grades may continue studies through the University's Graduate School in a program leading to the master's degree as well as to the doctoral degree. An undergraduate student who qualifies 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, the student must first be admitted to the Graduate School.

The Graduate School offers programs of advanced study leading to the degree of Doctor of Philosophy in chemistry, history, political science, psychology, sociology, urban studies, 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 Doctor of Philosophy program in urban studies is a joint program with Cleveland State University.

The 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, marketing and taxation), chemical engineering, chemistry, civil engineering, communicative disorders, earth science, economics, education, educational foundations, elementary, secondary, multicultural education, physical education, elementary or secondary school principal, school supervisor, local superintendent, counseling, special education, visiting teacher, reading specialist and school psychology, electrical engineering, engineering, English, French, geography, history, home economics and family ecology, management, mathematics, mechanical engineering, music, nursing, philosophy, physics, political science, polymer science, psychology, sociology, Spanish, speech, statistics, technical education, theatre arts and urban studies. In addition, the College of Education provides a year of study beyond the master's degree in the area of school superintendent.

Several departments offer a limited amount of work which may be taken on the graduate level. Such courses may supplement the major program of study for the student who does not wish to devote his entire attention to one field.

Graduate Faculty and the Graduate Council*

The graduate faculty is comprised of those members of the faculty who hold 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:

- Quality and experience in upper-level and graduate-level teaching.
- Possession of terminal degree in field.
- Scholarly publication record.
- Activity in research.
- 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 faculty recommends a student who has been nominated by the student's college faculty for the appropriate master's or doctoral degree.

*An exclusive listing of graduate faculty and Graduate Council can be found in the "Directory" or the Graduate Bulletin.
Graduate Council 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 Bunchel College of Arts and Sciences, two members from the College of Fine and Applied Arts, one member from the College of Nursing and one student member elected yearly by the Graduate Student Council. 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 on administrative matters.

REGULATIONS

Student Responsibility

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

Every person who desires to enroll in or audit any graduate credit course must be first admitted or approved by the Graduate School.

Applications for admission to the Graduate School should be filed in the Office of the Dean of Graduate Studies and Research at least six weeks before registration (except for applications to the nursing and school psychologist programs, which must be submitted at earlier dates). These two programs have restricted admission; the department heads should be consulted for further information. Each application must accompany an application fee of $25 (unless previously paid). This fee is not refundable under any circumstances. Payment should be made by check or money order 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.

All records, including academic records from other institutions, become part of the official file and cannot be returned for any purpose.

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. An accepted applicant 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 to be reconsidered.

The student is 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.

No student will be admitted without approval and acceptance by a department within the University, but 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 staff.

Classification

A student is 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 3.00 for the last two years (34 semester credits or equivalent); 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. Full admission may also be granted to applicants to the College of Business Administration who meet the college's admission requirements.

- Special Non-Degree Admission may be granted to a person who has not met all of the requirements for full admission or to a person who wishes to take particular courses but who is not working toward a graduate degree. This admission status permits a student to take up to 15 semester credits of graduate work in the same conditions as those in full admission status. A student admitted to this status may be admitted to any program only for the purpose of taking courses for the degree program and may choose to take work in any department within the University, but the student is responsible for seeing that the admission requirements for the program are met 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.

- Special Workshop status is for a person permitted to take workshops for graduate credit without being admitted to a 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 the workshop. A student admitted to special workshop status must apply through regular channels for any other category. A maximum of six workshop credits may be applied to degree work at a later date if the applicant is given full admission to the Graduate School.

- Transfer status may be given to a student who is a graduate student in good standing in a degree program at another accredited university and has written permission to enroll at The University of Akron. Such permission is valid only for the courses and semester specified; with a maximum of 10 semester credits being allowable, and is subject to the approval of the instructor, department head and Graduate School. A transfer student is subject to the same rules and regulations as a regularly enrolled student of the University.

- Undergraduate status is for an undergraduate student at the University who may be granted permission to take one or more graduate-level courses if all the following conditions are met:
  - senior standing;
  - overall grade-point average of 2.75 or better through preceding term (if a student does not have a 3.00 or better in the major field, special justification will be required);
  - 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. The maximum number of graduate credits that may be taken by an undergraduate and applied later toward a graduate degree is 12.

- Postdoctoral status is divided into three categories:
  - A Fellow is a person holding an earned doctorate who is engaged in advanced research. A fellow shall be considered a guest of the University and provided space and use of facilities within limits of practical need of the undergraduate and graduate programs. Stipend and fees shall be collected if allowed under sponsoring contract for any fellow who chooses to take work.
  - A Special is a person holding an earned doctorate who desires an additional graduate degree. A special may be admitted to any program upon submission of application forms, application fee (if new student) and an official transcript. An application should be submitted to the dean of the appropriate college or university in or appropriate to the intended field of study.
  - A Guest is a person holding an earned doctorate who desires to attend courses and seminars relevant to individual work or interests without registering or receiving grades. A written application should be submitted to the dean of
Standards: International Students

An international student is normally admitted only in the fall, and all credentials should be received by the Graduate School by April 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. An international student seeking admission should not plan to leave the home country until notice of admission has been received from the Graduate School.

Applicants from countries other than the United States in which English is not 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, prior to admission. This competence can best be established by achieving a score of at least 550 on the TOEFL (Test of English as a Foreign Language). The TOEFL is administered by Educational Testing Service, Box 899, Princeton, NJ 08540, USA. Applicants should make arrangements to take the test as soon as study at The University of Akron is anticipated and should request ETS to forward the official test score directly to the Graduate School. The University of Akron, Akron, OH 44325. The official score should be received in the Graduate School by June 1 for fall admission. Unofficial copies of the TOEFL cannot be accepted. If the TOEFL is not available, the applicant should contact the international student adviser at The University of Akron for other arrangements. Personal letters certifying English competence are not acceptable as substitutes for test scores.

The completion of an English placement test after admittance will also be required. Based on the results of this test, a student may be required to take an English language course for credit.

An international student, coming to The University of Akron in good standing from an accredited American college or university, may have the English proficiency requirement waived upon written request.

Non-Accredited American School Graduates

A student holding a baccalaureate degree from a non-accredited American college or university, if otherwise qualified, is normally required to complete at least 10 semester credits of postbaccalaureate work at a 3.00 level before being considered for admission to the Graduate School. The accreditation status of the school at the time of the student's graduation shall apply. A student should consult with the department head in the major field to develop a postbaccalaureate program.

Grades

A student admitted to graduate study under any status at The University of Akron is expected to maintain a minimum 3.00 average (4.00 = "A") at all times. A grade-point average of 3.00 or better is required for graduation. Any student whose average falls below 3.00 is no longer in good standing in the Graduate School and considered on probation. No more than six semester credits of "C" grades may be counted toward the degree. 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 anyone who fails to make satisfactory progress toward declared goals or who accumulates six semester credits of "C+" or below. The accumulation of six semester credits of "F" will result in mandatory dismissal. A student dismissed from the Graduate School for academic reasons may not be readmitted for one calendar year, and then only if evidence for expecting improved performance is submitted and found acceptable.

Official academic records are maintained with a grade-point system as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>A-</td>
<td>3.3</td>
</tr>
<tr>
<td>B+</td>
<td>3.0</td>
</tr>
<tr>
<td>B</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
</tr>
<tr>
<td>D-</td>
<td>0.0</td>
</tr>
</tbody>
</table>

The following grades may also appear on the term grade reports or on the official academic record. There are no grade points associated with these grades:

- F = Failure: Indicates that the student was absent from or did not complete the work for the course.
- W = Withdraw: Indicates that the student registered for the course but did not withdraw officially before the second week of the term.
- NG = No Grade Reported: Indicates that, at the time grades were processed for the previous issue of the record, no grade had been reported by the instructor.

Non-Accredited American School Graduates

A student holding a baccalaureate degree from a non-accredited American college or university, if otherwise qualified, is normally required to complete at least 10 semester credits of postbaccalaureate work at a 3.00 level before being considered for admission to the Graduate School. The accreditation status of the school at the time of the student's graduation shall apply. A student should consult with the department head in the major field to develop a postbaccalaureate program.

Repeating Courses

Any graduate course may be repeated once for credit. However, the degree requirements shall be increased by the credit hour value of each course repeated. The hours and grades of both the original and the repeated section shall be used in computing the grade-point average. Required courses in which a "D" or "F" was received must be repeated.

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 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.

"If instructors wish to extend the ""T"" grade beyond the following term for which the student is registered, prior to the end of the term they must notify the Office of the Registrar 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 Office of the Registrar in writing."
Colloquium (Credit/Non-credit grading)
A course that normally involves guests, faculty or graduate students as speakers. The intent of the course is to introduce a broad range of topics using resource personnel. Normally, assignments are limited to class participation.

Seminar (Letter grades)
A course that normally involves group discussion or other activities based on assigned material. Grades are awarded based on a combination of assignments, tests and class participation.

Workshop (credit/Non-credit grading)
A course that normally operates over a shorter period than a semester or a summer session. Workshops focus on a particular aspect or aspects of a field of study, require a combination of assignments, tests and class participation, and may or may not be permitted to satisfy degree requirements.

Registration
The responsibility for being properly registered lies with the student, who 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 level of performance. Information and procedure may be obtained from the head of the appropriate department.

Fees
All fees reflect charges in 1985-86 and are subject to change without notice.

<table>
<thead>
<tr>
<th>Fee</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee</td>
<td>$25</td>
</tr>
<tr>
<td>Tuition Fees</td>
<td></td>
</tr>
<tr>
<td>Resident student per credit</td>
<td>70.75</td>
</tr>
<tr>
<td>Non-resident student per credit (auditors pay same fees)</td>
<td>126.75</td>
</tr>
<tr>
<td>General Fee</td>
<td></td>
</tr>
<tr>
<td>1-14 credits per semester</td>
<td>6.25 per credit</td>
</tr>
<tr>
<td>14 credits and over per semester</td>
<td>81.25 per semester</td>
</tr>
<tr>
<td>Parking Permit Fee</td>
<td></td>
</tr>
<tr>
<td>9 or more credits per semester</td>
<td>32.50</td>
</tr>
<tr>
<td>81 or fewer credits per semester</td>
<td>16.25</td>
</tr>
<tr>
<td>One summer session</td>
<td>11</td>
</tr>
<tr>
<td>Workshop participants</td>
<td>11</td>
</tr>
<tr>
<td>Graduation Fees</td>
<td></td>
</tr>
<tr>
<td>Each</td>
<td>30</td>
</tr>
<tr>
<td>Thesis and binding</td>
<td></td>
</tr>
<tr>
<td>(payable at time of application for degree)</td>
<td></td>
</tr>
<tr>
<td>binding per volume</td>
<td>9</td>
</tr>
<tr>
<td>Microfiling (Ph.D. only)</td>
<td>48</td>
</tr>
<tr>
<td>Course schedule change fee</td>
<td>10</td>
</tr>
<tr>
<td>(for each schedule change form processed)</td>
<td></td>
</tr>
<tr>
<td>Transcripts</td>
<td>5</td>
</tr>
<tr>
<td>(if more than one transcript of a student’s academic record is ordered by a student at one time, the fee shall be $4. for the first transcript and $2. for each additional one)</td>
<td></td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>25</td>
</tr>
</tbody>
</table>

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
- Instructional and nonresident surcharge.
- General fee.
- Parking (only if permit is returned).
- Student teaching.
- Laboratory breakage and late service deposit.

Amount of Refund
Amount of refund is to be determined in accordance with the following regulations:
- In full
  - if the University cancels the course;
  - if the University does not permit the student to enroll or continue;
  - 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 called to active duty, presents notice of induction or orders to active duty. A student who enlists voluntarily for active duty shall be considered in part” below.
- In part
  - less $5 per enrolled credit to a maximum of $50 if the student requests in writing to the dean or designated official withdrawal from all credit courses on or before the second day of the term.
  - if the student requests in writing to the dean or designated official withdrawal after the second day of the fall or spring semesters, the following refund percentages apply:
    - 3 through 12 calendar days* | 70%
    - 13 through 24 calendar days* | 50%
    - 25 through 33 calendar days* | 30%
    - Thereafter               | 0%
  - if the student requests in writing to the dean or designated official withdrawal after the second day of any summer session the following refund percentages apply:
    - 3 through 7 calendar days* | 60%
    - 8 through 15 calendar days* | 40%
    - Thereafter               | 0%
- Refunds for course sections which have not been scheduled consistent with either the standard 15-week fall/spring semester or the five-week summer term scheduling pattern will be handled on a pro rata basis according to the number of days the section (class, institute or workshop) has been attended compared to the number of days said section has been scheduled to meet.
- Refunds will be determined as of the date of formal withdrawal unless proof is submitted that circumstances beyond control of the student prevented the student from fulfilling the terms of the formal withdrawal earlier, in which case the refund will be determined as of the last day of attendance. 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.
- No refund will be granted to a student dismissed or suspended for disciplinary reasons.

Commencement
A student earning a graduate degree is expected to participate in the Commencement exercises. A degree candidate who has legitimate reasons for graduating "In Absentia" should make a written request to the registrar within the established dates and pay the designated fee.

*If the 7th, 8th, 12th, 16th, 22nd, 24th, or 33rd day falls on Friday, Saturday or a holiday, the deadline will become the next business day.
Financial Assistance

The University awards a number of graduate assistantships to qualified students. Assistantships are normally awarded for up to two years of master's study and up to four years of doctoral degree study. These assistantships provide a stipend of $4,150 - $6,350 plus remission of tuition and fees and are available in all departments with graduate degree programs. A graduate assistant renders service to the University through teaching, research and other duties. 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 $12,500. For information, contact the head of the department.

Information about student loans can be obtained from the Office of Student Financial Aid.

MASTER'S DEGREE REQUIREMENTS

Admission

When a student is admitted to graduate study, an adviser is appointed by the head of the major department. A student who is academically qualified in general but deficient in course preparation may be required to make up the deficiencies at the postbaccalaureate level. This may be recommended prior to beginning graduate work, or in some cases, can be done simultaneously.

Residence Requirements

There are no formal residence requirements for the master's degree. A student may meet the degree requirements of the Graduate School and the department through either full- or part-time study.

Time Limit

All requirements must be completed within six years after beginning graduate-level course work at The University of Akron or elsewhere. Extension by 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 departmental requirements). A minimum of two-thirds of the total graduate credits required in any master's program must be completed at the University. A maximum of six workshop credits may be applied to a master's degree. Such credits must be relevant to the degree program, recommended by the student's adviser and approved by the dean of Graduate Studies and Research.

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 prerogative of the department to assign additional credits of course work or other requirements in the interest of graduating a fully-qualified student.

No graduate credit may be received for courses taken by examination or for 500-numbered courses previously taken at the 400-number course level as an undergraduate without advance approval from the dean of Graduate Studies and Research.

Transfer

Up to one-third 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. The credits must be relevant to the student's program and fall within the six-year time limit. A University of Akron student must receive prior approval for transfer courses taken elsewhere.

A student 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 3.00 or better.

Optional Department Requirements

Each department may set special 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 completion of one-half of the credits required for the degree in the student's program, but no later than September 15 for the May Commencement. A January degree conferral process is available for those students who complete degree requirements by the end of the fall semester and do not wish to participate in the May Commencement ceremony. If January conferral is elected, the advancement to candidacy form must be submitted no later than May 15.

Advancement to candidacy forms are available in the Graduate School 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 3.00; 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 at least two weeks prior to commencement. These copies must be signed by the adviser, faculty reader, department head and college dean prior to submission to the dean of Graduate Studies and Research. A manual entitled "Preparing a Thesis or Dissertation" is available in the Graduate School and all copies of the thesis must conform to these instructions.
DOCTORAL DEGREE REQUIREMENTS*

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 constitutes a doctoral program or assures attainment of the degree. A formal degree program consists 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.

Admission

Usually, a student is not officially considered as a doctoral student until completion of a master's program or its equivalent and approval for further study. Department's offering doctoral degree programs review each candidate carefully before recommending admission.

A minimum grade-point average of 3.00 is required for graduation of a candidate for all doctoral degrees.

Residence Requirements

A doctoral student may meet the degree requirements of the Graduate School and department by full-time study or a combination of full- and part-time study.

The minimum residence requirement for a doctoral candidate 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 10 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 adviser and the student shall prepare a statement indicating the manner in which the residence requirement will be met. Any special conditions must be detailed and will require the approval of the student's committee, the departmental faculty members approved to direct doctoral dissertations, the college dean and the dean of Graduate Studies and Research.

Time Limit

All doctoral requirements must be completed within 10 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 the satisfactory completion of a prescribed program of study and research; the preparation of a dissertation based on independent research; and 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. A maximum of six workshop credits may be applied to a doctoral degree. Such credits must be relevant to the degree program, recommended by the student's adviser and approved by the dean of Graduate Studies and Research.

Transfer Credits

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 10-year limit if beyond the master's level. A student already admitted to The University of Akron must receive prior approval for transfer courses taken elsewhere. A student admitted with a master's degree or equivalent will have work evaluated in relation to the student's program to determine transfer credit. Thirty semester credits are transferable from a master's degree.

A student seeking to transfer credits must have full admission and be in good standing at the University 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 3.00 or better.

Language Requirements

There is no University-wide foreign language requirement for the Ph.D. The student is required to demonstrate one of the following skills depending upon the particular program:

- Plan A: Reading knowledge, with the aid of a dictionary, of two approved foreign languages. At the discretion of the major department 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 of that language. English may be considered as one of the approved foreign languages for a student whose first language is not English; and demonstrated competence in a research technique (e.g., statistics and/or computers) may be substituted for one of the two foreign languages. Under this option, 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.
- Plan C: In certain doctoral programs (counseling and guidance, elementary education, engineering, psychology, secondary education) the demonstration of competence in an appropriate research skills may serve as a substitute for the foreign language requirements.

Optional Department Requirements

Each department may determine requirements for a doctoral student with regard to entrance examinations, qualifying examinations, preliminary or comprehensive examinations and course sequences.

*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.
Advancement to Candidacy
A student should apply for advancement to candidacy after completion of one-half of the credits required for the degree in the student’s program, but no later than September 15 for the May Commencement. A January degree conferral process is available for those students who complete degree requirements by the end of the fall semester and do not wish to participate in the May Commencement ceremony. If January conferral is elected, the advancement to candidacy form must be submitted no later than May 15.

Advancement to candidacy forms are available in the Graduate School or from the department head. Advancement to candidacy will not be granted to a student who is not in good standing.

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 the major subject. It should represent a significant contribution to knowledge, be presented in a scholarly manner, reveal the 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. This examination is open to the graduate faculty. The dissertation and oral examination must be approved by the committee before the dissertation is submitted to the Graduate School. Two copies of the dissertation are due in the Graduate School at least two weeks prior to Commencement. These copies must be signed by the adviser, faculty reader, department head, and college dean prior to submission to the dean of Graduate Studies and Research. A manual entitled Guidelines for Preparing a Thesis or Dissertation is available in the Graduate School and all copies of the dissertation must conform to these instructions.

Graduation
To be cleared for graduation, a candidate must have completed the academic program with a grade-point average of at least 3.00, 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.
Buchtel College of Arts and Sciences

Claibourne E. Griffin, Ph.D., Dean
Paul S. Wingard, Ph.D., Associate Dean
William A. Francis, Ph.D., Assistant Dean

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 in Counseling Psychology, the Doctor of Philosophy degree in history, the Doctor of Philosophy degree in psychology and the Doctor of Philosophy degree in polymer science. The Doctor of Philosophy degree in sociology is offered jointly with Kent State University and the Doctor of Philosophy degree in urban studies with Cleveland State University.

Doctor of Philosophy in Chemistry

In addition to satisfying the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in chemistry must meet the following requirements:

- Take proficiency exams in organic, inorganic, physical, and analytical chemistry. Results of these exams will be used for diagnostic purposes.
- Complete 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 a designated area of chemistry and shall consist of a minimum of 24 credits in graduate courses. Eight credits per semester shall be considered a normal load. At least 12 credits of graduate course work and all dissertation credits must be completed at the University.
- Earn credit for a dissertation, to be established by enrollment in 3150:899, such that course credits plus dissertation credits total at least 94 credits (exclusive of Master of Science thesis credit).
- Pass cumulative examinations given approximately monthly. The candidate is urged to begin to take these examinations early in the graduate program and must pass seven cumulative exams, six written and one oral to meet the degree requirement.
- Pass an oral examination upon completion of the research dissertation.
- Pass the general requirements for the Doctor of Philosophy degree.

Doctor of Philosophy in Counseling Psychology

The University of Akron offers a doctoral program in counseling psychology. The program allows the student a choice of emphases—a scientist-practitioner model through the Buchtel College of Arts and Sciences or a practitioner-scientist model through the College of Education. Students in both emphases are expected to attain a level of broad scientific competence in the core areas of psychology: the biological, social, cognitive-affective and individual bases of human behavior. Practica and internship experiences are also required of students in both emphases and range from skill building in basic psychological assessment and counseling to actual work with clients, to a year-long, full-time internship in an applied service setting. Pertinent information regarding differences in emphasis orientation and course work is included below. Students receive exposure to both colleges through shared course work and faculty involvement with dissertations but must choose a specialization in one emphasis. The program in counseling psychology has been constructed so as to lead to APA approval in coming years.

The Department of Psychology offers a five year counseling psychology program leading to a doctoral degree and, in general, is geared toward students who hold a B.A. degree in Psychology. Program emphasis is strongly placed on a scientist-practitioner model of training. Beyond the basic core areas of psychology, students are expected to establish specific competency areas in the areas of theory, research and practice of counseling psychology. Academic preparation includes theories of personality and psychotherapy, psychodiagnosics, vocational development theory, intelligence testing, research and statistics, and professional issues. Research and publication are highly encouraged. Graduates typically seek out academic teaching, research and training positions, as well as positions in counseling centers and other mental health agencies.

Admission to the Joint Program in Counseling Psychology will be handled through the department associated with the student's chosen emphasis. Departures from the above program may be made only with the approval of the counseling psychology program faculty.

Scientist-Practitioner Program Rationale and Track

The current curriculum reflects the new joint program in counseling psychology. The additional courses taken in counseling and special education will broaden the knowledge and skill bases of the students who choose the scientist-practitioner emphasis. Electives and other classes to be planned along with student's adviser.

Credit

- Required courses
  - Corr (I, II, III, IV)
  - Statistics sequence (I, II, Multivariate, Nonparametrics, Regression and Correlation, Factor Analysis)
  - Practical sequence (P, C, A, Advanced I, II)
  - Counseling psychology courses (Advanced Test and Measures, Theories of Psychotherapy, Vocational Behavior, Survey of Projectives, Psychodiagnosics, IQ Testing, Advanced Counseling, Personality, Functional Analysis)
  - Practitioner-scientist track classes (Group Processes, Introduction to Marriage and Family, electives)
  - These credits
  - Dissertation credits
  - Practicum—each conducted in own department and evaluated there
  - Internship—2,000 hours post-masters with 1,620 hours in no more than two years
  - Psychology Core—750:610, 620, 530, 640
  - Counseling Psychology Joint Core
    - scientist-practitioner track—15 credits required including group (5600:633) and introduction to marriage and family (5600:655) with others to be decided upon with adviser.
    - practitioner-scientist track—12 credits required including advanced counseling (750:706) with other counseling psychology courses to be decided upon with adviser.
  - Other course requirements for each track are up to faculty of the track.
  - Comprehensive examinations—separate written exams and oral exams.
  - Dissertation—at least one faculty member from each track on the student's committee.
  - In the scientist-practitioner emphasis, students must perform at an acceptable level on the qualifying exam over the basic area of psychology to determine eligibility for M.A.-Ph.D. standing in that program. In the practitioner-scientist emphasis, M.A. students must take the preliminary exam to appraise their current competency level. These exams will be administered by the faculty specific to the student's chosen emphasis.
  - Language and residency requirements—these will be completed in accordance with guidelines from the Graduate School and the appropriate department.
**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:

- Fulfill admission requirements of the 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.
- Prior to admission to doctoral study, the applicant 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 English.
- After a student has completed at least 12 credits beyond the master's degree at the University, the student must apply to the Department of History for qualified status provided that the student's grade-point average in all graduate work is better than "B." If any doubt exists about the student's ability at this time, the department may require an examination.
- 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 the student wishes to offer for the comprehensive examinations and any additional research skills needed. At this point assignment of a major professor who shall direct the student's dissertation shall be made. The student's doctoral committee, to be chaired by the major professor, will also be appointed.
- Complete studies selected by the student in consultation with an advisory committee, including:
  - completion of 66 credits beyond master's degree requirements, including dissertation credit;
  - demonstration of competency in four fields of study selected from the following areas: ancient, medieval, modern European to 1815, modern European since 1865, England and the Empire, United States since 1865, Latin America, Far East (one of the four fields may be in the cognate area outside of history);
  - satisfactory performance in written and oral comprehensive examinations;
  - classroom teaching experience;
  - defense of the dissertation in an oral examination.
- A reading knowledge of two languages will be required, normally French and German. At the discretion of the student's doctoral committee, another language or computer techniques and statistics may be substituted for either language 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 the instructor's supervision.
- Complete all general requirements for the Doctor of Philosophy degree.
- Each Ph.D. candidate will have classroom teaching experience as a part of the program.

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**Doctor of Philosophy in Polymer Science**

An interdisciplinary program leading to the Doctor of Philosophy in polymer science is administered by the Department of Polymer Science. Graduates from the three main disciplines (chemistry, physics, and engineering) are guided into the appropriate courses of study and research in that field under the supervision of a staff member. Research facilities of the Institute of Polymer Science are available for thesis research.

In addition to satisfying the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in polymer science must meet the following requirements:

- Complete a course of study prescribed by the student's advisory committee, based on the committee's judgment of the student's background and on the result of any special examinations they might impose. This course 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.
- Credit for a dissertation, to be established by enrollment in 3940.899 such that course credits plus dissertation credits total 84 credits (exclusive of Master of Science thesis credit).
- Pass eight cumulative examinations which are given at intervals during the academic year. The candidate is urged to begin these examinations early in the graduate program.
- Pass an oral examination upon completion of the research dissertation.
- Pass the general requirements for the Doctor of Philosophy degree.

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**Doctor of Philosophy in Sociology Akron-Kent Joint Ph.D. Program**

The University of Akron and Kent State University Departments of Sociology offer a joint program leading to the Ph.D. degree. Faculty and students engaged in the joint doctoral program are for all intents and purposes involved in a single graduate program. 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 also includes emphasis on urban processes.
Admission to the Program
A student may apply with a completed master's degree or equivalent or after at least one year of full-time course work or equivalent (18 credits) in the sociology Master of Arts program at The University of Akron. The course work must include the Master of Arts core sequence. Scores from either the Miller Analogies Test (MAT) or the aptitude portion of the Graduate Record Examination (GRE) are required as part of the doctoral application. Admission is limited to students whose records clearly indicate both scholarly and research potential.

Degree Requirements (for a student admitted with the master's degree or equivalent)
In addition to meeting the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in sociology must meet the following requirements:

- Take 3850.174 Urban Sociology.
- Take two doctoral-level courses in theory. These courses are to be selected from the predefined group of courses (see Department of Sociology Graduate Student Handbook).
- Complete two doctoral-level courses in methods/statistics. These courses are to be selected from the predefined group of courses (see the department's Graduate Student Handbook).
- Complete a specialty of at least 15 credits.
- Complete a minimum total of 30 credits (semester) in course work.
- 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 to the specialty area.
- Fulfill residency requirements of the Graduate School.
- Complete foreign language requirement by one of four sequences as detailed in the department's Graduate Student Handbook:
  - foreign language;
  - computer science;
  - statistics;
  - philosophy.
- Register for a minimum of 30 credits of dissertation credit, complete a dissertation and successfully defend it in an oral examination.

Degree Requirements (for a student admitted without the master's degree)
In addition to meeting the requirements for a student admitted with the master's degree, the student must meet the following requirements.

- Completion of the M.A. core course work.
- Completion of a research practicum (three credits). This may be waived for the student who already has sufficient research experience.
- Completion of a minimum of 60 credits of graduate-level (600 level or higher) course work beyond the bachelor's degree.

Doctor of Philosophy in Urban Studies
The departments of urban studies of The University of Akron and Cleveland State University jointly offer a program leading to the Ph.D. degree in urban studies. Students admitted to the program may take courses at either campus and all committees contain members from both universities.

The purpose of the program is to train senior-level persons in urban public management, planning and policy analysis research.

Admission
Admission to the Graduate School of The University of Akron requires a master's degree in an appropriate area. In some instances persons holding a master's degree may be asked to take additional specified master's level courses before beginning Ph.D. courses.

Degree Requirements
The program has a required core of eight courses, including two courses in advanced quantitative methods and program evaluation, five courses in policy development, analysis, planning and management.

Each student will also complete an area of specialization through a combination of tutorials (12 credits) and elective courses (12 credits). The tutorial relies upon a close working relationship between students and individual faculty members in particular areas where faculty members are actively engaged in research.

Students must pass written and oral comprehensive examinations on both the core and their specialization.

The capstone of the program is the dissertation where students must present the results of their research and successfully defend their dissertations in an oral examination.

A minimum of 63 credits beyond the master's degree is required.

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, history, mathematical sciences, 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 the general requirements for admission to the Graduate School have been met, and the standard requirements for an undergraduate major in the area of the proposed graduate specialty have been met or that the student has performed work which the department approves as equivalent to an undergraduate major.

Biology

Master of Science

Thesis Option
The program is primarily for the student who will pursue a research career, including the student who intends to enter a doctoral program in the biological sciences.

- Course work in addition to the master's research and seminars (must be approved by the student's advisory committee) — 24 credits.
- Research and thesis — minimum of six credits.
- Participation in seminars — two credits.
- The student's advisory committee may require the demonstration of reading proficiency in a foreign language appropriate to the field of study.

A minor may be taken in approved graduate courses including education. Summer study at a biological station is available.

Non-thesis Option
The curriculum is oriented to the needs of the student for whom the M.S. degree will probably be the terminal scientific degree and who does not need extensive research experience.

The requirements are the same as the research option except that no thesis and research is undertaken, but a total of 38 credits of approved course work (including two credits for seminar participation) is required.

For additional details concerning admission standards, degree requirements, and selection of options, refer to the Department of Biology Graduate Student Guide.

Chemistry

Master of Science

- Chemistry course work — with the approval of the adviser, up to 12 credits may be taken in related areas — 24 credits.
Economics

Master of Arts

Thesis Option
A minimum of 30 credits of course work including a thesis equivalent to six credits of the 600 level is required. If elected, a thesis must be written in an area of specialization in which the individual has taken at least two courses. Students who elect the thesis option will not have to take departmental comprehensive examinations, provided they have completed all core courses with grades of "B" or better.

Non-thesis Option
A minimum of 30 credits of course work is required.

In addition to a specialization (a list of which is available from the department), at least 21 credits under each option must be at the 600 level in economics. The following courses are required:

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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>3250:602</td>
<td>Macroeconomic Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>3250:611</td>
<td>Microeconomic Theory I</td>
<td>3</td>
</tr>
<tr>
<td>3250:620</td>
<td>Applications of Mathematical Models to Economics*</td>
<td>3</td>
</tr>
<tr>
<td>3750:626</td>
<td>Statistics for Econometrics*</td>
<td>3</td>
</tr>
</tbody>
</table>

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 the chosen field of specialization.

Labor and Industrial Relations Option**

- **Core:**
  - 3250:533 Human Resource Policy 3
  - 3350:610 Framework of Economics Analysis 3
  - 3350:626 Statistics for Econometrics 3
  - 3350:633 Theory of Wages and Employment 3
  - 3350:634 Collective Bargaining I 3
  - 3350:635 Labor Law I 3

- **Electives:**
  - 3350:606 Industrial Relations 3
  - 3350:616 Antitrust Policy 3
  - 3350:617 Economics of Regulation 3
  - 3350:639 Public Employee Bargaining 3
  - 3750:610 Industrial Psychology 3
  - 3850:649 Sociology of Work 3

- A total of 30 credits is required for the degree.

Courses taken outside the department must be approved (in writing) by the student's advisor prior to enrollment.

*These courses may be waived for the student who can demonstrate, in a qualifying exam, an adequate preparation in mathematics and statistics.
**The student should have a B.A./B.S. degree from an accredited college or university and some background in labor and industrial relations. An interested student who has no background may take the following courses:

- 3250:201 Principles of Macroeconomics 3
- 3250:202 Principles of Microeconomics 3
- 3250:330 Labor Problems 3
- 6500:311 Quantitative Business Analysis I 3

English

Master of Arts

A minimum of 32 credits is required, of which 17 (exclusive of thesis) must be at the 600 level. Of these 17 credits, 12 must be in literature or literary theory.

- 3000:506 Chaucer 3
- 3000:510 History of the English Language 3
- 3300:610 Modern Linguistics 3
- 3300:615 Shakespearean Drama* 3
- 3300:691 Bibliography and Literary Research 2
- 3300:699 Thesis 1-6

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

Master of Arts

- Thirty-two credits of graduate work, which may include a thesis amounting to four credits.
- Core:
  - literature — 16 credits
  - culture — eight credits
  - linguistics — eight credits
- Admission requirement: proficiency in listening, comprehension, speaking, reading and writing French.
- 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 an advisor.
- Final comprehensive examinations: the candidate will be required to pass both a written and oral final examination covering all areas of study included in the candidate's program.

Geography

Master of Arts

Master of Science

- Complete a minimum of 30 credits† † (exclusive of research) of which 16 must be in geography courses. A minimum of 12 credits (exclusive of thesis) must be at the 600 level. The 30 credits must include the following:
  - 3350:581 Geographic Research Methods 3
  - 3350:583 Spatial Analysis 3
  - 3350:687 History of Geographic Thought 3
- **Thesis** (M.A. only) — four to six credits
- **Statistics** (M.S. only) — eight credits
- Successful completion of a comprehensive examination administered by the departmental committee.

The student who has 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.

Courses taken outside the department must be approved by the department prior to enrollment.

†Unless the student has passed an equivalent course at the undergraduate level with a grade of "B" or better.
†In M.A. degree, at least 24 credits must be in course work.
Geology

Master of Science

- Complete a minimum of 30 credits of which at least 10 credits shall be at the 600 level and no more than two in research problems and six in thesis research.
- Proficiency examination at the beginning of program to determine weaknesses in undergraduate preparation. The student who demonstrates a lack of basic knowledge will be required to take appropriate undergraduate courses. Field camp can be taken for graduate credit, however, it will not count toward the 30 credits for the M.S. in the geology or geophysics options.
- Core requirements:
  - 3370:680 Seminar in Geology 2
  - 3370:699 Thesis Research 6
- Pass comprehensive examination after completion of 18 credits. Examination may be attempted twice.
- Oral presentation and defense of thesis.

Degree Specialization

The program of each individual will be adapted to his/her career objectives.

Geology

Equivalents of the geology, cognate science and mathematics requirements for the University’s B.S. degree in geology are required.

Earth Science

Equivalents of the geology courses for the University’s B.A. degree in geology are required. Course program will be selected to provide the student with a well-rounded background in lithosphere, hydrosphere and atmosphere. Those who will be teachers must take 5300:780 Seminar in Secondary Education: Earth Science or equivalent.

Geophysics

Equivalents of the geology, cognate science and mathematics requirements for the University’s B.S. degree in geophysics are required.

Engineering Geology

This program is for the graduate engineer and geologist who wishes to broaden expertise in the other field. The entering student who has some deficiencies in either engineering or geology may have to satisfy one or more of the following requirements while processing with graduate studies.

- 3370:101 Introduction to Physical Geology 4
- 3370:210 Geomorphology 3
- 3370:250 Structural Geology 4
- 3450:227,23 Analytical Geometry Calculus I, II, III 12
- 4380:201 Statics 3
- 4300:202 Introduction to Mechanics of Solids 3
- 4300:311 Geotechnical Engineering 5

Required courses:

- 3370:631 Rocks and Minerals 4
- 4380:611 Fundamentals of Soil Behavior 2
- 4380:614 Foundation Engineering I, II 6

Environmental Geology

Equivalents of the science and mathematics requirements for the University B.S. degree in geology are required. As many as eight credits may be selected from engineering, biology and/or geography with the approval of a geology advisor.

History

Master of Arts

- Admission to the program requires completion of at least 15 semester or 22 quarter credits in history as an undergraduate. Historical Methods or an equivalent should be part of the entering student’s preparation. If it is not, this course must be taken at the earliest opportunity but will not be counted toward fulfillment of the graduate credit requirement.
- Satisfactory completion of a minimum of 38 credits of graduate study in history, of which six may be in individual reading courses.

Mathematical Sciences

Master of Science - Mathematics

- Core:
  - 3450:611 Algebraic Theories I 3
  - 3450:612 Algebraic Theories II 3
  - 3450:621 Functions of a Real Variable I 3
  - 3450:622 Functions of a Real Variable II 3
  - 3450:692 Mathematics and Statistics Seminar 2
  - In addition, six credits in a single approved area of concentration in mathematics or statistics must be completed.

Thesis Option (30 credits)

In addition to the core requirements, six to eight credits of 500/600 level mathematical sciences courses and two to four credits in 3450:699 Thesis Research must be completed.

- With the consent of the department, up to six credits of approved graduate-level electives outside the department may be substituted in the thesis or non-thesis option.
- A comprehensive examination, taking the form suggested by the department, must be completed in the thesis or non-thesis option.

*Where disagreement occurs between readers in Option I, II or III, the director of Master’s Studies will choose a faculty member to arbitrate the disagreement.
Non-thesis Option (33 credits)
In addition to the core requirements, 13 credits in 500/600 level mathematical sciences courses must be completed.

Master of Science — Statistics
- Entrance into the program will require the initial completion of the following prerequisites:
  3470:561 Applied Statistics, four credits; OR 3470:561 Advanced Behavioral Statistics, three credits; OR equivalent.
  3450:601 Introduction to Analysis, four credits; OR equivalent (may not be used to meet degree requirements for mathematical sciences majors).
  3470:620 Applications of Matrices to Statistics, three credits; OR equivalent.
  (Can be taken concurrently with 3470:651 Probability and Statistics, four credits.)
- Core requirements
  3470:651 Probability and Statistics 4
  3470:653 Experimental Design 4
  3470:665 Regression and Correlation 3
  3470:690 Mathematics and Statistics Seminar 2

Thesis Option (30 credits of graduate work)
In addition to the core requirements, 13 to 15 credits in 500/600 level mathematical sciences courses and two to four credits in 3450-699 Thesis Research must be completed, at least 10 credits of which must be from the 3470 designation.

Non-thesis Option (33 credits of graduate work)
In addition to the core requirements, 20 credits in 500/600 level mathematical sciences courses must be completed, at least 10 credits of which must be from the 3470 designation.

- A comprehensive examination, taking the form suggested by the department, must be completed in the thesis or non-thesis option.
- With the consent of the department, up to six credits of approved graduate level electives outside the department may be substituted in the thesis or non-thesis option.

Master of Science — Applied Mathematics
- Core:
  3450:610 Matrix Algebra 3
  3450:621 Functions of a Real Variable I 3
  3450:629 Advanced Numerical Analysis I 3
  3450:692 Mathematics and Statistics Seminar 2
  3470:651 Probability and Statistics 4
  3470:652 Analytic Function Theory 3
  3470:653 4 Continuous Systems I and II or 6
  3450:635 Optimization 3
  3450:636 Advanced Combinatorics and Graph Theory 3

Thesis Option (30 credits)
In addition to the core requirements, three to five credits in 500/600 level mathematical sciences courses and two to four credits in 3450-699 Thesis Research must be completed.

- With the consent of the department, up to six credits of approved graduate-level work outside the department may be substituted for elective courses in the thesis or non-thesis option.
- A comprehensive examination, taking the form suggested by the department, must be completed in the thesis or non-thesis option.

Non-thesis Option (32 credits)
In addition to the core requirements, 10 credits in 500/600 level mathematical sciences courses must be completed.

Philosophy

Master of Arts
- Achieve a minimum of 2.75 grade-point average in undergraduate work, a minimum 2.75 grade-point average in major areas, complete the Graduate Record Examination or Miller Analogies Test and secure three letters of recommendation.
- Have completed at least four quarter or semester courses in undergraduate philosophy or a major in some related area. A student with inadequate background will be expected to make up the deficiency.
- Complete at least 30 semester credits with a 3.00 cumulative grade-point average.

Complete:
  3650:615 Seminar in the History of Philosophy 9
  3650:612 Advanced Laboratory I, II 4
  3650:611 Statistical Mechanics 3
  3650:612 Advanced Laboratory I, II 4
  3650:611 Statistical Mechanics 3
  3650:612 Advanced Laboratory I, II 4

A student preparing for further graduate work in a physical science or for academic or industrial employment, should include the following courses in the graduate program:
- 3650:611 Statistical Mechanics 3
- 3650:612 Advanced Laboratory I, II 4

A student preparing for teaching secondary school science should include the following courses in the graduate program:
- 3650:500 History of Physics 3
- 3650:504 Electricity and Magnetism 3
- 3650:590 Digital Data Acquisition 2
- 3650:590 Digital Data Acquisition 2
- 3650:990 Workshop (maximum credit) 6

A student must pass a comprehensive examination of a form suggested by the department. This exam consists of two parts, as follows:
Part I: The basic exam must be passed by all degree candidates. This is a written examination covering the fields of mechanics, electricity and magnetism, optics, thermodynamics and modern physics at the undergraduate level.

Part II: Completion of at least one of the following options:
- Option A: An advanced written examination covering the fields of physics, electricity and magnetism, atomic and nuclear physics, mechanics and experimental physics at the beginning-graduate level.
- Option B: A formal report, based upon an original research project, submitted in a form suitable for publication and approved by a physics faculty committee.
- Option C: A master's thesis.

Graduate research participation is strongly encouraged. Up to five credits may be earned in 3650:697 Graduate Research, upon the completion of a graduate research project. One additional credit may, upon approval by the department, be permitted in 3650:699 Master's Thesis Research 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**

**Master of Arts**
- Pass a comprehensive examination covering one field to be determined in conjunction with a departmental adviser.
- Complete the following courses:
  - 3700:600 Scope and Theories of Political Science 3
  - 3700:601 Research Methods in Political Science 3

At least three graduate seminars given in the Department of Political Science. Semester selection will be determined in conjunction with a departmental adviser.

**Thesis Option**
Thirty credits of graduate work, at least 18 credits of which (including six thesis credits) must be at the 600 level. Thesis topic and completed thesis must be approved by student's thesis committee.

**Non-thesis Option**
Thirty 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 department committee comprising three persons chosen by the department head.

**Sociology**

**Master of Arts**
- Complete three required core courses with at least a 3.00 grade-point average:

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<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>3850:603</td>
<td>Sociological Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>3850:604</td>
<td>Social Research Design</td>
<td>3</td>
</tr>
<tr>
<td>3850:617</td>
<td>Sociological Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

**Thesis Option**
Satisfactory completion of 32 semester credits of which at least 21 must be at the 600 level or higher in sociology or anthropology (excluding 3850:699; 3850:697 and 3850:698). In meeting these requirements the student must:
- Complete five required core courses with at least a 3.00 grade point average:
  - 3850:603 Sociological Research Methods 3
  - 3850:604 Social Research Design 3
  - 3850:617 Sociological Theory 3
  - 3850:631 Social Psychology 3
  - 3850:645 Social Organization 3
  - 3850:709 Multivariate Techniques in Sociology 3
- Complete at least six hours of thesis work (3850:699). No more than six credits will count toward the degree.
- Completion of master's thesis and successful oral defense of thesis.

**Non-thesis Option I**
This degree is intended for the student who wants intensive substantive training in a specialized area.

Completion of 32 credits of graduate work with no more than six credits taken at the 500 level. In meeting these requirements the student must:
- Complete four required core courses with at least a 3.00 grade point average:
  - 3850:603 Sociological Research Methods 3
  - 3850:604 Social Research Design 3
  - 3850:617 Sociological Theory 3
  - 3850:631 Social Psychology 3
  - 3850:645 Social Organization 3
- Completion of at least 15 credits in a contracted specialty area. This area must be defined in consultation with the student's adviser and approved by the Graduate Studies Committee. Courses from other departments may be taken to meet the specialty requirement.
- Pass an oral examination on the specialty area.

**Non-thesis Option II**
This degree is intended for the student who needs rigorous training in the methodologies and techniques of social research. Students pursuing this degree will select one of three options: General research techniques, survey research techniques, or evaluation research techniques. Upon completion of this program, students will have a greater exposure to research strategies, techniques and issues than many Ph.D. students experience.

Completion of 32 semester credits of graduate level coursework which must include the following:
- Complete the following required courses with at least a 3.0 average:
  - 3850:603 Sociological Research Methods 3
  - 3850:604 Social Research Design 3
  - 3850:617 Sociological Theory 3
  - 3850:631 Social Psychology 3
  - 3850:645 Social Organization 3
  - 3850:706 Multivariate Techniques 3
  - 3850:711 Survey Research Methods 3

**Polymer Science**

**Master of Science**
- 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.
- Completion of a research project (3940:699) and the resulting thesis — six credits.
- Attendance at and participation in seminar-type discussions scheduled by the department.

**Psychology**

**Master of Arts**
- Fullfill admission requirements of the Graduate School and the following departmental requirements:
  - An equivalent of psychology undergraduate major including a general or introductory course, statistics course and experimental psychology course;
  - GPA of 3.00 in psychology courses;
  - Graduate Record Examination, Aptitude and Advanced Psychology Test;
  - Miller Analogies Test;
  - Two letters of recommendation.
- Course requirements:
  - Completion of a minimum of 30 credits of psychology courses including the M.A. core courses or equivalents, specialty area required courses and electives as specified in the department's Graduate Student Manual;
  - Completion of a minimum of 30 credits of graduate psychology courses including the M.A. core courses or equivalents, specialty area required courses and electives as specified in the department's Graduate Student Manual;
  - A student is required to maintain at least a 3.00 grade-point average in M.A. core courses as well as overall.
- Master of Arts examination (first year):
  - Thesis option: Year one examination covering core course subject area;
  - Non-thesis option: Written and oral comprehensive examinations in the specialty areas.
- Other requirements:
  - Refer to the Department of Psychology Graduate Student Manual for additional guidelines.
  - Complete and fulfill general master's degree requirements of the Graduate School.

**Thesis Option**
Completion of a minimum of 30 credits of graduate work including thesis in industrial/organizational, counseling or developmental psychology.
There is no graduate degree in anthropology. However, there are many existing graduate programs, or they may offer graduate courses for graduate credit. Students must be admitted to the Graduate Anthropology program directed to the graduate director in the Department of Sociology. The student should consult with the department and with a faculty adviser before initiating any course of study.

### Anthropology

There is no graduate degree in anthropology. However, there are many graduate courses available. A student interested in taking such courses for graduate credit must be admitted to the Graduate School through an existing graduate program, or they may apply for special non-degree status through the Department of Sociology. The student should enroll in graduate courses only for specific professional preparation or enhancement and with the permission of the instructor. Inquiries should be directed to the graduate director in the Department of Sociology.

### Spanish

#### Master of Arts

- Thirty-two semester credits of graduate work, which may include a thesis amounting to four credits:
  - literature -- eight credits.
  - culture -- eight credits.
  - linguistics -- eight credits.
- Requirement: proficiency level in listening comprehension, speaking, reading, and writing Spanish.
- 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 an adviser.
- Final comprehensive examinations: the candidate will be required to take both a written and oral final examination covering all areas of study included in the candidate's program.

### Urban Studies

#### Master of Arts

Courses may be taken outside the Department of Urban Studies for the purpose of fulfilling any of the requirements listed below but must be approved by the department prior to registration.

Each student will, upon entering the program and in consultation with a faculty adviser, plan a complete course of study.

- **Core:**
  - 3850:600 Basic Analytical Research
  - 3850:601 Advanced Research and Statistical Methods
  - 3850:602 American Urban Development
  - 3850:603 Urban Studies Seminar

- **Basic Program**
  - Complete 34 credits of course work as follows:
    - Core -- 12 credits.
    - Selection of recommended courses -- six credits.
    - Urban related courses -- six credits.

- **Options**

  **Public Administration**
  - Forty credits of course work (plus internship where applicable) as follows:
    - Core -- 12 credits.
    - Other urban studies required courses in public administration -- 15 credits.
    - Selection of recommended courses -- 13 credits.
    - Internship for the student without professional public employment experience -- one to three credits.

  **Urban Planning**
  - Forty-eight credits of course work (plus internship where applicable) as follows:
    - Core Requirements
      - 3850:600 Basic Analytical Research
      - 3850:601 Advanced Research and Statistical Methods
      - 3850:602 American Urban Development
      - 3850:603 Urban Studies Seminar
    - Planning Requirements
      - 3850:600 Urban Land Use Analysis
      - 3850:601 Introduction to Planning Practice & Theory
      - 3850:602 Urban and Regional Planning
      - 3850:603 Land Use Control
      - 3850:604 Field Methods in Urban and Regional Planning
      - 3850:605 Planning Research
    - Electives
      - Four elective courses totaling 12 credits or more should be selected in consultation with the faculty adviser.
      - Internship
      - 3850:695 Required for students who do not have professional planning experience
DOCTOR OF PHILOSOPHY IN ENGINEERING

Areas of study offered through the College of Engineering include civil, chemical, electrical and mechanical engineering in addition to interdisciplinary programs in biomedical engineering, environmental engineering, materials science, mechanics, polymer engineering, systems engineering and transport processes. In addition to the general requirements of the Graduate School, a student must hold a bachelor's degree in a curriculum accredited by the Accreditation Board for Engineering and Technology at the time of graduation, or 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 level in courses related to the area of intended study. The student must also:

- Successfully complete a qualifying examination before completing either 10 credits of course work after admission in the program or within two semesters after admission into the program. The examination shall cover graduate courses that the student has completed and basic undergraduate topics of the program.
- Complete courses in the plan of study developed by the student advisory committee on the basis of the qualifying examination. A minimum of 90 credits of graduate work, generally 60 for course work and 30 for dissertation, must be earned.
- Pass a candidacy examination which may be taken after 90 percent of the course work specified in the plan of study has been completed.
- Register for dissertation credits according to the schedule available from the dean of engineering.
- 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.

II. Routes of Admission

1. Entry from undergraduate (or master's level) programs in engineering, biology, chemistry, or other pre-medicine into both the M.D. and Ph.D. programs.

2. Entry for the B.S./M.D. Biomedical Engineering program into the M.D. and Ph.D. programs.

All students will be required to have completed the following minimum courses and to have taken the MCAT prior to admission into the coordinated M.D. and Ph.D. programs.

- M.D. Principles of Chemistry I and II
- M.D. Organic Chemistry I and II
- M.D. Principles of Biology I and II
- M.D., Ph.D. Classical Physics I and II
- Ph.D. Statics
- Ph.D. Dynamics
- Ph.D. Strength of Materials (or Material Science)
- Ph.D. Basic Electrical Engineering (or Circuits I & II)
- Ph.D. Calculus III, I, II and Differential Equations.

III. Structure of Degree Programs

Each individual coordinated degree program will be tailored to suit the background and research interests of the student.

Additional information may be obtained from the Department of Biomedical Engineering at The University of Akron or at NEOUCOM.

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.

Master of Science in Chemical Engineering

Thesis Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:600</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>4200:605</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4200:610</td>
<td>Classical Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Chemical Engineering Electives**</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

**The elective chemical engineering courses may include more than three credits of 500-level courses.

*A student without a B.S. degree in Engineering but with a baccalaureate degree in a related field may be accepted for graduate study but the student will be required to make up the undergraduate deficiencies for which the student will not receive graduate credit. **
The thesis must be satisfactorily defended in an oral examination. The student must pass a comprehensive examination and is expected to attend and participate in the department seminars.

**Non-thesis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
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<td>Transport Phenomena</td>
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<td>Classical Thermodynamics</td>
<td>3</td>
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<tr>
<td></td>
<td>Chemical Engineering Electives*</td>
<td></td>
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<tr>
<td></td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics</td>
<td>2</td>
</tr>
</tbody>
</table>

The student must pass a comprehensive examination and is expected to attend and participate in the department seminars.

**Master of Science in Civil Engineering**

Areas of study in the department include: structural mechanics, geotechnical, hydraulic and environmental engineering.

**Thesis Option**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering Course Work</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>12</td>
</tr>
<tr>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

The thesis must be satisfactorily defended in an oral examination.

**Non-thesis Option**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering Course Work</td>
<td>15</td>
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<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>12</td>
</tr>
<tr>
<td>Special Problem</td>
<td>2</td>
</tr>
</tbody>
</table>

**Master of Science in Electrical Engineering**

Areas of study in the department include: computer engineering, control system engineering, power system engineering and related areas.

**Thesis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:581:2</td>
<td>Methods of Mathematical Physics I II</td>
<td>6</td>
</tr>
<tr>
<td>4400:641</td>
<td>Random Signal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>4400:657</td>
<td>Electromagnetic Fields</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electrical Engineering Electives*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Approved Engineering, Mathematics or Science</td>
<td>9</td>
</tr>
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</table>

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</tr>
<tr>
<td></td>
<td>Electrical Engineering Electives*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Approved Engineering, Mathematics or Science</td>
<td>9</td>
</tr>
</tbody>
</table>

A student must pass a graduate-level oral comprehensive examination which may be taken after 24 credits have been completed.

**Master of Science in Mechanical Engineering**

There are three main areas of graduate study in mechanical engineering: systems and controls, engineering mechanics and thermal-fluid sciences. Every student in the department will be encouraged to take at least one mechanical engineering course outside the main area of interest, it is the purpose of this course to develop some breadth in graduate education. The basic requirements are as follows:

**Thesis Option**

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering Course Work**</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives**</td>
<td>12</td>
</tr>
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<td>Thesis</td>
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</tbody>
</table>

The thesis must be defended in an oral examination.

**Non-thesis Option**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering Course Work*</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives**</td>
<td>12</td>
</tr>
<tr>
<td>Special Problems</td>
<td>2</td>
</tr>
</tbody>
</table>

**Master of Science in Engineering**

This program is intended for the student whose educational objectives cannot be met by the chemical, civil, electrical or mechanical departmental programs or those who wish to specialize in biomedical or polymer engineering.

**Thesis Option**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Course Work</td>
<td>12</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>9</td>
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**Non-thesis Option**

<table>
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<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Course Work</td>
<td>18</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<td>Special Problems</td>
<td>2</td>
</tr>
</tbody>
</table>

The overall program is administered by the dean. A student should declare to the dean the intention to study toward the Master of Science in Engineering degree before the completion of 10 graduate credits. Later admission to the program may be granted upon petition to the dean.

Upon admission, the dean will appoint an advisory committee consisting of at least two faculty members selected from the interdisciplinary divisions of the college. The committee members will be from at least two departments. The special problem section and final report must receive the approval of the advisory committee.

Polymer engineering specialization — see Doctor of Philosophy in engineering.

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*The elective electrical engineering courses may not include more than three credits of 500-level courses.

**The elective chemical engineering courses may not include more than three credits of 500-level courses.
Biomedical Engineering Specialization

- Core:
  - 3100.561.2 Human Physiology I, II
  - 4600.532 Biomedical Instrumentation I
  - 4800.611 Biometry

- Elective (two of the following):
  - 4800.613 Biomechanics and Laboratory
  - 4800.623 Mechanics in Physiology and Medicine
  - 4800.633 Biomedical Instrumentation II
  - 4800.643 Biomedical Computing
  - 4800.653 Transport Phenomena in Biology and Medicine
  - 4800.677 Special Topics (maximum three hours) Approved Elective

- Approved Engineering elective
- Thesis

Polymer Engineering Specialization

The major emphases of the graduate program in polymer engineering are in polymer processing, engineering performance and structural and rheological characterization of polymers.

Polymer Engineering Core:
- 4700.611 Structural Characterization of Polymers with Electromagnetic Radiation
- 4700.621 Rheology and Polymer Processing
- 4700.622 Analysis and Design of Polymer Processing Operations I
- 4700.631 Engineering Properties of Solid Polymers
- 4700.641 Polymer Materials Engineering Science

Polymer Engineering Elective:
- 4700.621 Polymer Engineering Seminar
- 4700.623 Analysis and Design of Polymer Processing Operations II
- 4700.642 Engineering Aspects of Polymer Colloids
- 4700.651 Polymer Engineering Laboratory
- 4700.661 Polymerization Reactor Engineering

Total 6-9

Approved Engineering and Science Elective:
(A minimum of three credits of approved science or mathematics required)
- 3150.674 Physical Chemistry of Polymers
- 3150.675 Physical Chemistry of Polymers II
- 3940.613 Polymer Science Laboratory
- 4600.681 Advanced Engineering Materials
- 4600.622 Continuum Mechanics

Total 6-9

Thesis
- 4700.699 Thesis

6
DOCTOR OF PHILOSOPHY DEGREE

Programs leading to the Doctor of Philosophy degree in elementary education, secondary education counseling psychology, and guidance and counseling are offered through the College of Education. The degree will be awarded to the student who, in addition to filling the general requirements of the Graduate School, has met the following specific requirements:

- Completion of the Miller Analogies Test.
- A minimum of 90 graduate credits (including a 30-credit master's program where applicable), including the doctoral dissertation. A student considered deficient in any area may be required to take additional courses.
- Completion of a foundation studies program designed to prepare the student before specialization.
- Completion of preliminary examinations on foundation studies and the major field of concentration.
- Successful completion of a test in a language judged not to be the student's native tongue:
  - a student in the Department of Counseling and Special Education may elect to develop appropriate research skills prescribed by the adviser in lieu of the foreign language requirement;
  - a student in the Department of Elementary Education may elect to develop appropriate alternative research skills prescribed by the adviser, subject to review by the department head, depending upon the career goal of the student and upon the academic and/or scientific requirement of the dissertation in lieu of the foreign language requirement;
  - a student in the Department of Secondary Education and Psychology Core 3750-610, 620, 630, 640.
- Completion of at least 8 credits in cognate area.
- Completion of final written and oral examinations in the student's major field of concentration.
- 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.
- Pass the general requirements for the Doctor of Philosophy degree.

DOCTOR OF PHILOSOPHY IN COUNSELING PSYCHOLOGY

The University of Akron offers a doctoral program in counseling psychology. The program allows the student a choice of emphases—a practitioner-scientist model through the College of Education or a scientist-practitioner model through the Buchtel College of Arts and Sciences. Students in both emphases are expected to attain a level of broad scientific competence in the core areas of psychology: the biological, social, cognitive-affective and individual bases of human behavior. Practice and internship experiences are also required of students in both emphases and range from skil building in basic psychological assessment and counseling, to actual work with clients, to a year-long, full-time internship in an applied service setting. Pertinent information regarding differences in emphasis orientation and course work is included below. Students receive exposure to both colleges through shared course work and faculty involvement with dissertations but must choose a specialization in one emphasis. The program in counseling psychology has been constructed so as to lead to APA approval in coming years.

The program is designed for students who hold a master's degree in counseling, psychology or a related field. The practitioner-scientist emphasis provides students with a foundation in substantive areas of psychological theory and research, as well as extensive academic training in counseling specialty areas such as assessment, individual and group counseling, marriage and family therapy, career development and supervision and consultation in counseling psychology. A preventive, developmental and situation crisis orientation to training and professional practice is maintained. Graduates are employed in counseling testing centers in higher education, community and private mental health agencies, and other educational and health settings.

Admission to the Joint Program in Counseling Psychology will be handled through the department associated with the student's chosen emphasis.

Departures from the above program may be made only with the approval of the Counseling Psychology Program faculty.

- Practicum—each conducted in own department and evaluated there.
- Internship—2,000 hours post-masters with 1,600 hours over no more than two years.
- Psychology Core—3750:610, 620, 630, 640.
- Counseling Psychology Joint Core
  - scientist-practitioner track—15 credits required including group (5600:655) and introduction to marriage and family (5600:655) with others to be decided upon with adviser.
  - practitioner-scientist track—12 credits required including advanced counseling (3750:706) with other counseling psychology courses to be decided upon with adviser.
- Other course requirements for each track are up to faculty of the track.
- Comprehensive examinations—separate written exams, but shared oral.
- Dissertations—at least one faculty member from each track on the student's committee.
- In the scientist-practitioner emphasis, students must perform at an acceptable level on the qualifying exam over the basic areas of psychology to determine eligibility for M.A.-Ph.D. standing in that program. In the practitioner-scientist emphasis, M.A. students must take the preliminary exam to appraise their current competency level. These exams will be administered by the faculty specific to the student's chosen emphasis.
- Language and residency requirements—these will be completed in accordance with guidelines from the Graduate School and the appropriate department.

Counseling Psychology Practitioner-Scientist Track

Students may be considered for admission to the practitioner-scientist emphasis in counseling psychology if they have a master's degree in counseling, guidance and counseling, psychology, school psychology or a related field.

- Psychology Core
  The following core must be taken at The University of Akron unless it has been taken in a psychology department of an accredited university prior to admission to the doctoral program and approved by the counseling psychology faculty. Students must have passed an undergraduate or graduate course in general psychology, experimental psychology and statistics prior to enrolling in 3750:610, 620, 630 and 640.
  3750:610 Psychology Core I - Organizational, Social, Social Applied  4
  3750:620 Psychology Core II - Developmental, Perceptual, Cognitive  4
  3750:630 Psychology Core III - Counseling, Individual Abnormal  4
  3750:640 Psychology Core IV - Sensory, Biopsychological, Experimental  4
  In addition to the psychology core, a minimum of 12 credits must be taken in a psychology department. These courses include 3750:706 and eight semester credits of electives.

- Foundations courses
  Students must elect a minimum of six semester credits of graduate credits in behavioral, humanistic, historical and/or social-philosophical studies from the following:
  5100:600 Philosophies of Education  3
  5100:620 Comparative and International Education  3
  5100:604 Topical Seminar in the Cultural Foundations of Education  3
The Department of Educational Administration offers a program leading to the Doctor of Education degree. This program is designed for persons in public and private educational and quasi-educational organizations. The Ohio City Superintendent Certificate is obtainable.

The Higher Education Administration program addresses such major institutional functions as: administration, academic, student services, finance, planning, development and public relations. A student will have the opportunity to direct studies toward a particular career goal.

DOCTOR OF EDUCATION DEGREE

The Department of Educational Administration offers a program leading to the Doctor of Education degree. This program is designed for persons in public and private educational and quasi-educational organizations. The Ohio City Superintendent Certificate is obtainable.

The Higher Education Administration program is offered by the department and is designed for persons who wish to pursue a career in public and private educational and quasi-educational organizations. The program addresses such major institutional functions as: administration, academic, student services, finance, planning, development, and public relations. A student will have the opportunity to direct studies toward a particular career goal.

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### Classroom Guidance for Teachers

- **Foundation Studies courses** — nine credits.

- **Guidance courses:**
  - 5600.610 Counseling Skills for Teachers
  - 5600.626 Career Education
  - 5600.631 Elementary School Guidance
  - 5600.632 Guidance Counselor
  - 5600.633 Secondary School Guidance
  - 5600.645 Group Testing in Counseling
  - 5600.661 Seminar in Guidance
  - 5600.671 Counseling Clinic: Test Interpretation
  - 5600.695 Field Experience
  - 5610.540 Developmental Characteristics of Exceptional Individuals
  - 5610.604 Education and Management Strategies for Parents of Exceptional Individual

- **Area of concentration**
  - A minimum of eight credits may be selected from one of the following (the student may, with advisor approval, propose an area of concentration not listed). The courses in the area of concentration must be selected with, and approved by, the advisor.
  - **Middle School Education**
  - **Early Childhood Education**
  - **School and Community Relations**
  - **Curriculum and Instruction**
  - **Physical Fitness and Well Being**
  - **Special Education**
  - **Computers in Education**
  - **Family Ecology**
  - **Communicative Disorders**
  - **Outdoor Education**

### Community Counseling

- **Foundation Studies courses** — nine credits (See department handbook for options.)

- **Required courses:**
  - 5600.620 Topic Seminar: Substance Abuse and Sexuality
  - 5600.635 Community Counseling
  - 5600.643 Counseling Theory and Philosophy
  - 5600.645 Group Testing in Counseling
  - 5600.647 Career Counseling: Theory and Practice
  - 5600.651 Techniques of Counseling
  - 5600.665 Seminar: Counseling Practice
  - 5600.675 Practicum in Counseling I
  - 5600.676 Practicum in Counseling II
  - 5600.685 Internship

- **Electives**
  - (select a minimum of six credits only with help of advisor)

### Counseling in Elementary or Secondary Schools

- **Foundation Studies courses** — nine credits.
  - 5100.604 Topic Seminar in Cultural Foundations
  - 5100.624 Seminar: Educational Psychology
  - 5100.640 Techniques of Research

- **Required courses:**
  - 5600.620 Topic Seminar: Current Issues
  - 5600.631 Elementary School Guidance
  - 5600.633 Secondary School Guidance
  - 5600.647 Counseling Theory and Philosophy
  - 5600.651 Group Testing in Counseling
  - 5600.661 Career Counseling: Theory and Practice
  - 5600.671 Practicum in Counseling I
  - 5600.676 Practicum in Counseling II
  - 5600.685 Internship

### Marriage and Family Therapy

- **Foundation Studies courses** — nine credits (See department handbook for options.)

- **Required courses:**
  - 5600.645 Group Testing in Counseling
  - 5600.646 Techniques of Counseling
  - 5600.653 Group Counseling
  - 5600.655 Introduction to Marriage and Family Therapy
  - 5600.661 Seminar: Counseling Practice
  - 5600.667 Marital Therapy
  - 5600.669 Systems Theory in Family Therapy
  - 5600.671 Counseling Clinic
  - 5600.675 Practicum in Counseling I
  - 5600.676 Practicum in Counseling II
  - 5600.685 Internship

### Student Personnel Services in Higher Education

- **Foundation Studies courses** — nine credits (See department handbook for options.)

- **Required courses:**
  - 5600.640 Counseling Theory and Philosophy
  - 5600.644 Group Testing in Counseling
  - 5600.647 Career Counseling: Theory and Practice
  - 5600.649 Counseling and Personnel Services in Higher Education
  - 5600.650 Group Counseling
  - 5600.665 Seminar: Counseling Practice
  - 5600.671 Counseling Clinic
  - 5600.675 Practicum in Counseling I
  - 5600.676 Practicum in Counseling II
  - 5600.685 Internship

### School Psychologist

- **College requirements:**
  - 5100.600 Philosophies of Education
  - 5100.640 Techniques of Research
  - 5100.724 Reading Processes
  - 3750.550 Learning and Cognition
  - 5620.594 Research Project
  - 5620.688 Master's Problem
  - 5620.689 Thesis Research

- **Departmental requirements:**
  - 5610.540 Developmental Characteristics of Exceptional Individuals
  - 5610.543 Developmental Characteristics of Learning Disabled Individuals
  - 5600.543 Counseling Theory and Philosophy
  - 3750.703 Theories of Psychotherapy

- **Program requirements:**
  - 3750.500 Personality
  - 3750.704 Theories of Personality
  - 3750.620 Methods of Human Development
  - 5620.601 Cognitive Function Models for Prescriptive Educational Planning
  - 3750.700 Survey of Projective Techniques
  - 3750.702 Principles and Practice of Individual Intelligence Testing
  - 5600.645 Group Testing in Counseling
  - 3750.510 Psychological Tests and Measurements
  - 5620.600 Seminar: Role and Function of School Psychology
  - 5620.610 Educational Diagnosis for the School Psychologist

---

*Must be taken concurrently with 661.
**Must be taken with 685.
††Must be taken with 645.
Sixth Year School Psychology Certification Program

The student completing the master's program who desires Ohio certification must additionally complete the following listed certification/professional course requirements including the full academic year internship experience.

- Abnormal Psychology* 3
- Organization and Administration of Guidance Services** 3
- Behavioral Assessment 3
- Consultation Strategies in School Psychology 3
- Practicum in School Psychology 4

The student who does not hold a valid Ohio teaching certificate, must additionally complete the following course pattern:

- Elementary School Curriculum and Instruction 2
- Reading Diagnosis: School Psychologist and Personnel 3
- Field Experience: Masters 3
- Elementary School Administration 3

The student completing this program will be recommended for Ohio certification if credit pattern numbers 60 graduate credits, counting no more than 15 credits at the 500 level and including the six credits for the internship.

Special Education

A program of studies in special education will be selected from the following course listings. A student in special education who holds certification prior to enrollment in Graduate School must choose a program focus emphasizing one of the following areas: supervision, clinical practice, early childhood, educational disabilities, school educational consultant or some other focus to meet an individual's educational need. Elective options 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. However, the master's degree can be completed with or without meeting requirements for special education certification depending on program selection. Certification as a special education supervisor may also be pursued in combination with other departments.

At least one-half of the master's degree program must be 600-level courses and at least 20 credits must be within special education. The minimum program requirement is 35 credits:

- Foundation Studies courses — nine credits.
- Departmental core (required of all candidates):
  - Techniques of Counseling 3
  - Developmental Characteristics of Exceptional Individuals 4
  - Developmental Characteristics of Learning Disabled Individuals 3
  - Classroom Behavior Management for Exceptional Individuals 3
  - Assessment and Educational Programming 3
  - Educational and Management Strategies for Parents of Exceptional Individuals 3
- Master's paper (candidate required to choose one):
  - Seminar in Special Education 3
  - Master's Problem 3-4
  - Thesis Research 4-6
- Electives: Select from the following areas after consultation with an adviser:
  - Sociology: Elementary Education, Physical Education, Special Education, Educational Administration, Communicative Disorders

Options

The student elects one of the following:

- Abnormal Psychology* 3
- Organization and Administration of Guidance Services** 3
- Behavioral Assessment 3
- Consultation Strategies in School Psychology 3
- Practicum in School Psychology 4

The student completing this program who desires Ohio certification if credit pattern numbers 60 graduate credits, counting no more than 15 credits at the 500 level and including the six credits for the internship.

Supervision — Certification Program

Requires completion of the following, 27 months of classroom teaching with the identified handicapped and a master's degree.

- Principles of Educational Administration 3
- Behavioral Bases of Education 3
- Techniques of Research 3
- Seminar: Special Education Curriculum Planning 3
- Supervision of Instruction — Special Education 3
- Principles of Educational Supervision 3
- Field Experience — Supervisors 2
- Principles of Curriculum Development 3

Clinical Practice — Special Education

- Clinical Teaching Practicum: Children with Learning Problems 3
- Electives to complete program 3

Early Childhood — Special Education

- Educational Adjustment: Preschool and Primary Level Exceptional Children 3
- Electives to complete program 3

Developmental Disabilities

- Educational Adjustment: Moderately Severely and Profoundly Retarded 3
- Electives to complete program 3

School Educational Consultant — Special Education

- Program Development and Service Delivery Systems — Special Education 3
- Electives to complete program 3

Visiting Teacher or School Social Worker Certification Program

Inquiry related to program requirements and admission standards should be addressed to the Department of Counseling and Special Education.

Educational Administration

Certification as Administrative Specialist: School and Community Relations

Program

- Foundation Studies — nine credits.
- Required courses:
  - Principles of Educational Administration 3
  - School—Community Relations 3
  - Evaluation in Educational Organizations 3
  - School Law 2
  - School Finance and Economics 3
  - Principles of Curriculum Development 3
  - Principles of Educational Supervision 3
  - Master's Problem 2
  - Decision-Making in Educational Administration 3
  - Organizational Communications and the School Administrator 3
  - Field Experience: The Supervendidency 2
  - Studies in Communication: Radio 3
  - Studies in Communication: Television 3
  - Studies in Communication: Film 3

Elementary School Principal

Objectives

- Provide the student with an understanding of the elementary school and its history, its present purpose and its potential.
- Assist the prospective administrator in perceiving the role of the elementary principal and determining whether it is appealing as a career choice.

*May be taken at undergraduate level.

**Requirement dependent upon experience and related course work completion.
Provide the student with the opportunity to experiment with alternate leadership styles in order to determine how the student might best lead.

Coordinate classroom activities with field experiences in order to exercise the student's administrative skills and test the student's ability to relate understandings to performance.

**Program**

- Foundation Studies — nine credits.
- Administration courses:
  - 5200:636n Elem. School Curriculum & Instruction
  - 5200:732 Supervision of Instruction in the Elementary School
  - 5700:601 Principles of Educational Administration
  - 5700:607 School Law
  - 5700:610 Principles of Educational Supervision
  - 5700:613 Administration of School
  - 5700:615 Computer Applications in Educational Administration
  - 5700:620 Secondary School Administration
  - 5700:686 Field Experience I: Secondary Administration

- Elective courses should be planned with an advisor. The program is primarily for the student who expects to progress as a principal or administrator in the elementary schools — three credits.

**Post Master's Degree Requirements for Ohio Certification as an Elementary School Principal:**

- Administration courses:
  - 5700:603 Administration of Educational Personnel
  - 5700:604 School-Community Relations
  - 5700:606 Evaluation in Educational Organizations
  - 5700:615 Computer Applications in Educational Administration
  - 5700:684 Field Experience I: Elementary Administration
  - 5700:706 Collective Bargaining and Employee Relations in Education

- Total for Certification: 46 credits

**Educational Administration**

**Objectives**

The elements of the local superintendent program will enable the student to:

- Communicate effectively.
- Organize and operate a curricular program.
- Supervise and evaluate a teaching and support staff.
- Prepare, coordinate, and carry out a budget and appropriation plan.
- Analyze, evaluate and articulate legalities of education.
- Design and coordinate a school facilities plan.

**Program**

- Foundation Studies — nine credits.
- Major field:
  - 5700:601 Principles of Educational Administration
  - 5700:603 Administration of Educational Personnel
  - 5700:606 Evaluation in Educational Institutions
  - 5700:607 School Law
  - 5700:608 School Finance and Economics
  - 5700:615 Computer Applications in Educational Administration
  - 5700:684 Field Experience I: Elementary Administration
  - 5700:686 Field Experience I: Secondary Administration
  - 5700:706 Collective Bargaining and Employee Relations
  - 5700:707 The Superintendent
  - 5700:895 Field Experience I: The Superintendent

**Secondary School Principal**

**Objectives**

- Enable the student to gain a knowledge of the overall curriculum of the secondary school.
- Provide the student with an understanding of successful methods of improving instruction in the secondary school.
- Provide the student with practice in implementing a program to improve instruction.
- Develop within the student the ability to communicate successfully with individuals and groups.
- Work with the individual and the group successfully to improve the educational program.
- Implement technical aspects of secondary education.

**Program**

- Foundation Studies courses — nine credits.
- Administration courses:
  - 5300:619 Secondary School Curriculum and Instruction
  - 5300:721 Supervision of Instruction in the Secondary School
  - 5700:601 Principles of Educational Administration
  - 5700:607 School Law
  - 5700:610 Principles of Educational Supervision
  - 5700:613 Administration of School
  - 5700:615 Computer Applications in Educational Administration
  - 5700:620 Secondary School Administration
  - 5700:686 Field Experience I: Secondary Administration

**Post Master's Degree Requirements for Ohio Certification as a Secondary School Principal:**

- Administration courses:
  - 5700:603 Administration of Educational Personnel
  - 5700:604 School-Community Relations
  - 5700:606 Evaluation in Educational Organizations
  - 5700:607 School Finance and Economics
  - 5700:686 Field Experience I: Secondary School Administration

- Total for Certification: 46 credits

**Sixth-Year Program: City School Superintendent**

This program requires 60 credits.

**Program**

- Required Courses:
  - 5100:600 Philosophies of Education
  - or 5100:604 Topics Seminar in Cultural Foundations of Education
  - or 5100:621 Behavioral Bases in Education
  - or 5100:624 Seminar: Educational Psychology
  - 5100:640 Techniques of Research
  - 5100:701 History of Education in American Society
  - or 5100:703 Seminar: History and Philosophy of Higher Education
  - 5100:721 Learning Processes
  - or 5100:723 Teacher Behavior and Instruction
  - 5100:741 Statistics in Education
  - 5700:601 Principles of Educational Administration
  - 5700:603 Administration of Educational Personnel
  - 5700:604 School-Community Relations
  - 5700:606 Evaluation of Educational Institutions
  - 5700:607 School Law
  - 5700:608 School Finance and Economics
  - 5700:699 Principles of Curriculum Development
  - 5700:701 Principles of Educational Supervision
  - 5700:721 Administration of Educational Facilities
  - 5700:795 Field Experience — Superintendent
  - 5700:895 Decision-Making in Educational Administration

- Elective courses — 13-15 credits

**Supervisor**

**Program**

- Foundation Studies — nine credits.
- Major field:
  - 5200:630 Elementary School Curriculum and Instruction
  - 5200:732 Supervision of Instruction in the Elementary School
  - 5300:619 Secondary School Curriculum and Instruction
  - 5300:721 Supervision of Instruction in the Secondary School
  - 5610:601 Seminar: Special Education Curriculum Planning
  - 5610:602 Supervision of Instruction Special Education
  - 5700:606 Principles of Curriculum Development
  - 5700:610 Principles of Educational Supervision
  - 5700:895 Field Experience of Supervisors

- **Required of those completing the master's degree.**
- **Electives should be selected with advisor's approval.**
- **Required only of an elementary student.**
- **Required only of a secondary student.**
- **Required only of a special education student.**
With the approval of the adviser, the student will select at least one of the following courses and others 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
- 5700:586 Master’s Problem 2
- 5700:740 Theories of Supervision 3

**Educational Foundations**

**Educational Foundations**

This program area is designed for either the student interested in improving present educational skills or the student interested in educational or instructional positions in business, industry and social services.

A student’s program of study will be determined jointly by the student and an academic adviser. Emphasis can range from advanced instructional technology to traditional studies in educational psychology or the social/philosophical aspects of education. A thesis is required.

**Program**

- **Foundation Studies — nine credits.**

  - Departmental requirements:*
    - The student will earn a minimum of 15 credits, excluding thesis, within the Department of Educational Foundations. These credits will be distributed between humanistic studies and behavioral studies with a minimum of nine credits from one of these areas and six credits from the other (college requirements may be included).
    - 15

- **Thesis**

  - 5100:659 Thesis Research 4-6

- **Inter-departmental electives:**

  - A minimum of six credits will be taken outside the Department of Educational Foundations 6

**Elementary Education**

**Bilingual Multicultural Education**

The major purpose of this program is to provide education majors with the knowledge, skills and attitudes necessary to teach bilingual students.

Students may become certified in bilingual multicultural education at either the undergraduate or graduate level. The certification requires that a person also become certified in one of the following areas: elementary education, secondary education, special education or physical education.

At the end of the program, the student must demonstrate proficiency in English and a language other than English in order to meet the certification requirements of the Ohio State Department of Education.

Graduate students wishing a master’s degree in addition to bilingual multicultural certification may earn a master’s degree in multicultural education by taking additional course work.

The program incorporates course work in the history and philosophy of bilingual multicultural education; linguistics, English as a second language instruction; culture and theories; and practices for teaching bilingual students language arts, reading, mathematics, social studies and science.

- **Program requirements:**

  - 3300:589 Seminar in English: Introduction to Bilingual Linguistics 3
  - 5630:582 Characteristics of Culturally Different Youth 3
  - 5630:584 Principles of Bilingual Multicultural Education 3
  - 5630:587 Techniques for Teaching English as a Second Language in the Bilingual Classroom 4
  - Field experience in bilingual classrooms/ensembles 3

*After accumulating 20 credits, the student will take a written qualifying examination. The student and program committee will then determine the remainder of the program.

**Certification as a Reading Supervisor**

**Objectives**

To qualify as a reading supervisor, the student must have a minimum of three years of successful teaching experience under a standard teaching certificate.

The student seeking a master’s degree in elementary education and certification can follow a 30 credit program which includes a master’s problem (two credits) or follow another program which calls for the completion of 36 credits with a field experience but no master’s problem. The student in a graduate program with another area of concentration may elect any specialized course in reading provided the student meets the prerequisites. For additional information contact the department head.

The student seeking a master’s degree in secondary education and certification should contact a secondary education adviser for program information.

**Program**

- **Foundation Studies — nine credits**

  - 5200:695 Field Experience** 1-2
  - 5200:696 Master’s Problem** 1-2
  - 5200:760 Elementary Education Seminar: Children’s Literature - Reading** 2
  - 5250:681 Diagnosis and Correction of Reading Problems 5
  - 5250:682 Clinical Practices in Reading 5
  - 5250:692 Advanced Study and Research in Reading Instruction 3
  - 5300:693 Supervision and Curriculum Development in Reading Instruction 2
  - 5300:760 Secondary Education Seminar: Teaching Literature in Secondary Schools** 2
  - 5300:625 Reading Programs in Secondary Schools† 3

- **Two credits from the following list of electives:**

  - 5200:580 Workshop in Reading 1-2
  - 5200:760 Elementary Education Seminar: Reading 2
  - 5250:511 Materials and Organizations for Reading Instruction** 3
  - 5250:540 Developmental Reading in the Content Area** 3
  - 5250:680 Trends in Reading Instruction 2

**Elementary Education**

**Objectives**

- **Knowledge:**
  - the nature of the elementary school;
  - the organization of the school and its curriculum;
  - the application of theory.

- **Skills:**
  - ability to assess curricular needs;
  - ability to select appropriate materials;
  - ability to develop appropriate learning activities.

- **Attitudes and values:**
  - belief in the humanistic approach to education;
  - awareness and concern for the welfare of all;
  - ability to accept those who are special.

**Program**

Those students seeking a master’s degree in elementary education can follow a 30 semester credit program, which includes a master’s problem (two credits) or follow a new option, which calls for the completion of 36 credits with a field experience, but no master’s problem. For additional information about the option, an interested student should contact the department head.

- **Foundation Studies — nine credits**

  - 5630:586 Teaching Reading and Language Arts to Bilingual Students 4
  - 5630:586 Teaching Mathematics, Social Studies and Science to Bilingual Students 3

**For elementary education students only.**

A student 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.

†For secondary education students only.
Elementary education:
- Elementary School Curriculum and Instruction 2
- Seminar in Elementary Education 2
- Elementary School Seminar 4-8

Electives - 9-13 credits.

Middle School Education

For elementary and secondary certified teachers, these courses comprise a major area of study within the master’s programs in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum and programs. The student should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

Program

- Required courses:
  5100:620 Cultural Foundations of Education 3
  5100:624 Psychology of Early Adolescence 3
  5200:780 Curriculum Development in Middle School 2
  5300:625 Reading Programs in Secondary School 3
  5300:780 Philosophy and Organization of Middle School 2
  5600:526 Career Education/Guidance in Middle School 2

Physical Education

Athletic Training for Sports Medicine

- Foundation Courses
  5100:600 Philosophies of Education 3
  5100:604 Topical Seminar in the Cultural Foundation of Education 3
  5100:620 Behavioral Bases of Education 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3
  TOTAL 9

- Required Courses
  3100:561 Human Physiology 4
  3100:562 Human Physiology 4
  3100:584 Pharmacology 3
  5550:541 Advanced Athletic Injury Management 4
  5550:552 Therapeutic Modalities and Equipment in Sports Medicine 3
  5550:605 Physiology of Muscular Activity and Exercise 3
  5550:695 Field Experience: Master’s 2-6
  or
  5550:698 Master’s Problem 2-4
  or
  5550:699 Thesis Research 4-6
  TOTAL 23-27

- Electives (determined by adviser)
  3100:565 Advanced Cardiovascular Physiology 3
  5550:501 Workshops in Sports Medicine 1-3
  5550:601 Administration of Health, Physical Education, Athletics and Recreation 3
  5550:605 Measurement and Evaluation in Physical Education 3
  5550:695 Special Topics in Health and Physical Education 2-4
  5550:997 Independent Study 1-3
  TOTAL MINIMUM CREDITS 32

Outdoor Education

The outdoor education program, requiring 32 credits, is designed for those students having an undergraduate background in elementary or secondary education, biology, environmental studies, health, physical education or recreation. Students may become involved with existing outdoor education programs in the public schools, metropolitan, state and national park programs or private and public agencies which conduct outdoor/education programs.

- Foundation Studies - nine credits.
- Required courses:
  5560:550 Application of Outdoor Education to the School Curriculum 4
  5560:552 Methods, Materials and Resources for Teaching Outdoor Education 3
  5560:556 Outdoor Pursuits 4
  or
  5560:605 Outdoor Education: Special Topics 2-4
  5560:690 Outdoor Education: Rural Influences 3
  5560:695 Practicum in Outdoor Education 2-4
  or
  5560:699 Master’s Problem 2-4
  or
  5560:699 Thesis Research 4-6

With the approval of the adviser, the student will select additional courses and/or workshops related to the graduate program.

Physical Education

Graduate programs in physical education may be designed for students interested in general physical education and teacher preparation. Specialized graduate programs may be designed in cooperation with the student’s adviser, and the approval of the Dean of Graduate Studies. Such areas of specialization include, but are not limited to, industrial fitness, cardiac rehabilitation, exercise physiology of the adult and aging, exercise sciences and gerontology and health promotion/enhancement. The program, totaling 30 credits, is designed to meet the needs of the student relative to graduate study and future employment.

Program

- Foundation Studies - nine credits.
- Required courses:
  5550:536 Applied Physical Education for the Learning Handicapped Child 2
  or
  5550:501 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 2
  5550:609 Motivational Aspects of Physical Activity 3
  5550:695 Field Experience — Master’s 2-6
  or
  5550:698 Master’s Problem 2-4
  or
  5550:699 Thesis Research 4-6
- Electives agreed on by the adviser to meet special student needs.

Bilingual Multicultural Education

The major purpose of this program is to provide education majors with the knowledge, skills and attitudes necessary to teach bilingual students.

Students may become certified in bilingual multicultural education at either the undergraduate or graduate level. The certification requires that a person also become certified in one of the following areas: elementary education, secondary education, special education or physical education.

At the end of the program, the student must demonstrate proficiency in English and a language other than English to meet the certification requirements of the Ohio State Department of Education.

Graduate students wishing a master’s degree in addition to bilingual multicultural certification may earn a master’s degree in multicultural education by taking additional course work.
The program incorporates course work in the history and philosophy of bilingual multicultural education, linguistics, English as a second language instruction, culture and theories and practices for teaching bilingual students language arts, reading, mathematics, social studies and science.

- **Program requirements:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:589</td>
<td>Seminar in English: Introduction to Bilingual Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>5630:582</td>
<td>Characteristics of Culturally Different Youth</td>
<td>3</td>
</tr>
<tr>
<td>5630:584</td>
<td>Principles of Bilingual Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>5630:587</td>
<td>Techniques for Teaching English as a Second Language in the Bilingual Classroom</td>
<td>4</td>
</tr>
<tr>
<td>5630:588</td>
<td>Field experience in bilingual classrooms/settings</td>
<td>3</td>
</tr>
<tr>
<td>5630:585</td>
<td>Teaching Reading and Language Arts to Bilingual Students</td>
<td>4</td>
</tr>
<tr>
<td>5630:586</td>
<td>Teaching Mathematics, Social Studies and Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>to Bilingual Students</td>
<td>3</td>
</tr>
</tbody>
</table>

**Middle School Education**

For elementary and secondary certified teachers, these courses comprise a major area of study within the master’s programs in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum and programs. The student should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

**Program**

- **Required courses:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:664</td>
<td>Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:665</td>
<td>Psychology of Early Adolescence</td>
<td>3</td>
</tr>
<tr>
<td>5200:760</td>
<td>Curriculum Development in Middle School</td>
<td>2</td>
</tr>
<tr>
<td>5300:625</td>
<td>Reading Programs in Secondary School</td>
<td>2</td>
</tr>
<tr>
<td>5300:780</td>
<td>Philosophy and Organization of Middle School</td>
<td>2</td>
</tr>
<tr>
<td>5600:526</td>
<td>Career Education/Guidance in Middle School</td>
<td>2</td>
</tr>
</tbody>
</table>

**Multicultural Education**

The purpose of this program is to provide knowledge, skills and attitudes which will enable the educator to design and implement programs that promote the concept of cultural pluralism. Special attention is given to educational programming for the culturally different learner.

**Program**

- **Required courses:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:640</td>
<td>Technics of Research</td>
<td>3</td>
</tr>
<tr>
<td>5300:780</td>
<td>Seminar in Secondary Education*</td>
<td>4</td>
</tr>
<tr>
<td>5600:645</td>
<td>Group Testing in Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5630:582</td>
<td>Multicultural Education in the United States</td>
<td>3</td>
</tr>
<tr>
<td>5630:585</td>
<td>Characteristics of Culturally Different Youth</td>
<td>3</td>
</tr>
<tr>
<td>5630:688</td>
<td>Seminar Education of the Culturally Different</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Electives in related special fields — 17 credits</td>
<td></td>
</tr>
</tbody>
</table>

**Secondary Education**

**Objectives**

This program is for middle and junior high school, high school and post-secondary school teachers. Preparation is for the master teacher, department head, supervisor and resource teacher (the physical education major should see an advisor for alternate course requirements). This program also serves the holder of a baccalaureate degree who seeks a teaching certificate.

**Program**

- **Foundation Studies — nine credits:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5300:780</td>
<td>Seminar in Secondary Education: Improvement of Instruction in the area of concentration</td>
<td>2</td>
</tr>
</tbody>
</table>

- **Ten credits from the following:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5300:619</td>
<td>Secondary Curriculum and Instruction</td>
<td>2</td>
</tr>
<tr>
<td>5300:625</td>
<td>Reading Programs in Secondary Education</td>
<td>3</td>
</tr>
<tr>
<td>5300:695</td>
<td>Field Experience</td>
<td>1-6</td>
</tr>
<tr>
<td>5300:698</td>
<td>Master’s Problem</td>
<td>2-4</td>
</tr>
<tr>
<td>5300:699</td>
<td>Thesis Research</td>
<td>4-6</td>
</tr>
</tbody>
</table>

*Only two seminars for this option may be counted towards the degree.

**Technical Education**

The major objective of the technical education program is to prepare the instructor 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. The major requires completion of 32 credits.

**Program**

- **Foundation Studies — nine credits:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5400:510</td>
<td>The Two-Year College</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Professional technical education courses:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5400:505</td>
<td>Vocational Education for Youth and Adults</td>
<td>3</td>
</tr>
<tr>
<td>5400:527</td>
<td>Instructional Techniques in Technical Education</td>
<td>4</td>
</tr>
<tr>
<td>5400:530</td>
<td>Course Construction in Technical Education</td>
<td>2</td>
</tr>
</tbody>
</table>

- **Teaching internship:**
  
  The student entering the program without teaching experience is required to take a teaching internship at a cooperating two-year institution.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5400:690</td>
<td>Internship: Teaching Vocational Education</td>
<td>2</td>
</tr>
</tbody>
</table>

- **Elective credits may support the field of specialization, add to general education or be professional education courses — zero to four credits.**

- A comprehensive examination is required.

**Options (Select one for a total of 8-13 credits.)**

**Teaching**

An approved schedule of technical courses selected from the Graduate School offerings. Course selections will be determined by the student’s academic and professional background.

**Guidance Option A (Must be followed in sequence)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:643</td>
<td>Counseling: Theory and Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>5600:651</td>
<td>Techniques of Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:653</td>
<td>Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:675</td>
<td>Practicum in Counseling I</td>
<td>4</td>
</tr>
</tbody>
</table>

**Guidance Option B**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:635</td>
<td>Community Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:647</td>
<td>Career Counseling: Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>5600:645</td>
<td>Group Testing in Counseling</td>
<td>3</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600:649</td>
<td>Counseling and Personnel Services in Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>5600:526</td>
<td>Career Education</td>
<td>2</td>
</tr>
<tr>
<td>5600:610</td>
<td>Counseling Skills for Teachers</td>
<td>3</td>
</tr>
</tbody>
</table>

**Curriculum and Supervision**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5700:608</td>
<td>Principles of Curriculum Development</td>
<td>3</td>
</tr>
<tr>
<td>5700:610</td>
<td>Principles of Educational Supervision</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elective in Curriculum or Supervision</td>
<td>2</td>
</tr>
</tbody>
</table>

**Vocational Home Economics — Family Life (eight to nine credits)**

**Vocational Home Economics — Child Care and Development (Job Training Specialization) (eight to nine credits)**

**Only two seminars for this option may be counted towards the degree.**
College of Business Administration

James W. Dunlap, Ph.D., Dean
Kenneth E. Mars, D.B.A., Assistant Dean

MASTER’S DEGREE

The College of Business Administration (CBA) offers graduate programs which lead to the degrees of Master of Business Administration, Master of Science in Accounting, Master of Science in Management, and Master of Taxation in Accounting. The University 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 master’s 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 college offers graduate courses only between 5:00 p.m. 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.

Admission

Policy

The applicant must meet one (1) of the following eligibility requirements which are in conformity with the Graduate School and the college’s accrediting agency (AACSB):

- 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-point average (GPA) (A=4.0) times 200 plus the Graduate Management Admissions Test (GMAT) score.
- 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 upon the junior-senior (i.e., last 64 semester or 96 quarter credits) GPA (A=4.0) times 200 plus the GMAT score. In rare instances, the applicant who has taken the GMAT but does not meet requirements may be considered for admission. Also, those who have previously been denied admission may, upon presentation of new information, be reconsidered. In either case, the applicant must petition, in writing, the CBA Graduate Admissions Committee giving those reasons relevant to the situation which demonstrate the likelihood of success — the burden of proof lies on the applicant.
- 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.

Procedure

GMAT scores should be 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, the applicant should register for it sufficiently in advance to the filing of the graduate application, so evaluation for admission will not be delayed. 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.

Even though an applicant is eligible for consideration, an offer of admission is not guaranteed. Since staff, facilities and resources are limited, a determination must be made as to the number of applicants who can be adequately serviced among those eligible. 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. The committee will consider the following in making decisions: the difficulty of the applicant's undergraduate program; the length of time and activities since graduation; the percentile ranking on the GMAT. Applicants are expected to score at least in the 55th percentile on the GMAT — approximately 480 — in order for an offer of admission to be extended.

All applications and accompanying documentation are evaluated simultaneously by the Graduate Admissions Committee (GAC). The GAC meets only four times approximately four weeks after each GMAT date. The applicant will be informed in writing of the GAC’s decision after approximately one week.

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 3.00 GPA upon the completion of 12 graduate credits will be dismissed from the program.

Requirements

To be awarded any master’s degree from the College of Business Administration, a student must:

- Meet the time and grade-point requirements of the Graduate School.
- Complete the minimum credits in each of the degree descriptions.
- Complete all course requirements of applicable master’s program.

Master of Business Administration

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. Two phases of course work are required: Phase I (foundation courses) and Phase II (core courses). The program consists of 54 graduate credits. Phase I courses may be waived for those who have had previous study in the areas. Phase I and II courses can be taken concurrently provided that all prerequisites have been met.

Phase I Foundation Courses

All are required unless Phase I courses have been waived at the time of admission.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:609</td>
<td>Foundation of Economic Analysis*</td>
<td>3</td>
</tr>
<tr>
<td>6200:601</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6400:602</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>6400:655</td>
<td>Government and Business</td>
<td>3</td>
</tr>
<tr>
<td>6500:600</td>
<td>Management and Production Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:651</td>
<td>Quantitative Decision-Making</td>
<td>3</td>
</tr>
<tr>
<td>6500:602</td>
<td>Computer Techniques for Management</td>
<td>3</td>
</tr>
<tr>
<td>6600:600</td>
<td>Marketing Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

*If waived, student must select 6400:650 Administering Costs and Prices from the MBA Core (Breadth) courses.
**If waived, student must select 6400:654 Financial Management and Policy from the MBA Core (Breadth) courses.
†If waived, the student must select 6600:620 Strategic Marketing Management from the MBA Core (Breadth) courses.
The following courses are required only for those selecting accounting as their area of concentration:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>620:301</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>620:317</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>620:318</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>620:430</td>
<td>Taxation I</td>
<td>4</td>
</tr>
<tr>
<td>620:431</td>
<td>Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>620:440</td>
<td>Auditing</td>
<td>3</td>
</tr>
<tr>
<td>620:510</td>
<td>Accounting Management and Control</td>
<td>3</td>
</tr>
</tbody>
</table>

**Phase II Core Courses — Accounting Concentration**

- **Breadth Courses:**
  - 6500:562 Organizational Behavior 3
  - 6500:562 Quantitative Methods in Operations Management 3

- **Choose two:**
  - 6600:650 Administering Costs and Prices 3
  - 6600:674 Financial Management and Policy 3

- 6600:620 Strategic Marketing Management Elective
  - Any three nonfoundation graduate credits offered by the college in the area of accounting 3

- **Concentration Courses:**
  - 620:637 Advanced Accounting Theory 3
  - 620:655 Information Systems 3
  - 620:670 Cost Concepts and Control 3

- **Elective:**
  - One accounting course above 610 3

- **Integrative Course:**
  - 6500:695 Business Strategy and Policy: Domestic and International (restricted to students graduating within two semesters) 3

- **Free Electives:**
  - Any six credits of CBA electives (any six credits of foundation courses may be used to satisfy one, three-credit free elective requirement up to six credits of free electives) 6

**Phase II Core Courses — Finance Concentration**

- **Breadth Courses:**
  - 6500:552 Organizational Behavior 3
  - 6600:620 Strategic Marketing Management 3
  - 6600:652 Quantitative Methods in Operations Management 3

- **Concentration Courses:**
  - 6400:674 Financial Management and Policy 3
  - 6400:650 Administering Costs and Prices 3

- **Elective:**
  - Any three nonfoundation graduate credits offered by the CBA in the area of finance 3

- **Free Electives:**
  - Any six credits of CBA electives (any six credits of foundation courses may be used to satisfy one, three-credit free elective requirement up to six credits of free electives) 6

**Phase II Core Courses — Management Concentration**

- **Breadth Courses:**
  - 6200:610 Accounting Management and Control 3
  - 6400:650 Administering Costs and Prices 3

- **Choose two:**
  - 6400:674 Financial Management and Policy 3
  - 6600:620 Strategic Marketing Management Elective
    - Any three nonfoundation graduate credits offered by the CBA in the area of management 3

- **Concentration Courses:**
  - 6600:640 Information Systems and Management 3
  - 6500:652 Organizational Behavior 3

- **Electives:**
  - Any six nonfoundation graduate credits in management 6

- **Integrative Course:**
  - 6500:695 Business Strategy and Policy: Domestic and International (restricted to students graduating within two semesters) 3

- **Free Electives:**
  - Any six credits of CBA electives (any six credits of foundation courses may be used to satisfy one, three-credit free elective requirement up to six credits of free electives. Electives outside the CBA must be approved by the graduate director) 6

**Phase II Core Courses — Marketing Concentration**

- **Breadth Courses:**
  - 6200:610 Accounting Management and Control 3
  - 6400:650 Administering Costs and Prices 3

- **Choose two:**
  - 6600:620 Strategic Marketing Management 3
  - 6500:640 Marketing Information Systems and Research 3

- **Elective:**
  - Any three nonfoundation graduate credits offered by the CBA in Marketing 3

- **Concentration Courses:**
  - 6200:610 Accounting Management and Control 3
  - 6400:650 Administering Costs and Prices 3

- **Electives:**
  - Any six nonfoundation graduate credits in marketing 6

- **Integrative Courses:**
  - 6500:695 Business Strategy and Policy: Domestic and International (restricted to students graduating within two semesters) 3

- **Free Electives:**
  - Any six credits of CBA electives (any six credits of foundation courses may be used to satisfy one, three-credit free elective requirement up to six credits of free electives. Electives outside the CBA must be approved by the graduate director) 6

**Phase II Core Courses — International Business Concentration**

- **Breadth Courses:**
  - 6200:610 Accounting Management and Control 3
  - 6400:650 Administering Costs and Prices 3

- **Choose two:**
  - 6600:620 Strategic Marketing Management 3
  - 6500:640 Marketing Information Systems and Research 3

- **Elective:**
  - Any three nonfoundation graduate credits offered by the CBA in Marketing 3

- **Concentration Courses:**
  - 6600:620 Strategic Marketing Management 3

- **Electives:**
  - Any six nonfoundation graduate credits in marketing 6

*Requires reading and conversational proficiency in one language other than English.
Master of Science in Accounting

The Master of Science in Accounting program is designed to provide the student additional exposure to the functional areas of business plus an advanced concentration in accounting. Two phases of course work are required. Phase I consists of specialized graduate and postbaccalaureate foundation courses. Phase II consists of the accounting core courses and are all required. Phase I courses may be waived for those who have had previous study in the areas.

Phase I

- Graduate Foundation:
  3250:600 Foundation of Economic Analysis 3
  6200:601 Financial Accounting 3
  6200:610 Accounting Management and Control 3
  6400:602 Managerial Finance 3
  6500:600 Management and Production Concepts 3
  6500:601 Quantitative Decision-Making 3
  6500:602 Computer Techniques for Management 3
  6500:695 Business Strategy and Policy. Domestic and International 3
  or 6500:490 Business Policy 4
  6600:600 Marketing Concepts 3

- Post-Baccalaureate Foundation:
  6200:301 Cost Accounting 3
  6200:317 Intermediate Accounting I 4
  6200:318 Intermediate Accounting II 4
  6200:430 Taxation I 4
  6200:431 Taxation II 3
  6200:440 Auditing 3
  6400:321 Business Law I 3
  6400:322 Business Law II 3
  6500:490 Business Policy* 4

Phase II

- Required:
  6200:630 Tax Research and Policy 3
  6200:631 Corporate Taxation I 3
  6200:632 Taxation of Transactions in Property 3
  6200:633 Estates and Gift Taxation 3

- Electives:
  Eighteen credits of which at least 12 must be in taxation (6200:641-54):
  12
  Taxation courses
  Any CBA courses

Master of Taxation in Accounting

The Master of Taxation program is a professional degree designed to provide intensive training both for those planning to enter the field and for experienced accountants and attorneys.

The program provides a framework of conceptual, technical and professional knowledge which will assist the student in developing the expertise needed to examine and understand the many aspects of the difficult and complex tax structure. Through an integrated curriculum with emphasis on tax concepts, substantive knowledge of federal and state taxation, tax research and communication skills and tax planning, the student develops the ability to identify and solve tax problems.

The Master of Taxation curriculum is structured in two phases of course work: Phase I: foundation courses; and Phase II: required courses. A minimum of 30 semester credits is required for the degree.

- Graduate Foundation:
  3250:600 Foundation of Economics Analysis 3
  6200:601 Financial Accounting 3
  6400:602 Managerial Finance 3
  6400:655 Government and Business 3
  6500:600 Management and Production Concepts 3
  6500:601 Quantitative Decision-Making 3
  6600:600 Marketing Concepts 3

- Post-Baccalaureate Foundation:
  6200:630 Taxation I 4
  6200:631 Taxation II 3
  6500:490 Business Policy 4

Phase II

- Required:
  6200:630 Tax Research and Policy 3
  6200:631 Corporate Taxation I 3
  6200:632 Taxation of Transactions in Property 3
  6200:633 Estates and Gift Taxation 3

- Electives:
  12
  Taxation courses
  Any CBA courses

Master of Science in Management

The Master of Science in Management program is designed to provide the student with strong quantitative backgrounds an opportunity to pursue advanced study utilizing previously acquired knowledge. The student with undergraduate training in engineering, mathematics and the physical sciences will apply skills to management problem solving and decision making along quantitative lines. Two phases of course work are required: Phase I: foundation courses; and Phase II: selected electives. Phase I courses may be waived for those who have had previous study in the areas.

Phase I

- Foundation:
  3250:600 Foundation of Economic Analysis 3
  6200:601 Financial Accounting 3
  6400:602 Managerial Finance 3
  6400:655 Government and Business 3
  6500:600 Management and Production Concepts 3
  6500:601 Quantitative Decision-Making 3
  6500:602 Computer Techniques for Management 3
  6600:600 Marketing Concepts 3

Phase II

- Selected Electives (two required):
  6200:610 Accounting Management and Control 3
  6400:674 Financial Management and Policy 3
  6600:620 Strategic Marketing Management 3

- Required Courses:
  6500:640 Information Systems and Management 3
  6500:652 Organizational Behavior 3
  6500:653 Organizational Theory 3
  6500:654 Industrial Relations 3
  6500:662 Quantitative Methods in Operations Management 3
  6500:663 Applied Industrial Statistics I 3
  6500:664 Applied Industrial Statistics II 3
  6500:671 Advanced Operations Research 3
  6500:695 Business Strategy and Policy. Domestic and International 3
  6600:699 Graduate Seminar in Management 3

*May elect to take 6500:695 instead.
Joint Programs

The School of Law and the College of Business Administration (CBA) offer a joint program in legal and administrative studies (J.D./M.B.A.) and a joint program in legal and taxation studies (J.D./M.Tax.). These combinations are open to the student preparing for a career in such areas as corporate law, tax accounting or legal practice in government. The amount of time required to complete a joint degree program is shorter than the time required to complete both programs independently. To pursue either cooperative program, the student must apply to and be accepted by both the School of Law and the Graduate School of the CBA. The student should contact each school independently for information covering admission criteria and procedures (for further information on School of Law admissions, write: Director of Admissions, School of Law, The University of Akron, Akron, OH 44325). A baccalaureate degree is required.

Degree Requirements

A student is required to fulfill the requirements of the School of Law (75 credits plus 10 credits transferred from the CBA. The requirements of the CBA may be met by fulfilling the requirements previously listed which include the common body of knowledge (Phase I) courses (18-27 credits unless waived because of prior undergraduate credits earned) and 24 credits for M.Tax., or 30 credits for M.B.A. of advanced courses in the CBA plus six credits transferred from the School of Law. The reciprocal acceptance of course credits by each school is the essence of the joint programs. All law courses used to fulfill CBA requirements must be approved by the director of Graduate Business Programs prior to completion. To earn both degrees, a total of 99 (J.D./M.Tax.) or 105 (J.D./M.B.A.) credits is required, depending on the master’s program pursued. More credits may be required for the master’s degree if courses (Phase I) are required. Upon the approval of the director of Graduate Programs in Business, 10 credits of School of Law courses may be applied toward the Masters of Taxation degree. No more than six credits from the School of Law may be in non-tax courses. The other four credits taken in the School of Law must be in tax courses which substitute for equivalent tax courses in the CBA.
College of Fine and Applied Arts

Gerard L. Knieter, Ed.D., Dean
Kelcie C. Comer, Ed.D., Associate Dean

M A S T E R ’ S D E G R E E

Home Economics and Family Ecology

A program of study is offered leading to the Master of Arts in Home Economics and Family Ecology degree with an emphasis in either family development or child development. Prior to acceptance in the program, the student must meet the following conditions:

- The general requirements for admission to the Graduate School.
- 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:

- Complete the course of study in one of the two options: child development or family development with a minimum of 40 credits. These credits will include:
  - foundation courses to prepare the student for research in home economics and family ecology as a discipline;
  - core courses in the area of specialty;
  - electives selected from within the department or from another discipline to strengthen student's professional goals. These courses will be selected in consultation with and approval from the student's graduate faculty adviser.
- 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. A written proposal for the thesis or internship option must be submitted at the completion of approximately 20 credits of graduate study.
- Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.
- Apply for advancement to candidacy upon successful completion of 25 credits of graduate study, the written comprehensive examination and an approval prospectus for a thesis or internship.
- Pass an oral examination covering the thesis or internship report.

Foundation Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:600</td>
<td></td>
</tr>
<tr>
<td>7400:675</td>
<td></td>
</tr>
</tbody>
</table>

One graduate-level research course to be approved by the adviser.

Suggested courses include:
- 3850:604 Social Research Design
- 3980:600 Basic Analytical Research
- 5100:640 Techniques of Research

- Internship or Thesis (select one):
  - 7400:695 Internship—student must have 7400:295
  - 7400:699 Thesis

CRITERIA FOR GRADUATION

- Select 15 credits from the following courses:
  - 7400:395 Adolescence in the Family Context
  - 7400:500 Organization and Supervision of Child Care Centers
  - 7400:586 Parenting Skills
  - 7400:605 Developmental Parent-Child Interactions
  - 7400:612 Infant and Child Nutrition
  - 7400:660 Programming for Child Care Centers
  - 7400:690 Development in Infancy and Early Childhood

- Electives—nine credits.
Music History and Literature Option

- Core courses — 16 credits.
  7500:555 Advanced Conducting 2
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance 2
  7500:622 Historical Survey: Music of the Baroque 2
  7500:623 Historical Survey: Music of the Classic and Romantic Eras 2
  7500:624 Historical Survey: Music of the Twentieth Century 2
  7500:697 Advanced Problems in Music 8
  7510 — Ensemble (participation in two, one-hour ensembles required) 4-6

- Electives — four to six credits.
  7500:553 Advanced Problems in Music 4
  7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  7500:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss) 2
  7500:619 Theory Pedagogy 2
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance 2
  7500:622 Historical Survey: Music of the Baroque 2
  7500:623 Historical Survey: Music of the Classic and Romantic Eras 2
  7500:624 Historical Survey: Music of the Twentieth Century 2
  7510 — Ensemble (participation in two, one-hour ensembles required) 4-6

- Electives — four to six credits.
  7500:698 Thesis Research/Recital Document 4-6

Performance Option

- Core courses — 16 credits.
  7500:555 Advanced Conducting 2
  7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  7500:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss) 2
  7500:619 Theory Pedagogy 2
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance 2
  7500:622 Historical Survey: Music of the Baroque 2
  7500:623 Historical Survey: Music of the Classic and Romantic Eras 2
  7500:624 Historical Survey: Music of the Twentieth Century 2
  7510 — Ensemble (participation in two, one-hour ensembles required) 4-6

- Electives — four to six credits.
  7500:698 Thesis Research/Recital Document 4-6

Theory Option

- Core courses — 16 credits.
  7500:555 Advanced Conducting 2
  7500:615 Musical Styles and Analysis I (Chant through Palestrina) 2
  7500:616 Musical Styles and Analysis II (Baroque through early Beethoven) 2
  7500:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss) 2
  7500:619 Theory Pedagogy 2
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance 2
  7500:622 Historical Survey: Music of the Baroque 2
  7500:623 Historical Survey: Music of the Classic and Romantic Eras 2
  7500:624 Historical Survey: Music of the Twentieth Century 2
  7510 — Ensemble (participation in two, one-hour ensembles required) 4-6

- Electives — four to six credits.
  7500:698 Thesis Research/Recital Document 4-6

Communication

The Department of Communication offers the Master of Arts degree in a coordinated program of communication arts. The program is as follows:

- Meet the general requirements for admission to the Graduate School.
- Have undergraduate course work required for a major in the chosen area of concentration. Complete a thesis, project/production. The student may enroll for thesis credit only after passing all parts of the written comprehensive examination and completing an acceptable thesis prospectus.
- Complete a written qualifying examination over departmental course work taken before advancement to candidacy. At the completion of 24 credits of work, the student should contact the director of graduate studies to arrange the examination.
- Earn a minimum of 32 semester credits plus one to four credits for the thesis, project/production.

The program is as follows:

- Core
  7600:600 Introduction to Graduate Study in Mass Media-Communication 6
  7600:603 Empirical Research in Mass Media-Communication 3
  7600:624 Survey of Communication Theory 3
  7600:625 Theories of Mass Communication 3
  7600:670 Communication Criticism 4

*It is recommended that each student's graduate committee recommend the appropriate elective credits.

**It is recommended that each student's graduate committee recommend the appropriate elective credits.
Theatre

The following will qualify the student in the field of theatre.

- Complete the general requirements for admission to the Graduate School.
- Complete an undergraduate major in the area of proposed graduate work or equivalent work as approved by the coordinator of the graduate theatre program.
- Complete a minimum of 36 credits, including 7800:500 and 7800:699, from the following courses or approved courses in the cognate field.

- Complete the Thesis/Project/Production:
  - Thesis/Project/Production: Arts Management • Complete
  - Thesis/Project/Production: Theatre • Complete

- Electives and Departmental electives - 10 credits.

- Select credits.

Communicative Disorders

This program, leading to the M.A. in Communicative Disorders, is designed to lead to professional certification by the American Speech-Language-Hearing Association (ASHA) in speech pathology and/or audiometry. To enter the program:

- Complete requirements for admission to the Graduate School.
- Hold an undergraduate major in the area of proposed graduate specialty or complete undergraduate work within one calendar year of application.
- Complete department requirements for admission which include submission of three letters of recommendation and Graduate Record Examination Aptitude Test results.
- Declare intent to major in either speech pathology or audiology.

Speech pathology majors are accepted upon meeting requirements. Audiology majors are limited to the number who can be adequately serviced with existing faculty, facilities, equipment and practicum sites. Applications will be ranked and offers of admission made to the most qualified. Audiology majors will only be admitted during the fall semester. Deadline for applications is March 1 of the preceding academic year.

Degree Requirements

- Complete a course of study with a minimum of 34 credits, including thesis - or with a minimum of 38 credits in the non-thesis option. The student anticipating dual ASHA certification in speech pathology and audiology may need to complete eight or more credits in the non-thesis option. Academic requirements within the department include:

  - 7700:611 Research Methods in Communicative Disorders I
  - 7700:612 Research Methods in Communicative Disorders II

- Two credits must be taken from the following:
  - 7700:651 Advanced Clinical Practicum: Voice
  - 7700:652 Advanced Clinical Practicum: Fluency
  - 7700:653 Advanced Clinical Practicum: Diagnostic Audiology
  - 7700:654 Advanced Clinical Practicum: Articulation
  - 7700:655 Advanced Clinical Practicum: Language
  - 7700:657 Advanced Clinical Practicum: Rehabilitative Audiology

- The student must take four credits of 7700:695. Internship in Communication Disorders.

- The student must take four credits in speech pathology. The speech pathology major must take four credits in audiology. It is recommended that the speech pathology major elect 7700:690 Advanced Clinical Testing as the first of the audiology courses.

- The following limitations on work toward the degree may be exceeded only with approval of two-thirds of the department's graduate faculty:
  - no more than four credits of workshop courses;
  - no more than six credits of directed study coursework (including 7700:697);
  - no more than six credits taken in disciplines other than communicative disorders.
- The student may not apply for special non-degree status through the Department of Social Work.
- Only 15-20 credits of clinical practicum credit (four credits of externship plus three credits of in-house practicum) may be applied toward completion of degree requirements. Although the student may wish, or be required, to repeat one or more of these practica, the student must be registered for at least one credit of clinical practicum during each academic period in which they are involved in an academic practicum.

Social Work

There is no graduate degree in social work. A student interested in course work may enroll if admitted to Graduate School through other programs or may apply for special non-degree status through the Department of Social Work. A student should enroll in graduate courses only for specific professional preparation and with the permission of the instructor. Courses presume a background in social welfare institutions, social work practice, social welfare policy and history. Inquiries should be directed to the head of the department.
College of Nursing

Lillian L. DeYoung, R.N., Ph.D., Dean
Phyllis Fitzgerald, R.N., Ph.D., Assistant Dean, Undergraduate Program
A. Jeanne Hoffer, R.N., Ed.D., Assistant Dean, Graduate Program
Carol A. Armbrecht, R.N., M.S., Director, Continuing Education

MASTER OF SCIENCE IN NURSING

Philosophy
The philosophy of graduate education in nursing evolves from the undergraduate philosophy. Undergraduate education’s primary focus is man, the individual within the family. The undergraduate program prepares a nurse generalist who provides health care to individuals, families and groups in any setting. The focus of graduate education is the family unit comprised of individuals viewed as enfamilied selves. In undergraduate education health is viewed on a continuum of health/diminished health and as a purposeful interaction with ecological variables which seeks to maintain a state of well-being. In graduate education health is viewed as an evolving process which occurs throughout the lifespan of enfamilied selves in interrelationship with the ecosystem. Family health is perceived as expansion of consciousness of enfamilied selves.

Undergraduate education prepares a generalist who is capable of practicing in any environment and provides a foundation for research, continued study and leadership. Graduate education prepares a family health nurse specialist who implements the role of family health nurse by assisting families to experience health in any environment and who generates family health nursing knowledge through research. This educational process provides the foundation for doctoral study in nursing. Graduate education prepares this specialist for leadership in administration, education and/or direct care with families. Graduate education focuses on man’s interaction with ecological variables whereas graduate education focuses on the family as a unit within an ecological-phenomenological perspective.

Assumptions from theories of ecology and phenomenology provide an ecological-phenomenological perspective. The ecological-phenomenological perspective provides the framework for graduate education to prepare family health nurses to assist families in sustaining that quality of life which enables them to survive and prevail. From an ecological-phenomenological perspective the faculty views families within a macro-ecosystem, a meta-ecosystem and a micro-ecosystem; and perceives the phenomena of the family ecosystem in terms of the intentionality of consciousness of enfamilied selves as reported by family members.

The faculty believes that family health nurses, using an ecological-phenomenological perspective, evolve a dialectical process of family health. Using an ecological-phenomenological perspective the faculty perceives family health as an expansion of consciousness. Consciousness is viewed as five domains of living: valuing, thinking, feeling, acting and intuitional. Expansion of consciousness is viewed as a dialectical process which encompasses thesis of being, antithesis of doing and synthesis of becoming. Intentionality is viewed as those motives and goals that lead to expansions of consciousness. Intentionality signifies that enfamilied selves encounter a world that is meaningfully structured. Forms of intentionality include the “we” relationship, a reciprocity of perspectives, and a dynamic of time, space and motion. The faculty believes the family unit is a single entity regarded as a whole and is comprised of kinship ties which act as support system for one or more enfamilied selves. The enfamilied self is viewed as an individual family member who is given personal identity and validation within the family ecosystem. The family unit is perceived as a finite province of meaning.

The faculty believes that family health nursing is a process whereby the nurse and the family co-create a climate for experiencing a dialectical process of health. Family health nurses, using an ecological-phenomenological perspective and evolving a dialectical process of health, view families as a unit and components of families as enfamilied selves. Family health nurses, with families and enfamilied selves, experience the dialectical process of health, through health appraisal, anticipatory dynamics, stress management, health learning and enfamilied self-care. Leadership in education and direct care with families is a process whereby the family health nurse in interrelationship with others co-constitutes an ecosystem to enable others to sustain a sense of self.

Characteristics of the Graduate
Graduates of the program shall be able to:

- Value the ecological-phenomenological perspective, the dialectical process and the concepts health, family, family health, enfamilied self and leadership.
- Evaluate health with families and enfamilied selves through health appraisal, anticipatory dynamics, stress management, health learning and enfamilied self care.
- Actualize the leadership role in administration, education and/or direct care with families.
- Generate family health nursing knowledge through research.
- Pursue doctoral study.

Admission

Admission Policies
The applicants for admission to the graduate program must:

- hold a current Ohio state license as a registered nurse;
- have a baccalaureate degree in upper division nursing from an NLN accredited school of nursing, or hold an advanced degree from an accredited university, or hold a nursing baccalaureate or master’s degree from a foreign university which is recognized by The University of Akron;
- hold a grade point average of 3.0 on a 4.0 scale or the equivalent from the undergraduate program. An advanced degree will take priority over undergraduate GPA;
- have satisfactorily completed Statistics for the Health Sciences course, an elementary course in research methodology or equivalent, and a basic physical assessment course;
- have three letters of reference in relation to professional competence, personal adjustment and commitment to the nursing profession from:
  a. a recent employer,
  b. a member of the nursing profession who can attest to the applicant’s scholarly abilities,
  c. a former college or school faculty member;
- Write a 300-word essay describing professional goals, nursing research interests and reasons for seeking Family Health Nursing education at The University of Akron.

A registered nurse who has a baccalaureate degree in a discipline other than nursing, and a registered nurse with a baccalaureate degree in nursing from a non-accredited baccalaureate program, as well as other persons who do not meet the above criteria will be considered for admission on an individual basis;

The admissions committee may consider certain applicants at its discretion to be enrolled in the program based upon prior arrangement made between the department and prior applicants admitted as special non-degree students prior to 1985.
Grade-Point Average
- An applicant with a grade-point average of 3.00 or better in an undergraduate program will be granted Full Admission.
- An applicant with an undergraduate grade-point average of 2.75-2.99 will be admitted as special non-degree as defined in the Graduate Bulletin.

Admission Procedures
The student secures application for Graduate School from the Office of the Dean of Graduate School. The University of Akron. Criteria for admission, forms for references, etc. may be secured from the director of the graduate program, the College of Nursing. The director of the graduate program along with the administrative assistant will review all applications for completion.

An admissions committee will meet and review all applications and make recommendations to the director regarding the status accorded the graduate program, the admission process, and provides instruction in direct care with families.

The student secures Admission to the graduate program.

The University of Akron.

Instructional Program
The Family Health Nursing program is one and one-half academic years and provides instruction in direct care with families, research and a leadership role.

Nursing Core
All students receive instruction in the theoretical base from within the ecological-phenomenological perspective. The Core consists of 14 credits which span both years of the curriculum. All students will take 8200:603 Theoretical Basis for Family Health Nursing, 8200:619 Family Health Appraisal; and 8200:621.2 Family Health Nursing I and II.

Nursing Research
All students will enroll in a research core for a total of seven credits: 8200:613 Nursing Inquiry, and 8200:699 Thesis Research taken over the one and one-half years serve as a basis for understanding of research throughout the program. Statistics for the Health Sciences is a prerequisite for Nursing Inquiry.

Leadership Role
Options are provided for study in a leadership role, education, administration or direct care with families.

Eleven credits are allocated to the leadership role which include: seminar, practicum, colloquium and two support courses.

Electives
One elective is provided in the curriculum. Students will choose a minimum of three credits free elective. A student is required to take a minimum of seven credits in the total program. Additional credits will provide an opportunity to individualize and strengthen the major. A four hour statistics course is a prerequisite to Nursing Inquiry.

The following courses are required of all students:

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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>8200:603</td>
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<tr>
<td>8200:613</td>
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<tr>
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<td>8200:623</td>
<td>4</td>
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<tr>
<td>8200:689</td>
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Select one of the following three areas:

- Direct Care
  - 8200:680 Family Health Nursing Leadership Seminar: Direct Care With Families 3
  - 8200:681 Family Health Nursing Leadership Practicum: Direct Care With Families 3
- Two of the following:
  - 8200:624 Nursing of Families with Children 3
  - 8200:626 Nursing of Families with Adult Members 3
  - 8200:628 Health Perspective of the Expanding Family 3
  - 8200:671 Nursing of Families with Older Members 3
  - 8200:675 Culture, Ethnicity and Health Care 3
  - Elective 3
- 8200:699 Thesis Research 1-4

- Educational
  - 8200:685 Family Health Nursing Leadership Seminar: Education 3
  - 8200:686 Family Health Nursing Leadership Practicum: Education 3
- Two of the following:
  - 5100:600 Philosophies of Education 3
  - 5100:642 Topical Seminar: Management and Evaluation 3
  - 8200:625 Teaching Strategies in Nursing Education 3
  - Elective 3
  - 8200:699 Thesis Research 1-4

- Administration
  - 8200:629 Financial Management for Nursing Administration 3
  - 8200:630 Human Resources in Nursing Settings 3
  - 8200:687 Family Health Nursing Leadership Seminar: Administration 3
  - 8200:688 Family Health Nursing Leadership Practicum: Administration 3
  - Elective 3
  - 8200:699 Thesis Research 1-4

Cooperative Statement
This program is in cooperation with Kent State University, School of Nursing, where a student has the option to take cognate or nursing electives and utilize library facilities.
School of Law

Donald M. Jenkins, B.A., J.D., Dean
Richard L. Ayres, J.D., Associate Dean
Robert C. Sullivan, M.Ed., Assistant Dean for Placement and Internal Functions
Constance L. Leistiko, J.D., Assistant To The Dean, External Programs

HISTORY
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, as well as 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, housed in the C. Blake McDowell Law Center on the University campus, has access to resources in state and federal courts, local law enforcement agencies and corporate headquarters. An integral part of a distinguished University founded in 1870, the School of Law benefits from the nine major divisions of the University, the Graduate School and the more than 24,000 students.

Enrollment in the School of Law is approximately 640. Thus, the opportunity for active student participation in the classroom, consultation with faculty members and extracurricular participation is facilitated.

In addition to being a member of the Association of American Law Schools, The University of Akron School of Law is fully accredited by the American Bar Association, the State of New York Court of Appeals, the Council of the North Carolina State Bar and holds a charter membership in the League of Ohio Law Schools.

The School of Law offers a day program for the study of law with classes scheduled during the hours of 8:30 a.m. and 4:30 p.m.; an evening plan of the study of law for the working student with classes scheduled primarily between 6:30 p.m. and 9:30 p.m.

The schedule of courses for the day division is designed so that the degree of Juris Doctor may be earned in three academic years consisting of six semesters. Attendance at summer sessions is optional.

The schedule of courses for the evening division is designed so that the degree of Juris Doctor may be earned in four academic years consisting of eight semesters and three summer sessions.

Each student is recommended for the degree of Juris Doctor upon satisfactory completion of the requirements.

OBJECTIVES
The purpose of the School of Law is to further the goals of The University of Akron by providing a quality program of university education for law and to pursue the following aims:

- To prepare the student 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 the student an active and critical attitude rather than a passive approach toward the rules of law and their social implications.
- To develop in the student 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 primary purpose of the student enrolling in the School of Law is to obtain a fundamental knowledge of law and the role of law in society, interlaced with a grasp of the public responsibilities of the lawyer. This course of study will enable them to become attorneys and counselors 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 society's future.

The student is trained to develop 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 management of litigation.

C. BLAKE McDOWELL LAW CENTER

The C. Blake McDowell Law Center is a modern, attractive law school building on the University campus. The law center is designed to facilitate the study of law both academically and clinically by its proximity to state and federal courts, law enforcement agencies and corporate headquarters.

The law center is named in recognition of Mr. C. Blake McDowell, a practicing attorney and 1911 alumnus of the University. Through his great leadership and interest, Mr. McDowell worked unflaggingly toward the creation of a law school at the University which resulted in the merger of the Akron Law School with the University in 1959.

ADMISSIONS INFORMATION

Pre-legal Education
A student seeking admission to the School of Law must hold a baccalaureate degree granted by an accredited institution of higher learning. Requirements are flexible for undergraduate study preceding legal education. However, your college record and Law School Admission Test score must demonstrate that you are highly qualified for law study.

A student entering law school must have completed a course of study encompassing a broad cultural background also including intensive work in a selected field of study. The pre-law student must demonstrate the ability to communicate easily, to understand people and institutions; to gather and weigh facts; and to solve problems and think creatively. A mastery of the English language is essential and the entering student should be able to read with comprehension and be able to express clearly and concisely in both oral and written fashion.

Requirements
An applicant for admission desiring to become a candidate for the degree of Juris Doctor must be of good moral character. 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 a degree, must have been earned prior to the time the applicant begins work in the law school.

The school, through an Admissions Committee, is seeking law students of demonstrated academic ability as evidenced in part by LSAT scores and the undergraduate grade-point average (GPA). The school will be looking beyond the LSAT and GPA for special qualities in its applicants for 100 day-division openings and 100 evening-division openings.
The law school seeks law students with diverse backgrounds. In this regard, consideration is given to ethnic and economic factors, advanced degrees, significant work experience and extracurricular and community activities during and after the college years. The growth and maturity of the applicants and their commitment to law study are significant concerns.

**Procedures**

Applicants for both day and evening should apply and complete applications as soon as possible after October 1 in the year preceding the start of fall classes. Review of completed files will begin in January and students will be admitted until the classes are filled. After that time, acceptable applicants will be placed on a waiting list. The school estimates 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 the 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.

In cases where specific questions on an application arise, a personal interview with the associate dean may be necessary or may be requested by the applicant.

Letters of recommendation are not necessary. However, if points relevant to academic or personal background are not addressed in the application material, they may be added to the applicant's file for review.

**Application Procedures**

Submit to the School of Law:

- Application for Admission form (available upon request from the Law School).
- A non-refundable application fee of $25 if never previously enrolled for credit courses at The University of Akron (check or money order payable to The University of Akron).
- A Law School Application Matching form obtained with LSAT/LSDAS material.
- Application to take the Law School Admission Test (LSAT).
- Application for the Law School Data Assembly Services (LSDAS). The application for LSAT/LSDAS is available upon request from LSAS, Box 2000, Newtown, PA 18940.
- Applicants are urged to take the LSAT as early as possible and preferably October or December for day applicants, October, December or February for evening applicants.

If accepted for admission a student must file with the School of Law: a final official transcript, 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 student 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 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 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.

A student admitted to the Juris Doctor degree program is requested to file the official transcript only after receiving written notice of 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.

All inquiries and correspondence pertaining to admission should be sent to:

Associate Dean
School of Law
The University of Akron
Akron, OH 44325
Phone: (216) 375-7331

**Reapplication**

Applicants who have previously applied for law school and have not attended must comply with all the above procedures. The LSAT does not need to be repeated but depending on the test results, you may want to retake the test. In addition to the application and the $25 non-refundable fee, a current LSDAS report must be sent to the School of Law.

**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 of the 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 (including LSAT/LSDAS) of The University of Akron School of Law; (3) present an official transcript of all work completed at the previous law school; (4) submit a non-refundable fee if never previously enrolled for credit courses at The University of Akron. Credit to be given for the prior law school work shall be determined by the dean of the School of Law.

**Auditing**

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.

**Transient Students**

A law student who is currently enrolled at a School of Law on the approved list of the Section of Legal Education and Admissions to the Bar, American Bar Association, may enroll for specified courses in the School of Law upon receipt of a completed Transient Application form (which requires written permission of the applicant's dean) and application fee (if applicable) subject to availability of space in specified classes.

**Joint Degree Programs**

To pursue the J.D./M.B.A. or the J.D./M.Tax programs, the student must apply to and be accepted by both the School of Law and the Graduate School of the College of Business Administration. The applicant is also required to take both the LSAT and the GMAT. Individuals with baccalaureate degrees in any field of study are eligible to apply for a joint program.

A brochure describing the program in more detail and an application form are available from the School of Law or from the College of Business Administration. A more detailed description of the program can be found in the College of Business Administration, Graduate School in this Bulletin.
ACADEMIC INFORMATION

Requirements

Requirements for the Degree Juris Doctor
The School of Law offers two programs leading to the degree Juris Doctor. The curriculum for a day student is designed so that the degree may be earned in three academic years consisting of six semesters. Attendance at the Summer Sessions is optional.

The curriculum for the evening student is designed so that the degree of Juris Doctor may be earned in four academic years consisting of eight semesters and three summer sessions. The Summer Sessions are an integral part of the evening program.

Except in certain exceptional cases, the day student is not permitted to take evening class, likewise an evening student is not permitted to enroll in day class without the permission of the dean.

In addition, in exceptional cases the dean may authorize a student to take a reduced course load under either curriculum and stretch studies over the time prescribed for each program.

A new student is admitted at the beginning of the fall semester only.

Joint Degree Programs
The School of Law and the College of Business Administration offer a joint degree program in legal and administrative studies (J.D./M.B.A.) and a joint program in legal and taxation studies (J.D./M.Tax). These combinations are of interest to a student preparing for a career in such areas as private practice, corporate law, tax accounting and government. The total amount of time required to complete a joint degree program is less than the time required to complete both programs independently since certain courses in one college fulfill course requirements in the other college.

Degree Requirements
The degree of Juris Doctor is conferred upon a student of good moral character who has been recommended by the dean and faculty of the School of Law and who has:

• Completed satisfactorily all required courses, seminars and electives to earn at least 84 credits.
• Completion of a program involving extensive research and legal writing.
• Met the residency requirement of 96 weeks for the day division or 144 weeks for the evening division.
• Attained at least a 2.00 average for all courses taken and additionally, at least a 2.00 average for the senior year.
• Spent their last year at the University unless excused by a dean.

Library
The primary tool of the attorney is the written word. Thus, books take on an added importance when one undertakes a study of the law. The incoming student will soon discover that an essential portion of time and energy will be expended within the law school library.

The library has a fine collection of more than 142,000 volumes in an attractive and pleasant reading room. The library has all the basic legal materials for conducting legal research in all fifty states and in federal practice. Extensive materials are available for research in many subject areas of the law. The library subscribes to the series of records and briefs of the Ohio Supreme Court and the United States Supreme Court. Audio tapes, video tapes and microforms are also available for use in many related areas of study.

The library is a federal government depository giving the student access to law-related publications of the federal government. The latest addition to the library is an online computer terminal for accessing legal data bases. This tool of the law office of the future is available now.

Five professional librarians (two with both a law degree and a master’s degree in library science), five staff and a dozen assistants are available.

To supplement the collection are the University libraries with more than one million volumes freely available to all students and a computer terminal linking the law library to 2,300 other libraries with more than seven million titles which may be borrowed.

Curriculum
The curriculum includes foundation courses of common law origin, public law and those of a procedural nature, as well as perspective and planning courses. Law is studied by the case, problem, seminar and clinical methods. Clinical training is achieved through basic and advanced seminars which involve student participation in the work of the various legal aid, public defender, prosecutor’s offices, as well as other agencies. The aim of this program of study, in addition to developing social awareness, is to train the student for technical competency, professional responsibility and for the practice of law in any common law jurisdiction.

The Law School faculty, to assist the student in planning a course selection that may be used to meet individual professional objectives while attending Law School here, adopted a suggested track system. In addition, the primary purpose of the suggested tracks is to identify when courses will be offered in the future. Tracks have been developed for the following: required and bar courses, business, litigation and tax.

Day Program

First Year, Required

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<td>Contracts I</td>
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<tr>
<td>Torts I</td>
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<td>Legal Research</td>
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<td>Basic Legal Communications</td>
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<td>Intermediate Legal Communication</td>
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<td>Property II</td>
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Evening Program

First Year, Required

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<td>Legal Profession</td>
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<tr>
<td>Torts II</td>
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Writing Program

The tools of the practicing lawyer are oral and writing skills. As an incoming law student, experience will be gained in using and improving these skills. All first-year students take a course in legal research and advocacy. During the year the student learns to use the specialized research mate-

The course work for the first year is prescribed and provides essential framework for subsequent study.
rials of the law, gains experience using the latest computerized legal data bases, is supervised in a writing experience and has a chance to present written and oral arguments before a mock court.

A second year student is enrolled in the appellate advocacy courses. There, a student reads a transcript, identifies and briefs the issues and presents oral argument. This exercise closely simulates a true appellate experience. In the final year, the student takes an intensive, advanced legal writing course which concentrates on drafting of statutes, pleadings and other legal documents.

Subsequent experiences in writing are met through seminar, paper assignments for courses, individual studies, moot court briefs, law review or clinical experience. Opportunities are provided to exercise verbal skills thus enabling the student to become a successful advocate.

### The Akron Law Review

A board of student editors prepares and edits, with the advice of the dean and faculty, *The Akron Law Review*, a quarterly periodical devoted to legal research and commentary on the law. Membership on the board is limited to the student of superior academic achievement or of demonstrated writing skill who desires to engage in legal research, analysis, writing and editorship. Membership on the board of student editors is indicative not only of scholarship, but of valuable training in skills important to the profession of law.

### Standards of Academic Work

#### Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td></td>
<td>3.70</td>
</tr>
<tr>
<td>B+</td>
<td></td>
<td>3.30</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td></td>
<td>2.70</td>
</tr>
<tr>
<td>C+</td>
<td></td>
<td>2.30</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td></td>
<td>1.70</td>
</tr>
<tr>
<td>D+</td>
<td></td>
<td>1.30</td>
</tr>
<tr>
<td>D</td>
<td>Poor</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>Failed</td>
<td>0.70</td>
</tr>
<tr>
<td>IP</td>
<td>In Progress</td>
<td>0.00</td>
</tr>
<tr>
<td>PI</td>
<td>Permanent Incomplete</td>
<td>0.00</td>
</tr>
<tr>
<td>AUD</td>
<td>Audit</td>
<td>0.00</td>
</tr>
<tr>
<td>CR</td>
<td>Credit</td>
<td>0.00</td>
</tr>
<tr>
<td>NC</td>
<td>Noncredit</td>
<td>0.00</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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

A grade-point ratio of less than 2.00 is unsatisfactory. After the first year, a law student whose scholarship is unsatisfactory will be either 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 with advice of the Faculty Academic Committee. Written petition for reinstatement should be addressed to the dean.

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 the 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.

#### Graduation with Honors

The School of Law awards Juris Doctor degrees with distinction in conformity with the present grade point average standards for the University. The following standards are applicable to students who entered the School of Law prior to January 1982:

<table>
<thead>
<tr>
<th>Honor</th>
<th>Overall Grade-Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3.75 or higher</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>3.50 through 3.74</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>3.25 through 3.49</td>
</tr>
</tbody>
</table>

By University Council action of December 3, 1981, new criteria were established for graduation with honors. The new criteria are applicable to students entering the University (School of Law) January 1982 and thereafter. The criteria are:

<table>
<thead>
<tr>
<th>Honor</th>
<th>Overall Grade-Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3.80 or higher</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>3.60 through 3.79</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>3.40 through 3.59</td>
</tr>
</tbody>
</table>

#### Withdrawal From a Course

A student may withdraw from a course for any reason up to the mid-point of a semester or summer session with the signature of a dean.

After the mid-point of a semester or a summer session, but prior to the last week of classes, a student must have the written approval of both instructor and dean. Should either refuse to sign the withdrawal form, the student may appeal to the dean of the School of Law who shall make the final decision. For complete withdrawal from the law school, a student must have written permission from a dean.

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.

#### 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. The entering students will receive a copy of the Honor Code.

#### Faculty Research Assistance

The student showing scholarship is given the opportunity to work with faculty members who are conducting research. This experience improves writing and research skills, gives the student the opportunity to be involved in research on the leading edge of legal knowledge and fosters learning in a non-classroom environment.

#### Enrollment in Courses in Other Colleges of the University

A student interested in taking courses in other colleges of the University may do so upon written consent of the dean. The study of law is considered a full-time pursuit, so each request is considered on an individual basis and in no case may a student use more than six credits earned outside of the law school for Juris Doctorate degree requirements.
Clinical Training and Public Services
The University of Akron School of Law, in recognition of the need to prepare adequately the student for future roles as an attorney, has created an urban clinical program, as described below.

Appellate Review Office
The vast bulk of the student-oriented, public service activities offered by the School of Law emanate from the Appellate Review Office. It is staffed by attorneys and six to eight student staff members. The student becomes eligible to work in the office after completion of the first year and receives either an hourly wage or academic credit.

As the office name implies, most of the work done involves postconviction representation. The office staff has perfected appeals in the State Courts of Appeal, the Supreme Court of Ohio, all of the Ohio Federal Courts and the United States Supreme Court.

One unique characteristic of the office is the substantial responsibility each student has for assigned cases. The student is responsible for doing the research, preparing drafts, compiling the final briefs and corresponding with the courts and other attorneys. The school has established this program with the goal of giving the conscientious student the opportunity to experience the practice of law in a supervised environment.

In addition to the Appellate Review Office, there are other associated activities where a student may experience the full gamut of legal problems.

Domestic Relations
Under supervision of a staff attorney, the law student with a legal intern certificate represents indigent persons with domestic relation problems (e.g., dissolutions, divorces, child custody and support). The student has primary responsibility for the gathering of information, drafting of pleadings and court representation of the client.

Landlord-Tenant
Many people are becoming enlightened about their rights as tenants, and the need for quick and effective legal representation in this field affords the student the opportunity to represent clients at the inception of the case. The student has primary responsibility for fact gathering, which may entail on-site investigation, counseling and strategy planning.

Inmate Assistant Project
This is a student-run program unique in the state of Ohio. Participants travel to and conduct interviews with prison inmates attempting to resolve their criminal and civil law problems. The student is encouraged to participate in this program from the beginning of law school. Participation involves travel to either the reformatory for men or women, interviewing of inmates and follow-up on legal problems.

Clinical Seminar
The student interested in experiencing the operations of public agencies may sign up to work in outside agencies, for credit. The student is assigned to various agencies, such as the County and City Prosecutor’s Offices, County Public Defender’s Office and the County Legal Aid Office. At placement, the student is able to see the inner workings of these offices while gaining a rich variety of knowledge. In coordination with this clinic, a course is taught which emphasizes the learning of interviewing and client-counseling techniques.

Moot Court Programs
To develop the dual skills of advocacy, oral prowess and brief writing, the student is encouraged to participate in the several moot court programs within and outside of the school. These programs enable the student to learn and polish the skills of legal writing and oral advocacy through the vehicle of “moot” or academic problems. The student is encouraged to participate in any of the following programs.

National Moot Court
During the first year of studies, the student is given bids to try out for the law school’s National Moot Court Team, based on that person’s performance in the legal writing and research courses. A student is selected to represent the school in the national and regional competitions during the second and third academic year on the basis of a presentation in an intramural competition.

Voluntary Moot Court
For the student who does not participate in the National Moot Court Program, Voluntary Moot Court is available in the spring of each year. In this activity the student is given a “moot” problem, asked to prepare briefs and present oral argument against fellow students. The highlight comes in the final round when the competitors are evaluated by judges from the State Court of Appeals.

Jessup International Law Moot Court Competition
The student interested in exploring international law on an appellate level competes on a national scale in this competition. Problems are always relevant and timely.

Bar Admission
Each student entering the School of Law is encouraged to read the rules for bar admission for the state in which the student intends to practice law. This information is available from the various state supreme courts. In addition, the information is on file in the library.

For the student interested in practicing in the state of Ohio, the Supreme Court of Ohio requires that each student entering a law school who intends to practice law in Ohio file within 120 days from the beginning day of the fall term after initiating studies:

- An application for registration as a law student.
- Evidence of meeting the pre-legal educational requirements established by the Rule.
- A legible set of fingerprints on a prescribed form.
- A filing fee of $30.

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.
- Present a certificate from the School of Law stating that the student has completed or will complete all courses required by the Rule.
- A filing fee of $60.

The appropriate Ohio forms may be obtained from the School of Law on request.

It is the responsibility of the student to initiate a request for, execute properly and file timely, the requisite forms to the state in which the student intends to practice law.

Enrichment Programs
The school is firmly committed to the belief that the quality of legal education, both within the school and in the legal community as a whole, is enhanced by the free exchange of ideas on matters of contemporary importance.

Law Day Speaker Program
The law school has sought to bring in individuals who may have particular insight into issues facing the legal community.

The longest running program is the Law Day Speaker, in which the Student Bar Association and the Akron Bar Association, jointly bring to campus a speaker of national stature to present a public address on an issue of concern to those involved in the study and practice of law.
Annual International Law Symposium
Each year since 1972 the school and the International Law Society have sponsored a two-day International Law Symposium. Participants in the program are internationally known experts within the field. The proceedings are published each year in a subsequent edition of the Akron Law Review.

Special Seminars
In addition, the Student Bar Association has conducted special seminar programs throughout the year. These programs have included:

- American Civil Liberties Union’s involvement in Skokie, Illinois march by the American Nazi Party — its first amendment implications and other topics.
- Prisoners’ Rights Seminar
- Evidence Seminar — hearsay rule, and the art of cross-examination
- Proposed revisions of the Federal Criminal Code

The Student Bar Association has also sponsored visits by distinguished lecturers on various political, social and legal aspects of our society.

The BFGoodrich Company Chair of Law
The BFGoodrich Company endowed a Professorial Chair of Law in International Transactions and Relations.

Its aim is to assist in the training of a law student as a counselor in business, government and private practice in international business transactions, and 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. Professor Hamilton DeSaussure is the holder of the BFGoodrich Company Chair of Law.

Honors and Awards

The Akron National Bank 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.

The Bureau of National Affairs, Inc. awards a one year complimentary subscription of The United States Law Week to a graduating student who, in the judgment of the faculty, has made the most satisfactory progress during the senior year.

The Client Counseling Competition, sponsored by Bracton’s Inn and the Student Bar Association, offers an annual prize of a $25 United States 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 Dennis and Company Incorporated Law Book publishers award is presented annually in recognition of superior performance in the Law School’s Moot Court program.

The Lawyers Co-operative Publishing Company and Bancroft-Whitney Company, joint publishers of American Jurisprudence, award to top-ranking students in about 24 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 $300 (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 (display) advocacy skill and professional decorum, as determined by intramural competition.

The Phi Alpha Delta Law Fraternity, International, Grant Chapter, awards annually the Judge Florence E. Allen Memorial Award of a $50 United States Savings Bond to a graduating law student predicated upon merit orius achievements in scholastics, community service and PAD, as determined by a committee chaired by the dean, School of Law.

Prentice-Hall, Inc. provides annually a complimentary subscription to its Federal Tax Guide, edition “A,” to the graduate who has excelled in the study of taxation, as determined by the dean, School of Law.

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.

Scholarships

The Akron Bar Association Auxiliary Scholarship, established by the Akron Bar Association Auxiliary, provides an annual scholarship not to exceed $1,000 to a student in the full-time program of law study. The Akron Bar Association University Scholarship Committee, on the basis of scholarship, legal aptitude, character and need and with the advice of the dean, 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 Professor Hollis P. Allan Memorial Book Fund was established in 1980 in memory of a beloved law professor and is awarded as determined by the dean, School of Law.

The Evan B. Brewster Book and Scholarship Award is funded by income from an endowment fund established in 1978 by Attorney Evan B. Brewster and is awarded to deserving law students, as determined by the dean, School of Law.

The Briner, Catanzarite and Rakas University of Akron School of Law Taxation Scholarship, established in 1978, is awarded annually in the amount of $1,000 to an entering student in the full-time program of law study, on the basis of merit, who was the outstanding graduate of The University of Akron College of Business Administration, from the finance or accounting department, as determined by the dean, School of Law, upon recommendations submitted by the dean, College of Business Administration. The scholarship is not renewable to the recipient.

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, School of Law. The fund is administered by the University Development Foundation.

The Howland Memorial Fund provides Frank C. Howland Scholarships to deserving law students of demonstrated scholastic attainment, as nominated by the dean, School of Law.

The Judge and Mrs. W. E. Pardee Memorial Scholarship is an amount not to exceed $500 awarded annually to a deserving, full-time law student of demonstrated scholarship.

The Judge James G. France Scholarship is a fund established in 1979 by Mrs. France in memory of her husband James France, who gave the School of Law 22 years of distinguished service. The scholarship is awarded to a deserving law student demonstrating scholastic attainment as determined by the dean, School of Law.

The Lee Ferstein Scholarship Fund established by the Akron Education Association (AEA) in 1979 as a tribute to Lee Ferstein, for more than 30 years AEA legal counsel and a former member of the University’s Board of
Activities and Organizations

ARETE, a student-managed publication, publishes a monthly newsletter intended to serve as a forum for law students, faculty and outside opinions on a wide range of contemporary issues related to law and the School of Law. ARETE is open to students after the first year.

The Black American Law Student Association (BALS) was accredited as a law student organization in 1974 and is an affiliate of National BALS, Inc. Dedicated to the twin objectives of increasing minority enrollment and retention, BALS sponsors seminars on subjects such as legal rights of blacks, poor and oppressed people.

Bracon's Inn, styled after the old English inns at Court, is a student-run group having primary responsibility for developing student brief writing and oral advocacy programs. A student may become a member of the inn by engaging in any of the various oral advocacy programs offered during the school year. Among the activities sponsored by the inn are: client counseling, competition, high school mock trial, voluntary mock trial, and Order of Barristers.

The Delta Theta Phi Law Fraternity, Seiberling Senate, 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. A law student in good standing is eligible for membership after the first semester.

The Law School Alumni Association was formed in 1974 and has since supported activities and programs which enhance the quality of education at the School of Law. The association operates in conjunction with the Law Placement Office and assists students and graduates in their placement efforts. Members in the association provide support for various school activities and receive a newsletter, alumni directory and other benefits.

Founded in 1971, the International Law Society emphasizes the study of and active participation in, international law. Interested students are encouraged to join to work toward the development of programming, panel discussions and competitive events highlighting this growing and exciting field of law. The International Law Society co-sponsors the annual International Law Symposium.

The Phi Alpha Delta Law Fraternity, International, Grant Chapter, 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 members. Speakers, workshops, parties, luncheons and the annual used-book sale are among some of the activities sponsored by Grant Chapter. The fraternity welcomes all students in good standing after the first semester.

The Student Bar Association develops innovative educational programming, maintains ties with the legal community through joint ventures and plans the various student social and legal activities throughout the school year. Membership is open to all law school students. The student desiring an opportunity to direct actively the course of student law school involvement is encouraged to seek election to this body.

The Law Association for Women's Rights is concerned with the evolving role of the woman attorney within our legal system, as well as the changing rights of women in the community. This association is of local origin, nonaligned with any national organization. Its membership is comprised of male and female law students and members of the local bar. The group has a multi-faceted approach to achieving its goals, which include providing undergraduate women with law school information, heightening community awareness of women's rights and problems, and providing topical discussion groups.
Research Centers and Institutes; Continuing Education and Public Services
Research Centers and Institutes

Alan N. Gent, Ph.D., Dean, Graduate Studies and Research
Joseph M. Walton, Ph.D., Associate Dean, Graduate Studies and Research
John E. Mulhauser, MA., J.D., Director of Research Services and Sponsored Programs

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 work that is relevant, not on mere knowledge for knowledge's sake. One consequence of the University's concern with relevant research has been the number of interdisciplinary teams that have been put together to tackle specific problems. For instance, problems in connection with water pollution have used the services of chemists, biologists and chemical, mechanical and civil engineers. While the planning and organization of a research project is usually carried out by or with the assistance of a faculty member, both the graduate and undergraduate student have the opportunity to participate, depending on the nature of the project and the skills and knowledge required.

Sponsored research activities on campus are coordinated by the Research Council founded in 1962; it also serves as the policy-making body for research. The council consists of the dean of graduate studies and research, the director of research services and sponsored programs and the directors of the various research institutes.

Institute for Biomedical Engineering Research
Karen Mudry, Ph.D., Director

This institute was established in 1979 to promote interdisciplinary studies in the rapidly growing areas of knowledge which overlap the fields of biology and medicine, on the one hand, and engineering and the physical sciences, on the other. It conducts seminars, courses and degree programs in biomedical engineering in association with the College of Engineering and individual departments.

In addition to its research and educational functions, the institute provides a research service to local hospitals and industry, as well as to private and government agencies. The premise for this program is that the combined resources of the University, Northeastern Ohio Universities College of Medicine and affiliated organizations will often permit more cost-effective solutions than would be possible by an individual or group doing the research independently.

The work of the institute is carried out by faculty of the Department of Biomedical Engineering in association with "members" selected from the faculties of The University of Akron and Northeastern Ohio Universities College of Medicine, as well as from the ranks of area physicians, engineers and scientists. The institute and the department occupy the third floor of the newly renovated Engineering Research Center on the north edge of the campus.

Center for Economic Education
Fred M. Carr, Ph.D., Director

The center exists to improve the economic literacy of individuals to help them function competitively as citizens, producers and consumers.

The center conducts workshops, seminars and economic programs for teachers, students and interested groups. It provides consulting services in the area of economic education and acts as a clearinghouse for the gathering and dissemination of economic education materials and programs. It also fosters an understanding and appreciation of the American economic system.

Center for Environmental Studies
Jim L. Jackson, Ph.D., Director

The Center for Environmental Studies matches the expertise of 95 affiliates in 33 disciplines with the needs of a student seeking study and research opportunities in complex environmental issues. Since its founding in 1970, the center has sponsored, or in other ways supported, activities appropriate to the goal of attaining a quality environment for mankind.

The center coordinates special forums, workshops and seminars that address major issues. Examples include the National Energy Forum, the World Food Forum, the Application of Geologic and Soils Information, workshops on energy, natural history and environmental studies in England also emphasize the interdisciplinary approach to the resolution of issues.

The center provides programs of environmental studies in the Cuyahoga Valley National Recreation Area (CVNRA). These programs are operated through the University's Oak Hill Center for Environmental Studies in the CVNRA. Expertise provided by the Oak Hill Center has benefited thousands of youngsters.

Center for Fire and Hazardous Materials Research
Paul D. Garn, Ph.D., Director
David H. Hoover, B.S.Tech. Ed., Associate Director

One of the oldest problems facing mankind is safety from fire and hazardous materials. Inadequate resources are being devoted to this international problem even as technological advances increase both our hazards and our awareness of hazards in the environment. In the United States, the fire incidence rate per capita is the highest in the world; the fire death rate per capita is almost twice the international average. Many immediate and long-range hazards to health and environment are already recognized, but there are still many suspect materials.

In a unique approach to this problem, the Center for Fire and Hazardous Materials Research brings together University, government and industry in one comprehensive regional center to integrate research, educational programs, fire and hazardous materials training and other applications of technology. The presence on a single campus of all the elements—strong scientific and engineering programs and research, special expertise in polymers, a fire protection technology degree program of high repute, highly skilled media people and an active continuing education program—enables communication of research results not only to the firefighting community but also to the fire safety and design communities.

The principal paths of center activity are threefold:

- Research, conducted through research fellows appointed to the center from University and visiting faculty;
- Education, through the Associate Degree program in fire protection technology, through a certificate program, and through media preparation and;
- Fire and hazardous materials training, through short courses and seminars, in some cases under contract with various municipalities, industries, and agencies.
Institute for Futures Studies and Research

Gary Gappert, Ph.D., Director

The Institute for Futures Studies and Research was established in 1978 to provide a focal point, function as a catalyst and assist in establishing curricula, studies and cross-disciplinary activities dealing with the future. Because of its very nature, the institute encourages involvement and cooperation of faculty and students from a variety of disciplines. Among its major activities, the institute will work with faculty, administration and the University's standing Commission on Institutional Planning and Development to facilitate integration of futures research and awareness with academic programming, planning and decision making.

The institute also plans to involve local business, industry and government in futures studies by establishing a local chapter of the World Future Society to encourage interest in forecasting, trends and ideas about the future.

Center for International Programs

Lawrence J. C. Ma, Ph.D., Director

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 more than 400 foreign students. The University faculty has wide interests and has traveled extensively to various parts of the world. The various colleges of the University have developed programs to give the student 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 a student who will be more knowledgeable about the total world. 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.

Institute for Life-Span Development and Gerontology

Harvey L. Sterns, Ph.D., Director

Center for Organizational Development

Joseph C. Latona, Ph.D., Director

The Center for Organizational Development in the College of Business Administration is an outgrowth of the Institute of Business and Economic Research which was one of the four facets of the Research Council established in September 1962 by the University Board of Trustees. The Institute was renamed in 1975 as its functions had been expanding to fill a community need. The general goal of the center is to update the organizational skills of area managers in all types of organizations and at all levels. The center cooperates with business, government, professional and service groups in evaluating and analyzing their specific needs, designing programs and coordinating programs to meet the particular needs of these groups.

Center for Peace Studies

Warren F. Kuehl, Ph.D., Director

The Center for Peace Studies 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 the student who wishes 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 interested in peace and with institutes and peace centers on other campuses.

Center for Polymer Engineering

James L. White, Ph.D., Director

The Center for Polymer Engineering carries out fundamental and applied research in polymer processing, engineering performance and associated characterization.

The center, founded in 1983, seeks to be a major intellectual and research resource in northeast Ohio. The center maintains up-to-date and futuristic processing and characterization laboratories, with continued interest in development of new processes technology and new materials. Its activities also include organization of scientific symposia and various seminars related to polymer processing and engineering.

Institute of Polymer Science

Frank N. Kelley, Ph.D., Director

The Institute is concerned with basic and applied research in polymers. It was established in 1956 as the Institute of Rubber Research and in 1964 became the Interdisciplinary Institute of Polymer Science. The University's first Ph.D. program in polymer chemistry was started in 1956 and was administered by the Institute until a separate Department of Polymer Science was established in 1967. The Institute maintains extensive laboratory facilities and is the principal organization responsible for external funding of research projects and graduate fellowships in polymer science.

Small Business Institute

Joseph C. Latona, Ph.D., Director

The Small Business Institute was established in 1973 and was the first Small Business Institute funded in Northern Ohio. The Small Business Institute's objective is to offer management assistance counseling to area organizations through the utilization of senior students in the College of Business Administration, working as advisers under the supervision of College of Business Administration faculty. Nearly 300 firms have been serviced by the Institute since its founding. It is an integral part of the Akron/Summit Industrial Incubator project.

Institute for Technological Assistance

Andrew L. Simon, Ph.D., Executive Director

The institute coordinates public service functions of the University that cut across departmental and college boundaries and facilitates the performance of unconventional projects defined by contracts or protocols with foreign or domestic clients. Some of the typical projects in the past included the complete design of curricula and physical facilities of several colleges in the Middle East and the coordination and organization of
American educational visits of South American educators. In a typical current project, the institute coordinates the activities of engineering students who help the National Park Service develop facilities in the Cuyahoga Valley National Recreation Area.

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 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 provides advisory and research expertise in a wide range of areas to both public and private agencies on all levels. 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 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 and Public Services

William A. Rogers, Ed D., Associate Provost and Dean
Kathryn Vegso, M.S.Ed., Associate Dean
William T. Nichols, Ed. D., Assistant Dean

BACKGROUND

Continuing Education and Public Services is a catalyst, bringing together the skills and expertise of University personnel and community members to focus on the issues and problems of the urban society.

Learners from all walks of life can improve or maintain their professional competence, meet the demands of a changing career and prepare to use new skills to improve both personal and professional goals. Through instruction and research, individuals are trained to become specialists in adult development.

The Center for Continuing Education, located in the Lisle M. Buckingham Center for Continuing Education, features courses, conferences and career/life planning services in tune with today's economic, social and health issues.

HISTORY

The University of Akron has a rich history of educating adults. In 1872, Buchtel College's first class was composed of 46 regular college freshmen and 164 preparatory noncredit students, including Civil War veterans. Within a year, Buchtel College enrolled noncredit students in business courses as an outreach venture in Barberton. Adult noncredit education and outreach to the community have remained part of the University basic fabric through the years.

DEFINITION

In 1983, the Ohio Board of Regents defined noncredit Continuing Education as an institutionally sponsored offering which carries no credit toward a degree, e.g., associate, baccalaureate or higher degree. Noncredit does include, however, offerings providing Continuing Education Units (CEUs) or similar certification or diploma. Curriculum categories include:

- Skill Training and Development — Entry Level
- Professional Upgrading and Inservice Programs
- Intellectual Development of the Individual
- Family Living and Management
- Society, Behavior, and Culture
- Recreation, Health, and Fitness of the Individual

Continuing education is a necessity for many persons wishing to improve work skills. For others, it is a leisure-time avocation for personal enrichment. Since 1872, year-round sessions have offered courses in both categories for adults and youth who do not prefer academic credit.

CONTINUING EDUCATION

Department of Noncredit Courses

Sandra B. Edwards, M.A., Director
Mary Elizabeth Chesrown, B.A., Assistant Director

Noncredit courses complement the credit offerings of The University of Akron by providing noncredit courses for a broad spectrum of adult and youthful learners. The department provides learning opportunities in the areas of: professional continuing education, skill development, personal and intellectual development, personal and family living, society and community awareness; and cultural and avocational activities. Courses are offered on campus as well as on-site for business and at off-campus community locations. More than 600 classes based on the educational needs of the community are enrolled each year by adults.

Noncredit course offerings provide a forum for examination of ideas and concepts and provide educational programs which lead to the awarding of Continuing Education Units (CEUs). The noncredit department meets community and regional commitments which expand educational opportunities for area adults and youth.

On-Site Training

Continuing education brings workshops and courses to local and regional business and service organizations to help them make more efficient use of training dollars. One hundred classes are held off campus on-site in business and industry. Program consultants visit the site, discuss the particular work situation, analyze needs and develop a customized training program.

The high quality training and educational programs can be conducted on-site and are designed specifically to meet the requirements of the organization, so costs are always kept under control. Scheduling is done at the organization's convenience, and the instructors are coordinated through The University of Akron.

Continuing Education Units

All courses, seminars and conferences offered through Continuing Education awards Continuing Education Units (CEUs). A CEU is defined as "10 contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction."

The availability of these useful permanent records and official recognition makes the pursuit of knowledge through continuing education more attractive and satisfying as a way of personal and professional development. A record of CEUs provides a framework within which individuals can develop and tailor their own learning programs.

Progress towards such goals, at the individual's own pace and possibly planned over a number of years, can be demonstrated and documented in terms of the record of CEUs earned.

The department strives to help the University meet the learning needs of those persons who desire credit-free learning opportunities. Homework and examinations may be given; however, certificates of satisfactory completion are awarded based on attendance. Permanent student records are kept for all persons enrolled.

Following is a representative, though partial, listing of types of subjects taught in classes:

- Fine Arts — acting, ballet, children's piano, drawing for realism, fashion illustration, jazz dancing, music reading, music theory, oil painting, piano playing, preparatory music, private music lessons, watercolor painting
- Languages — Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Slovak, Spanish, Turkish
- Mathematics and Test Taking Skills — Algebra, ACT, GED, GMAT, GRE, LSAT, SAT, PSAT preparation, mathematics skills
- Nursing and Community Services — Fund raising for nonprofit organizations, Greater Akron Community Cardiacular Program, LPN pharmacy, medical terminology, understanding clinical laboratory tests, and results
• Photography — Darkroom techniques, elementary photography, videotape workshop, 35 MM photography.
• Business and Industry — Blueprint reading, bookkeeping for small business, direct mail marketing, federal income taxation, food service certification, human relations, quality control, robotics, selling, small business management, steam plant operation, supervision, technical drawing, tire mechanics.
• Communication Skills — Creative writing, effective speaking, English grammar, practical journalism, reading for better comprehension, sign language.
• Secretarial Skills — Certified Professional Secretaries review, legal secretarial skills, shorthand, typewriting.
• Computer Skills — BASIC, COBOL, computer graphics, FORTRAN, introduction to computers, word processing.
• Culinary Skills — Chinese cooking, microwave cooking, natural foods cooking, nutrition and diet.
• Electronics — Basic electronics, national electrical code, trouble-shooting techniques.
• Physical Fitness and Recreation — Aerobic exercise, golf, Korean karate, sailing, scuba diving, self-defense for women, skiing, swimming, tennis, yoga.

Department of Conferences and Seminars

William T. Nichols, Ed.D., Assistant Dean
Marvin E. Phillips, M.A.
William D. Jones, M.A.

The staff conducts ongoing professional education seminars and conferences and assists in program planning for University and community organizations. This department offers development of on-site training for business, industry, government, education and nonprofit organizations.

On-Site Training

Continuing education brings workshops and courses to local and regional business and service organizations to help them make more efficient use of training dollars. One hundred classes are held off campus on-site in business and industry. Program consultants visit the site, discuss the particular work situation, analyze needs and develop a customized training program.

The high quality training and educational programs can be conducted on-site and are designed specifically to meet the requirements of the organization, so costs are always kept under control. Scheduling is done at the organization’s convenience, and the instructors are coordinated through The University of Akron.

Teleconferencing

Teleconferencing would make outreach programming available on academic seminars, faculty development, continuing education, and research briefings; promoting the University to national/international audiences and obtaining programming worldwide.

The present facilities available include: CPT’s uplink; Electronic Engineering’s downlink; GSC’s conference rooms; IPS’ television production; and ISS’ AV equipment.

Facilities to be acquired include: coaxial cable to link studio, set and satellite; telephone lines with long distance toll numbers and amplification; and cameras, monitors, microphones, and sound systems for two-way audio and two-way video.

Career Path Development

The career path development program is to develop and administer a training and career development program for support staff and general faculty personnel. The scope of these activities will range from basic information topics to technical or advanced subjects, as well as skills training.

PUBLIC SERVICES/OUTREACH COORDINATION

Kathryn Vegso, M.S.Ed., Associate Dean
Marvin E. Phillips, M.A., Director, Public Services

The role of Public Services and Outreach Coordination is to expand education to those needing services and educational opportunities in both the personal and professional development over an extended life span. Individuals responding to organizational and social change have a need to continue to learn. Learning is the key to productive adult development in the context of changing work and home life.

This urban institution is a contributing member of its local, state and national communities.

Some activities include the Community Ambassador Program, Weekly Current Issues Forum and radio broadcasts, Akron Film Society, academic conferences, hearings and public lectures.

Current knowledge and research are shared by developing partnerships with the public and private sectors of these communities. This inter-change results in future opportunities which contribute to organizational and individual growth. These collaborative efforts of public service lead to new research, education and prototype programs applicable to a changing community.

This University meets its public service commitment through consultation, helping services, educational programming and research.

Education and Research in Adult Development

Harvey L. Sterns, Ph.D., Director

The Institute for Life-Span Development and Gerontology, founded in 1976, coordinates multidisciplinary credit certificate programs in Life-Span Development: Adulthood and Aging at the undergraduate and graduate levels and Life-Span Development: Gender Identity and Roles at the undergraduate level. Faculty fellows at the institute represent 15 University departments conduct research, provide special courses, workshops and seminars as well as participate in community research and demonstration projects. Students in the certificate programs carry out field placements at numerous community service settings including the Adult Resource Center.

Examples of outreach activities include the Elderhostel program, offered each summer for older adults who participate in a week-long residential learning experience and the Ohio Senior Olympics.

The institute is a member of the Northeastern Ohio Consortium on Geriatric Medicine and Gerontology, joining together with the Office of Geriatric Medicine and Gerontology, Northeastern Ohio Universities College of Medicine, Gerontology Center, Kent State University, and Gerontology Committee, Youngstown State University.

Life and Work Planning Services

Pauline A. Russell, B.A., Director
Lici Calderon, B.A., Assistant Director

The Adult Resource Center (ARC) offers life and work planning services to individuals and organizations. Through workshops and individual assistance, 500 people monthly learn to make the most of their skills, abilities and interests. ARC helps individuals set personal, career and educational goals and makes referrals to a vast network of education, training and social services in a 16-county area.

ARC offers life- and work-planning services to business and industry. These services are designed to help employees continue to grow, to
perform better on the job and to set educational goals; to help employees take charge of their own lives, and, to help organizations and employees match their interests with abilities.

All of ARC's services, based on more than a decade of research, help people take more responsibility for their own lives.

Established in 1978, the center was cited in 1982 by the American Association of State Colleges and Universities as one of the most innovative and successfully implemented programs in American higher education.

Training in the Field of Long-Term Health Care

Genevieve A. Gipson, M.S.E., Director

Nursing Home Training Center programming emphasizes the wellness concept for older adults by improving services in home-based and institutional health care. Serving a 15-county area, this model personnel training program is delivered in 368 long-term care facilities to administrators, staff, patients and family members. Those in training represent administrative and direct care givers for nursing homes, home health, adult day care and other long-term care facilities.
Courses of Instruction
## Course Numbering System*

### INDEX

#### Department of Developmental Programs
1020 Developmental Programs

#### English Language Institute
1030 English Language Institute

#### University College
1100 General Studies

#### Air Force ROTC
1500 Aerospace Studies

#### Army ROTC
1600 Military Science

#### Interdisciplinary Programs
1810 Afro-American Studies
1820 Institute for Future Studies and Research
1830 Environmental Studies
1850 Institute for Life-Span Development and Gerontology
1860 Peace Studies
1870 Honors Program
1880 Medical Studies
1890 Environmental Health

#### Community and Technical College
2000 Cooperative Education
2015 Distinguished Student Program
2020 Associate Studies
2100 Individualized Study
2200 Educational Technology
2210 Handicapped Services
2220 Criminal Justice Technology
2230 Fire Protection Technology
2240 Commercial Art
2250 Public Service Technology
2260 Community Services Technology
2270 Labor Studies
2280 Hospitality Management
2420 Business Management Technology
2430 Real Estate
2440 Data Processing
2520 Marketing and Sales Technology
2540 Office Administration
2550 Transportation
2730 Histotechnology
2740 Medical Assisting
2760 Radiologic Technology
2770 Surgical Assisting
2780 Allied Health
2790 Respiratory Therapy
2840 Chemical Technology
2860 Electronic Technology
2880 Manufacturing Technology
2900 Instrumentation Technology
2920 Mechanical Technology
2940 Drafting Technology
2980 Surveying and Construction Technology

#### Buchtel College of Arts and Sciences
3000 Cooperative Education
3100 Biology
3110 Biology/N.E.O.U.C.O.M.
3120 Medical Technology
3130 Cytotechnology
3150 Chemistry
3200 Classics
3210 Greek
3220 Latin
3250 Economics
3300 English
3350 Geography
3370 Geology
3400 History
3450 Mathematics
3460 Computer Science
3470 Statistics
3480 General Mathematical Sciences
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

#### College of Engineering
4100 General Engineering
4200 Chemical Engineering
4300 Civil Engineering
4400 Electrical Engineering
4450 Engineering Computer Science
4600 Mechanical Engineering
4700 Polymer Engineering
4800 Biomedical Engineering
4980 Construction Technology

#### College of Education
5000 Cooperative Education
5100 Educational Foundations
5200 Elementary Education
5250 Reading
5300 Secondary Education
5400 Technical and Vocational Education
5550 Physical Education
5560 Outdoor Education
5570 Health Education
5600 Educational Guidance and Counseling
5610 Special Education
5620 School Psychology
5630 Multicultural Education
5700 Educational Administration
5800 Special Educational Programs
5850 Educational Technology
5900 Higher Education Administration

#### College of Business Administration
6000 Cooperative Education
6200 Accounting
6400 Finance
6500 Management
6600 Marketing
6800 International Business

#### College of Fine and Applied Arts
7000 Cooperative Education
7100 Art
7400 Home Economics and Family Ecology
7500 Music
7510 Musical Organizations
7520 Applied Music
7600 Communication
7700 Communicative Disorders
7750 Social Work
7800 Theatre
7810 Theatre Organizations
7900 Dance
7910 Dance Organizations

#### College of Nursing
8000 Cooperative Education
8206 Nursing

#### School of Law
9200 Law

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*A more detailed explanation of the numbering system can be found in "Course Numbering Systems," Section 3 of this Bulletin."
Department of Developmental Programs

DEVELOPMENTAL PROGRAMS

1020:

040 BASIC WRITING I
Provides intensive practice in composition skills: grammar, sentence structure and paragraph writing.

042 BASIC WRITING II
Provides additional practice in the basic writing skills required for College Composition

050 BASIC MATHEMATICS I
Introduces the basic concepts of elementary algebra and provides an extensive review of arithmetic operations.

052 BASIC MATHEMATICS II
Designed to review and strengthen skills needed for credit mathematics courses.

060 COLLEGE READING
Designed to improve general reading ability and develop effective study strategies with emphasis on vocabulary development, basic comprehension, textbook reading, study and test-taking techniques.

071,2 DEVELOPMENTAL NATURAL SCIENCE: CHEMISTRY
Review of mathematics as applied in chemistry, fundamental principles in scientific approach to solving problems; basic principles of general chemistry. May enroll for a second semester.

071.2 DEVELOPMENTAL NATURAL SCIENCE: CHEMISTRY

1021: SPECIAL TOPICS: DEVELOPMENTAL PROGRAMS
Selected topics and subject areas of interest in developmental education.

ENGLISH LANGUAGE INSTITUTE

1030:

091 ENGLISH LANGUAGE INSTITUTE: WRITING
Provides intensive instruction in English writing for native speakers of languages other than English who are planning to seek admission to a United States university.

092 ENGLISH LANGUAGE INSTITUTE: READING
Provides intensive instruction in vocabulary and reading skills designed to develop the English reading ability of native speakers of languages other than English who are planning to seek admission to a United States university.

093 ENGLISH LANGUAGE INSTITUTE: SPEAKING/GRAMMAR
Provides intensive instruction in English grammar, with an emphasis on oral skills, for native speakers of languages other than English who are planning to seek admission to a United States university.

094 ENGLISH LANGUAGE INSTITUTE: LISTENING
Provides intensive laboratory and class instruction designed to improve the English listening skills of native speakers of languages other than English who are planning to seek admission to a United States university.

095 ENGLISH LANGUAGE INSTITUTE: COMPREHENSIVE
Provides intensive instruction in English writing, reading, listening and speaking for speakers of languages other than English who are planning to seek admission to a United States university. Offered only during the summer.

University College

GENERAL STUDIES

1100:

105 INTRODUCTION TO PUBLIC SPEAKING
Introduction to principles and practice of speaking by reading examples of speeches, studying techniques and methods employed and applying them in a variety of speaking situations.

106 EFFECTIVE ORAL COMMUNICATION
Principles of communication in speaker-audience, group and informal settings, and application of the principles in speeches, group discussions and other oral and written assignments.

111.2 ENGLISH COMPOSITION
Sequential proficiency in reading and writing of English is obtained. Reading materials used are literary works of our Western tradition.

115.6 INSTITUTIONS IN THE UNITED STATES
Nonsequential. Descriptive and comparative study of development of modern American institutions. Covers various aspects of growth and elaboration of American governmental, social and economic institutions.

120-81 PHYSICAL EDUCATION
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).*

120 ARCHERY
121 BADMINTON
122 BASKETBALL
123 BOWLING
124 CANOEING
125 DIVING
126 FITNESS
127 GOLF
128 GYMNASTICS (apparatus)
129 GYMNASTICS (tumbling)
130 HANDBALL
131 INDOOR SOCCER
132 KARATE†
133 LIFE SAVING†
134 MODERN DANCE
135 RACQUETBALL
136 RUGBY
137 SAILING
138 SCUBA
139 SELF DEFENSE†
140 SKIING (cross country)
141 SKIING (downhill)
142 SOCCER
143 SOCIAL DANCE
144 SQUARE AND FOLK DANCE
145 SQUASH RACQUETS
146 SWIMMING (beginning)
147 SWIMMING (intermediate)
148 SWIMMING (advanced)
149 TEAM HANDBALL
150 TENNIS (beginning)
151 VOLLEYBALL
152 WATER POLO
153 WATER SAFETY†
154 WRESTLING
155 VARSITY BASEBALL
156 VARSITY BASKETBALL
157 VARSITY CROSS COUNTRY
158 VARSITY FOOTBALL
159 VARSITY GOLF
160 VARSITY SOCCER
161 VARSITY SOFTBALL
162 VARSITY SWIMMING
163 VARSITY TENNIS
164 VARSITY TRACK
165 VARSITY WRESTLING
166 VARSITY VOLLEYBALL

*Institutional credit only.

†One credit each. Two periods each week.
Air Force ROTC

AEROSPACE STUDIES
1500:

113.4 FIRST YEAR AEROSPACE STUDIES
(AS100): General Military Course
Prerequisites: 3 credits
Missions and organization of Air Force and current events discussed to show how the military contributes to national defense. Laboratory develops leadership skills.

253.4 SECOND YEAR AEROSPACE STUDIES
(AS200): General Military Course
Emphasis on air power history. Films, lectures and class discussions. The role of the military environment is presented. Leadership Laboratory.

303.4 THIRD YEAR AEROSPACE STUDIES
(AS300): Professional Officer Course
Prerequisites: 3 credits
Management concepts in the military, leadership theory, functions and practices, professionalism and responsibilities. Conductive skills are developed. Leadership Laboratory.

453.4 FOURTH YEAR AEROSPACE STUDIES
(AS400): Professional Officer Course
Prerequisites: 3 credits
Fuses attention on the military profession, military justice systems, civil-military inter-
actions, and the formulation and implementation of defense policy. Command skills are developed. Leadership Laboratory.

Army ROTC

MILITARY SCIENCE
1600:

100 INTRODUCTION TO MILITARY SCIENCE I
(AS100): 2 credits
Study of the origins, development, duties and the Army. All introduction to and the application of raptelling, rifle marksmanship, cross-country skiing, and first aid. No military obligation incurred. Leadership laboratory required.

101 INTRODUCTION TO MILITARY SCIENCE II
(AS100): 2 credits
Study and application of the principles and techniques of basic military leadership, land navigation, cross-country skiing, and rappelling. No military obligation incurred. Leadership laboratory required.

200 SMALL UNIT OPERATIONS
(AS100): 2 credits
Study and application of the principles of war as they relate to small unit operations. Practical work with communications equipment and an introduction to writing orders. No military obligation incurred. Leadership laboratory required.

201 BASIC MILITARY LEADERSHIP
(AS100): 2 credits
Study and application of the leadership assessment program (LAP). No military obligation incurred. Leadership laboratory required.

300 ADVANCED LEADERSHIP I
(AS100): 3 credits
Prerequisites: 100.1, 200.1 and/or permission. Intensive investigation of the leadership process to include application work emphasizing office, duties and responsibilities. Leadership laboratory required.

301 ADVANCED LEADERSHIP II
(AS100): 3 credits
Prerequisites: 300.1 and/or permission. Study and analysis of small unit leadership and tactics, stressing application and problem-solving processes. Practical work with communications equipment and land navigation. Leadership laboratory required.

400 MILITARY MANAGEMENT I
(AS100): 3 credits
Prerequisites: 300.1 or permission. Study of the principles of war integrated into a military history program. Study of command and staff functions, briefing techniques, and familiarization with the military justice system. Leadership laboratory required.

401 MILITARY MANAGEMENT II
(AS100): 3 credits
Prerequisites: 300.1 or permission. Study of Army command and staff procedures, Examination of officer leadership and management responsibilities to include planning and organizing, decision making and control, and oral and written communications. Leadership laboratory required.

Interdisciplinary Programs

AFRO-AMERICAN STUDIES
1810:

401 GENERAL SEMINAR IN AFRO-AMERICAN STUDIES
(AS400): 3 credits
Prerequisites: 3402/220 or permission. Exploration and intensive examination of variety ol issues related to race and minority group relations which normally stand outside the compass of any one subject matter area.

ENVIRONMENTAL STUDIES
1830:

201 MAN AND THE ENVIRONMENT
(AS200): 2 credits
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.

401 SEMINAR IN ENVIRONMENTAL STUDIES
(AS400): 2 credits
Specific environmental topics from interdisciplinary viewpoint each semester. The director of Environmental Studies coordinates course, resource persons are drawn from the University and surrounding community.

490/590 WORKSHOP IN ENVIRONMENTAL STUDIES
(AS400): 1-4 credits
Prerequisites: Varies with topic. Credit in graduate program must have prior approval of advisor. Skills, attitudes and fundamental concepts dealing with timely environmental problems and issues covered. Instruction under direction of University faculty.

602 EVALUATION OF ENVIRONMENTAL DATA
(AS400): 3 credits
Prerequisite: Graduate standing. One year of chemistry, physics, job experience or course work in chemical engineering. A review of environmental testing techniques in current use, emphasis on interpretation and limitations.

651 GRADUATE SEMINAR IN ENVIRONMENTAL STUDIES
(AS400): 3 credits
Prerequisite: Graduate standing. Explores topics of current environmental concerns. Emphasis on presentation of oral and written reports and subsequent student-faculty dialogue.
INSTITUTE FOR LIFE-SPAN DEVELOPMENT AND GERONTOLOGY

1850:

300 PERSPECTIVES ON GENDER IDENTITY AND ROLES 3 credits
An examination of biological, historical, political, legal, economic, educational, intellectual, and social influences which have shaped gender identity and roles in society.

450 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1 credit
(May be repeated for a total of two credits)
Prerequisite: A certificate program student only. Guest speakers from various disciplines and services which have life-span development and gerontological components and from government and community facilities and services. A certificate program student must complete two seminars of this course.

485 SPECIAL TOPICS 1-3 credits
Prerequisite: permission of instructor. Specialized topics and current issues in life-span development, gerontology, or gender. Covers content or issues not currently addressed in other academic courses.

490 WORKSHOP 1-3 credits
Group studies of special topics in life-span development and gerontology. May not be used to meet certificate requirements. May be used for elective credit only.

493 INDEPENDENT STUDY IN GENDER IDENTITY AND ROLES 3 credits
Prerequisites: enrollment in the certificate program in Life-Span Development, Gender Identity, and Roles, plus the completion of three certificate courses in addition to 300 and permission. Supervised participation in research and/or community-agency work.

495 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1-3 credits
(May be repeated)
Prerequisite: permission. Supervised experience in research or community-agency work.

Graduate Courses

680 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1 credit
Prerequisite: permission. The certificate program student only. Explores interdisciplinary issues in life-span development and gerontology. Guest speakers from various disciplines and services which have life-span development and gerontological components and from government and community facilities and services.

685 SPECIAL TOPICS 1-3 credits
Prerequisite: permission of instructor. Specialized topics and current issues in life-span development, gerontology, or gender. Emphasis is on original source materials, critical analysis, and synthesis of empirical, theoretical, and applied aspects.

690 WORKSHOP 1-3 credits
(May be repeated)
Group studies of special topics in life-span development and gerontology. May be used as elective credit but not as part of certificate required courses.

695 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 3 credits
Prerequisite: permission. Supervised experience in research or community-agency work.

PEACE STUDIES

1860:

300 TOPICS IN PEACE STUDIES 1-3 credits
(May be repeated for a total of three credits)
Interdisciplinary topics related to peace studies.

301 VALUE CONCEPTS ON PEACE AND WAR 3 credits
Interdisciplinary study of attitudes, concepts, and realities regarding war and peace issues.

350 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of two credits)
Detailed study on selected topics related to peace.

360 THE VIETNAM WAR 3 credits
An examination and evaluation of political, military, diplomatic, and economic impact of the Vietnam War.

378 INTRODUCTION TO HUMAN RIGHTS CONCEPTS 3 credits
Interdisciplinary and cross-cultural survey of basic concepts of human rights as recognized by international law. Limitations and future issues are raised.

390 WORKSHOP IN PEACE STUDIES 1-3 credits
(May be repeated for a total of four credits)
Group studies in peace and war-related subjects and issues.

HONORS PROGRAM

1870:

250-350-450 HONORS COLLOQUIUM: HUMANITIES 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in humanities.

260-360-460 HONORS COLLOQUIUM: SOCIAL SCIENCES 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in social sciences.

270-370-470 HONORS COLLOQUIUM: NATURAL SCIENCES 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in natural sciences.

MEDICAL STUDIES

1880:

201 MEDICAL SEMINAR AND PRACTICUM I 3 credits
Prerequisites: 3100/191 and permission. Provides field experiences in health care delivery in geographic area served by Northeastern Ohio Universities College of Medicine and The University of Akron. Student directed in supervised roles of professional and paraprofessional in meeting health care needs of community. Open to first-year student in Phase 1 of B.S./M.D. program, others by permission.

301 MEDICAL SEMINAR AND PRACTICUM II 1-3 credits
(May be repeated to a maximum of three credits)
Prerequisites: 201 and permission. Continuation of 201 offered at an advanced level of professional involvement. Open to second-year student in Phase 1 of B.S./M.D. program, others by permission.

310 SEMINAR ON HUMANITIES IN MEDICAL EDUCATION 3 credits
Prerequisite: junior standing in B.S./M.D. program; others involved in health care delivery programs by permission. Introduction to the humanities as they bear upon history and practice of medicine. Seminar draws upon lecturers from the University and community and includes performances, field trips, films, and tapes appropriate to topics discussed.

401/501 SPECIAL TOPICS: MEDICAL EDUCATION 1-3 credits
(May be repeated with a change of topic — maximum of three credits count toward graduation)
Prerequisite: upper college student status and permission. Selected topics on medical education offered by professors intended to provide advanced undergraduate education and continuing education for student and practitioners in the health sciences.

ENVIRONMENTAL HEALTH

1890:

300 INTRODUCTION TO ENVIRONMENTAL HEALTH 3 credits
Prerequisite: permission. Introduction to environmental health, public health, industrial hygiene and related fields. The nature of the field, problems dealt with, the legal basis for action and career opportunities.

410 EPIDEMIOLOGY 3 credits
Prerequisite: permission of instructor. Introduction to the study of the distribution and determinants of diseases and injuries in human populations. Epidemiological statistics; research models.

450 SEMINAR IN ENVIRONMENTAL HEALTH 1 credit
(May be repeated for a maximum of two credits)
Prerequisite: permission of instructor. Research reports by faculty, graduate students and invited speakers.

480 SPECIAL TOPICS IN ENVIRONMENTAL HEALTH 1-3 credits
(May be repeated for a maximum of six credits)
Prerequisite: permission of instructor. Special courses offered once or occasionally in areas where no formal course exists.

497 INDIVIDUAL STUDIES OR INTERNSHIP IN ENVIRONMENTAL HEALTH 1-3 credits
(May be repeated for a maximum of six credits)
Prerequisite: permission of instructor. An internship with an appropriate employer or approved equivalent.
Community and Technical College

COOPERATIVE EDUCATION

201,301 COOPERATIVE EDUCATION 2 credits
(May be repeated)
Prerequisite: cooperative education students only. Work experience in business, industry or governmental agency. Comprehensive performance evaluation and written report required.

201,301 ASSOCIATE STUDIES

DISTINGUISHED STUDENT PROGRAM

2015:

150 DISTINGUISHED STUDENT COLOQUIUM 2 credits
Prerequisite: admission to College Distinguished Student Program. Interdisciplinary colloquium on topics and issues in the humanities, social sciences and natural sciences.

ASSOCIATE STUDIES

2020:

121 ENGLISH 4 credits
Employs various techniques including art, films, personal journals and critical reading leading high pre-writing to development of structured expository essays.

130 INTRODUCTION TO TECHNICAL MATHEMATICS 3 credits
Elements of a basic algebra, operations on signed numbers and polynomials, solutions and applications of first- and second-degree equations. English and metric systems; various types of graphs with applications; linear systems, trigonometry of right triangle. May not be used to meet General Studies mathematics requirement.

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, circle theorems.

132 MATHEMATICAL ANALYSIS II 3 credits
Prerequisite: 131 or equivalent. Exponents and radicals, exponential equations, logarithms, vectors, graphs of trigonometric formulas and identities, complex numbers.

141 MATHEMATICS FOR DATA PROCESSING I 4 credits
Prerequisite: two units of high school mathematics, including algebra. Numeration systems, fundamental algebraic concepts and operations, functions and graphs, systems of linear equations, determinants, matrices, factoring and algebraic fractions and quadratic equations.

142 MATHEMATICS FOR DATA PROCESSING II 3 credits
Prerequisite: 141 or equivalent. Sets, logic, basic probability and statistics and mathematics of finance.

222 TECHNICAL REPORT WRITING 3 credits
Prerequisite: 121 or equivalent. Prepares student to write the types of reports most often required of engineers, scientists, and technicians. Includes types of reports, memos, notes, letters, technical research, documentation and oral presentations.

224 WRITING FOR ADVERTISING 4 credits
Study of language used in advertising; practice in writing advertisements for various media.

232 MATHEMATICAL ANALYSIS III 3 credits
Prerequisite: 130. Analytic geometry of the conics, introduction to differential the derivative, application of the derivative, integration, differentiation and integration of transcendental functions.

240 HUMAN RELATIONS 3 credits
Examination of principles and methods which aid in understanding the individual's response to his society and relationship between society and individual.

241 TECHNOLOGY AND HUMAN VALUES 2 credits
Examination of impact of scientific and technical change upon man, his values and his institution arrangements. Topics include biomedical technology, automation, economic growth, natural environment and technology and quality of life.

242 AMERICAN URBAN SOCIETY 3 credits
Multidisciplinary treatment of urban processes and problems. Concerns historical, political, social, economic and other environmental forces which impact upon the individual in an urban setting.

247 SURVEY OF BASIC ECONOMICS 3 credits
Introduction to economic analysis and issues designed for the student taking only one course in economics. Coverage includes economic systems, exchange, money and banking, national income, employment, fiscal policy and current domestic economic problems.

251 WORK RELATIONSHIPS 3 credits
Examination of relationship between man and the work organization. Emphasis on involve- sense of job satisfaction, supervision and goals of the organization.

254 THE BLACK AMERICAN 2 credits
Examination of the Black American including origins, historical achievements and present status. Includes first-class citizenship in American society. Emphasis on analysis of forces in American society that create racial separation.

290 SPECIAL TOPICS: 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.

334 MATHEMATICS FOR TECHNICAL APPLICATIONS 3 credits

INDIVIDUALIZED STUDY

2100:

190 INDIVIDUALIZED STUDY EVALUATION 1 credit
Prerequisite: admission to program. Analysis of interests, talents, goals expressed in three assigned papers; first short after enrolment in program, second after completing 12 to 16 credits; third after completing 32 credits. Topics include student's background of career and personal activities, effect of college course work, opportunities resulting from educational experiences and application of ideas in planning areas of study. Student is required to enroll in this course in first semester.

EDUCATIONAL TECHNOLOGY

2200:

100 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Introduces student to library technology program and career opportunities available as library technicians. Includes discussions, field observations, guest speakers, lectures, readings and extensive practical hands-on experience.

201 CATALOGING, CLASSIFYING AND PROCESSING MATERIALS 3 credits

202 ORGANIZING AND OPERATING LIBRARY/MEDIA CENTERS 3 credits
Includes functional aspects of facility, ordering and processing materials, circulation procedures and other control systems. Operational functions include program development and implementation, services of library/media centers and public relations.

203 MATERIALS SELECTION 2 credits
Introduction to tools used in selecting print and nonprint materials for libraries/media centers. Problems of censorship, intellectual freedom and academic freedom discussed as they relate to evaluation selection process.

204 REFERENCE PROCEDURES 3 credits
Introduction to study and use of basic information tools including almanacs, encyclopedias, dictionaries, bibliographies, yearbooks and specialized reference tools. Actual reference practices and procedures used.

205 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisites: 201 A, B or permission. Practical introduction to information-retrieval systems and their application. Emphasis on Ohio College Library Center network and its impact on library technical and public services. Hands-on experience with OCLC and other on-line terminal operations.

245 INFANT/TODDLER DAY CARE PROGRAMS 3 credits
Survey of infant/toddler development. Principles of infant/toddler care and design of environment and curriculum based on child's needs. Includes observation of children.
200 CRIMINAL JUSTICE THEORY AND PRACTICE 3 credits
Prerequisite: 100. Examination of criminal justice administrative problems in personnel selection, training, advancement, and personnel utilization. Consultation and cooperation between agencies. Advanced concepts for change within criminal justice system.

240 DYNAMICS OF VICE CRIME AND SUBSTANCE ABUSE 3 credits
Prerequisites: 100 and permission. Introduction to problems of vice crime and narcotics and drug abuse in our society. Provides knowledge concerning issues involved in constitutional acts, impact on society of physical and psychological results of substance abuse.

250 CRIMINAL CASE MANAGEMENT 6 credits
Prerequisites: 100, 2840, and permission. Reconstruction of chronological sequence of crime including searching, collection, preserving and evaluation of physical and oral evidence. Scientific approach to criminal investigation.

290 SPECIAL TOPICS: CRIMINAL JUSTICE 1-4 credits
(May be repeated for a total of six credits)
Prerequisite: 7700. Special topics and special units in selected areas of criminal justice such as community relations, crime statistics, ethics, survival.

295 CRIMINAL JUSTICE INTERNSHIP 3 credits
Prerequisites: 100, 30 credits and permission. Supervised work experience in criminal justice agency for purpose of increasing student understanding of criminal justice process.

FIRE PROTECTION TECHNOLOGY 2230:

100 INTRODUCTION TO FIRE PROTECTION 3 credits
History and philosophy of fire protection; introduction to agencies involved; current legislative developments; discussion of current related problems; expanding future of fire protection and career orientation.

102 FIRE SAFETY IN BUILDING DESIGN AND CONSTRUCTION 3 credits
Exploration of building construction and design with emphasis on fire protection concerns, review of related statutory and suggested guidelines—local, state and national scope.

104 FIRE INVESTIGATION METHODS 3 credits
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.

153 PRINCIPLES OF FIRE PROTECTION AND LIFE SAFETY 3 credits
Recognition of specialized fire hazards. Maintenance and utilization of portable and automatic fire extinguishing devices; fire prevention methods; code compliance. Organizing fire safety training programs.

202 FIRE SUPPRESSION METHODS 3 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.

204 FIRE HAZARDS RECOGNITION 3 credits
Implementation of procedures and setting up a fire prevention bureau. Recognition and correction of fire hazards. Public relations and code enforcement.

205 FIRE DETECTION AND SUPPRESSION SYSTEMS I 3 credits
Design, installation, maintenance and utilization of automatic fire extinguishing appliances and pre-engineered automatic systems; fire detection and alarm signaling systems operational capabilities, requirements.

206 FIRE DETECTION AND SUPPRESSION SYSTEMS II 3 credits
Prerequisite: 205. Installation and operation of automatic fire suppression systems; includes sprinkler, foam, carbon dioxide, dry chemical, halogenated agent systems.

250 HAZARDOUS MATERIALS 4 credits
Prerequisite: 2840. Study of chemical characteristics and reactions related to storage, transportation and handling of hazardous materials. Emphasis on emergency situations, fire fighting and control.

254 FIRE CODES AND STANDARDS 3 credits
Study of legal rights and duties, liabilities and responsibilities of fire department organizations.

257 FIRE PROTECTION FOR BUSINESS AND INDUSTRY 3 credits
Industrial fire protection problems including specialized hazards, automatic extinguishing systems, codes and standards, fire safety planning, fire brigade organizations.

290 SPECIAL TOPICS: FIRE PROTECTION TECHNOLOGY 1-2 credits
(May be repeated for a total of four credits)
Prerequisite: 100. Special topics and special units in selected areas of interest in fire protection technology.

295 FIRE PROTECTION INTERNSHIP 3 credits
Prerequisites: 30 credits in program and permission of program coordinator. Supervised work experience in fire protection to increase student understanding of fire technology, analysis by student and instructor of internship experience: validation of knowledge gained during internship.
COMMERCIAL ART

2240:

124 DESIGN IN COMMERCIAL ART 3 credits
Projects in visual design fundamentals. Analysis of design/research process applied to advertising layout and composition. Design constructions in pattern and self-contained forms.

140 TYPOGRAPHY AND LETTERING 3 credits
Prerequisite: 124. Letter symbols studied in terms of communication and aesthetic design. History of letter forms, typographic copying and type specification for commercial applications. Analysis of contemporary typographic faces.

222 ADVERTISING PHOTOGRAPHY 3 credits
Prerequisite: 7100:275. Creative commercial use of photographic materials and equipment. Photography studied for its use in advertising and creative photo-illustration. Student must own or have use of camera with controllable shutter, lens, diaphragm and focus.

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.

243 PUBLICATION DESIGN 3 credits
Prerequisites: 242 and 7100:275. Study of publications and 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.

245 DESIGNING FOR PRODUCTION 3 credits
Prerequisite: 140. Analysis of design process as applied to commercial printing processes. Design projects taken to camera-ready art. Color separation systems, key-line, mechanicals and preparation of finished art procedures.

247 PACKAGING DESIGN 3 credits
Prerequisites: 242 and 245. Visual design and development of protective devices for packaging, shipment and display of consumer products. Analysis of product marketing potential and point-of-purchase advertising.

290 SPECIAL TOPICS: COMMERICAL ART 1-3 credits
Prerequisite: Permission of instructor. Selected topics or subject areas of interest in commercial art.

PUBLIC SERVICE TECHNOLOGY

2250:

260 ADMINISTRATION AND SUPERVISION IN THE PUBLIC SERVICE 3 credits
Prerequisite: 2220:100 or 2230:100. Examination and analysis of basic concepts of administration, supervision, policy formulation as they pertain to public service agencies. Practical application of supervisory responsibilities, functions of police/fire departments.

COMMUNITY SERVICES TECHNOLOGY

2260:

106 INTRODUCTION TO COMMUNITY SERVICES 3 credits
Introductory course to familiarize student with roles of community services technician in service delivery, use, history and rationale for infrastructural programs, volunteer services, self-awareness and interaction in community services.

150 INTRODUCTION TO GERONTOLOGICAL SERVICES 3 credits
Basic orientation to gerontology and role of community service technician in service delivery to aged. Topics include social, biological, economical and psychological aspects of aging, national and state legislation, services and service providers.

230 COMMUNITY BASED RESIDENTIAL SERVICES 3 credits
Orientation to community-based residential services and role of community services technician in delivery of services to mentally disabled. Includes historical, social and legal forces in community-based services and practical aspects of operation of a residential facility.

232 ADVOCACY FOR THE DISABLED 3 credits
Working with disabled individuals. Includes legal rights, advocacy roles, civil commitment, guardianship, housing, employment and health care needs.

240 DRUG USE AND ABUSE 3 credits
Basic introduction to drug use and abuse. Includes pharmacology, basic helping and crisis intervention skills, motivations, theories of treatment and exploration of some typical drug crisis situations.

251 COMMUNITY SERVICES FOR SENIOR CITIZENS 3 credits
Prerequisite: 150. A study of national and community resources for social service delivery to senior citizens. Specific agencies, program models and senior citizens and resultant services.

252 RESIDENT ACTIVITY COORDINATION 3 credits
Designed to prepare students to qualify as resident activity coordinator in Ohio nursing homes. General topics include assessing and understanding the resident, administration of activities program, techniques of program planning.

260 ALCOHOL USE AND ABUSE 3 credits
Survey of use and abuse of alcohol in our society with particular emphasis on replacing common stereotypes, myths and attitudes with improved understanding.

261 ALCOHOLISM TREATMENT 3 credits
Prerequisite: 260. Survey of theory and practices in treatment of alcohol problems. Special emphasis on applicability and effectiveness of various resources and approaches.

262 BASIC HELPING SKILLS IN ALCOHOL PROBLEMS 4 credits
Prerequisite: 278. Introduces the student to basic concepts of helping skills, provides opportunity to help, develops ability to give and receive feedback about relevancy and effectiveness of behavior, develops responsibility for their own learning as related to working with clients.

263 GROUP PRINCIPLES IN ALCOHOLISM 4 credits
Prerequisite: 262 or permission. Introduces student to group dynamics; provides opportunity to examine role as group member; and explores unique factors in alcoholism that influence group treatment. Practical group dynamics sessions.

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 United States and for others desiring an understanding of these newly developing technical community service roles.

279 TECHNICAL EXPERIENCE IN COMMUNITY AND SOCIAL SERVICES 5 credits
Prerequisite: 278 or permission. Individual placement in selected community and social service agencies. Preparation of educational supervised experience in community and social services. Technician position. Does not substitute for 1750:421 or 491.

280 FUNDAMENTALS OF VOLUNTEER MANAGEMENT 3 credits
Prerequisite: Permission. For persons wishing to increase professional skills in volunteer administration. Includes setting goals, developing work plans, evaluating volunteer performance, recruiting volunteers, writing job descriptions, avoiding human relations problems, developing office procedures, keeping records and maintaining volunteer programs.

281 RECRUITMENT AND INTERVIEWING OF VOLUNTEERS 3 credits
Prerequisite: 280 or permission. To provide knowledge for recruitment and interviewing of persons seeking volunteer positions. Will cover writing of volunteer job descriptions, methods of recruitment, techniques of interviewing, concentration on interviewing skills.

286 COUNSELOR ASSISTANT INTERNSHIP 4 credits
Prerequisites: 279 and permission of instructor. Integrates counselor assistant experience with fundamental concepts and skills from academic studies. Students required to complete 200 hours of supervised field experience.

290 SPECIAL TOPICS: COMMUNITY SERVICES TECHNOLOGY 1-3 credits
Prerequisite: Permission. Selected topics or subject areas of interest in community services technology.

297 INDEPENDENT STUDY 1-3 credits
Prerequisite: Permission. Selected topics and special problems of study under the supervision and evaluation of a selected faculty member with whom specific arrangements have been made.

LABOR STUDIES

2270:

101 INTRODUCTION TO LABOR STUDIES 3 credits
Survey of labor in America from eighteenth century to present with emphasis on factors affecting growth of unions. Rise of industrial unionism as alternative to craft unions. Trade Union movements in other countries examined for their influence on American unions.

111 COLLECTIVE BARGAINING I 3 credits

112 LEGAL FRAMEWORK FOR COLLECTIVE BARGAINING 3 credits
Legal framework within which collective bargaining process takes place. Rights of employers, union, employer under federal and state laws discussed in context of organizing, election and bargaining.

123 LABOR LEGISLATION AND ECONOMIC SECURITY 3 credits
Prerequisite: 122 or permission. Federal and state legislation governing employment conditions and standards, includes minimum wage, health and safety, unemployment compensation, TDI, civil rights and anti-discrimination, social security, labor management reporting and disclosure.
212 COLLECTIVE BARGAINING II
3 credits
Prerequisite: 111. Mechanics and skills of formal grievance procedure in industrial, craft, and public settings. Investigate, record, keep, and present one grievance, as well as study the arbitration process and preparation and presentation of arbitration cases.

211 OCCUPATIONAL HEALTH AND SAFETY STANDARDS
3 credits
Prerequisite: 122. Examination of OSHA's occupational safety and health standards. Includes not only working in the law, but also hazards recognition and control.

224 LABOR LAW IN THE PUBLIC SECTOR
3 credits
Prerequisite: 271. Provides basic understanding of legal requirements and restrictions placed upon parties when bargaining within federal, state, and local governments. Legal framework of collective bargaining and due process.

2237 INTERNSHIP
1 credit
Prerequisite: Permission. On/off campus observation/work experience integrated with academic instruction. Concepts applied to practical situations.

240 SYSTEMS MANAGEMENT AND PERSONNEL
3 credits
Identifies systems utilized in successful food service operations. General principles of each system, its interactions with the total food service organization explored.

243 FOOD EQUIPMENT AND PLANT OPERATIONS
3 credits
Available food service equipment, its selection, use, and care. Field trips taken to wholesale outlets and food service establishments to see food service equipment demonstrated and in operation.

254 HOTEL/MOTEL HOUSING MANAGEMENT
3 credits
Analysis of housekeeping procedures, organization of successful housekeeping department.

256 HOTEL/MOTEL SALES PROMOTION
3 credits
Sales promotion techniques; functioning of sales department, need for sales planning. Sales tools, selling techniques for food and beverage, group business. Advertising, community relations, internal personal, telephone selling.

256 HOSPITALITY LAW
3 credits
Introduction to hotel, restaurant, lodging law. Fundamental constitutional, statutory, administrative rules, regulations applicable to hospitality industry. Case study, problem-solving approaches applied to legal problems confronting hospitality executives.

261 BAKING AND CLASSICAL DESSERTS
3 credits
Prerequisite: 122. Production of basic items in bake shop, use of equipment, materials, control to produce the desired products.

262 CLASSICAL CUISINE
3 credits
Prerequisites: 122, 123. Lecture-demonstration experience in preparation of traditional American cuisine. Includes traditional repertoire of foods, sprits, application of kitchen production controls, menu planning.

263 INTERNATIONAL FOODS
2 credits
Prerequisite: 122. Lecture-demonstration laboratory experience in preparing foods of different nationalities. Demonstration, preparation of select foods by visiting chefs. Recipe file developed.

290 SPECIAL TOPICS: HOSPITALITY MANAGEMENT
1-3 credits
May be repeated for a total of four credits. Prerequisite: Permission. Selected topics or subject areas of interest in food service management.

HOSPITALITY MANAGEMENT
2280:

120 SAFETY AND SANITATION
3 credits
Introduction to food service sanitation, safety practices pertinent to hospitality management. Emphasis on sanitation laws, rules, food microbiology, safe food handling, storage practices, accident prevention.

121 FUNDAMENTALS OF FOOD PREPARATION I
4 credits
Skills and basic knowledge of food preparation procedures in a laboratory situation.

122 FUNDAMENTALS OF FOOD PREPARATION II
4 credits
Prerequisite: 121. Continuation of Fundamentals of Food Preparation I. Advanced food preparation techniques presented in laboratory situations.

123 MEAT TECHNOLOGY
2 credits
Intensive examination of meat cutting, portioning, determining product yield, and calculating cost.

135 MENU PLANNING AND PURCHASING
3 credits
Principles of food purchasing procedures including policies, writing specifications, recognizing quality standards, integrated with marketing techniques, menu merchandising, menu planning.

156 HOTEL/MOTEL FRONT OFFICE PROCEDURES
3 credits
Prepares student for entry-level positions in the hotel/motel industry. Basic principles of guest service, standard systems, techniques within hotel/motel industry.

160 MAINTENANCE AND ENGINEERING FOR HOTELS AND MOTELS
3 credits
Familiarization with organizational terms, concepts, responsibilities common to engineering and building maintenance.

160 WINE AND BEVERAGE SERVICE
2 credits
Intensive examination of wine as related to hospitality industry. Emphasis on business practices. History and development of viticulture, enology.

232 DINING ROOM SERVICE AND TRAINING
2 credits
In-depth study of the systems of dining service, development of job descriptions, importance of courtesy, customer relations.

233 RESTAURANT OPERATIONS AND MANAGEMENT
4 credits
Introduction to large quantity food service procedures with emphasis on sound principles of food handling service and sanitation in large quantity operations. Gourmet meals served in simulated restaurant atmosphere.

236 FOOD AND BEVERAGE COST CONTROL
3 credits
Prerequisite: 135. Principles and procedures of effective food beverage control. Adaptations to various types of operations. Control process with emphasis on calculating food costs, establishing standards, production planning.

BUSINESS MANAGEMENT TECHNOLOGY
2420:

101 ELEMENTS OF DISTRIBUTION
3 credits
Study of basic principles and methods in distribution: Presentation of marketing process as it relates to consumer and industrial products. Emphasis on pricing, product promotion, as well as distribution.

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.

104 INTRODUCTION TO BUSINESS
3 credits
Survey course of business in its entirety including production, distribution, finance, control, personnel functions. Emphasis on descriptive materials, technical vocabulary and career opportunities and responsibilities in various business fields.

105 INTRODUCTION TO CREDIT UNIONS
2 credits
Credit unions as financial institution. History, structure, duties of board of directors, advisory committees. Financial counseling, lending and analysis, valuation of financial statements.

111 PUBLIC RELATIONS
2 credits
Study of philosophy, techniques and ethics of the management function known as public relations. Defines variety of publics and methods of communication.

113 INTRODUCTION TO BANKING
2 credits
Covers fundamentals of banking in operational perspective. Emphasis on bank functions, types of accounts, relationship to depositories, loans, investments, trust, safe deposit operations, personal and external control, public service obligations.

115 CREDIT UNION OPERATIONS
2 credits
Operations with emphasis on loan transactions, credit principles, investments, and line policies, financial planning and counseling, delinquency control and collections, credit union laws.

117 SMALL BUSINESS DEVELOPMENT
3 credits
Prerequisite: 104. Fundamentals of small business operations, emphasis on small business marketing.

118 SMALL BUSINESS MANAGEMENT AND OPERATIONS
3 credits
Prerequisite: 117. Designed to provide greater insights into the management and financial aspects of small business operations. Emphasis on small business management.
2430:

105 REAL ESTATE PRINCIPLES 2 credits
Introduction to real estate as a profession, process, product and measurement of its productivity. The student is responsible for reading and discussions relative to real estate and the American system.

115 ELEMENTS OF HOUSING DESIGN AND CONSTRUCTION 2 credits
Prerequisites: 105, 185. Discussions and readings on neighborhoods and sites, details of the interior and exterior of homes, mechanical systems and house construction which help professionals discharge agency responsibilities.

125 ELEMENTS OF LAND AND REAL ESTATE DEVELOPMENT 2 credits
Prerequisites: 105, 185. Learning and applying step-by-step processes needed by professional developers in producing real estate for consumption.

205 INTRODUCTION TO REAL ESTATE MANAGEMENT 3 credits
Prerequisites: 105, 185. Survey course focusing on application of management process to the specialized field and product of real estate. Discussion and research topics include property analysis, marketing and administration.

215 ESSENTIALS OF REAL ESTATE ECONOMICS 2 credits
Prerequisites: 105, 185. Topics included and techniques of analysis found in economics to local real estate market and to parcels of real estate found within the market.

225 INDUSTRIAL REAL ESTATE 2 credits
Prerequisites: 105, 185. Elements course focusing on functions of industrial real estate.

230 COMMERCIAL REAL ESTATE 2 credits
Prerequisites: 105, 185. Elements course focusing on functions of commercial real estate.

245 REAL ESTATE FINANCE 2 credits
Prerequisites: 105, 185. Study of contents of contemporary real estate finance. Emphasis on reading and discussion include mortgage instruments, financial institutions, mortgage market, governmental influence on finance and risk analysis and mortgage lendings.

255 VALUATION OF RESIDENTIAL PROPERTY 2 credits
Prerequisites: 105, 185. Methods used to estimate value in residential property including cost of reproduction, market data and income approach. Student prepares an appraisal on a residential property.

265 REAL ESTATE BROKERAGE 2 credits
Prerequisite: 105, 185. Application of management functions of planning, organizing, directing and control and real estate brokerage office. Student activities include reading, discussion and research.

275 SPECIAL PROJECT IN REAL ESTATE 2 credits
Prerequisites: 105, 185. Student demonstrates knowledge of real estate by preparing a written report covering brokerage process as it relates to a parcel of property.

285 APPLIED REAL ESTATE MATHEMATICS 2 credits
Prerequisites: 105, 146. Student learns and applies mathematics necessary to profession of real estate. Topics include production of taxes, area calculation, appraising, mortgage, budgeting and closing statements.

290 SPECIAL TOPICS: REAL ESTATE 1-3 credits
Prerequisite: permission. Selected topics or subject areas of interest in real estate.

DATA PROCESSING

2440:

120 INTRODUCTION TO INFORMATION PROCESSING 2 credits
General overview of data processing techniques providing fundamentals necessary for subsequent computer-oriented courses.

121 INTRODUCTION TO PROGRAMMING LOGIC 2 credits
Prerequisite: 120. Introduction to fundamental concepts of problem solving and developing programming logic with emphasis on effective design of business application programs.

130 BASIC PROGRAMMING FOR BUSINESS 3 credits
Prerequisites: two years of high school algebra or equivalent. Introduces the student to the fundamental concepts of computer programming via the BASIC language. Emphasis will be placed on developing computer programs on a microcomputer system. Larger systems utilizing timesharing also considered.

131 INTRODUCTION TO PROGRAMMING 2 credits
Prerequisite: 120. Illustrates basic functions of computer and provides specific information about third-generation computers, including programming in actual and assembly language.
122 ASSEMBLER PROGRAMMING 3 credits
Prerequisite: 131. Introduction to ASSEMBLER programming and practical applications using BAL.

123 STRUCTURED COBOL PROGRAMMING 2 credits
Prerequisite: 131. Introduction to COBOL, with emphasis on practical application toward the IBM system/370.

234 ADVANCED COBOL PROGRAMMING 3 credits
Prerequisite: 133. Continuation of 133 including detailed applications in areas such as payroll and inventory. disk concepts emphasized.

235 CURRENT PROGRAMMING TOPICS 2 credits
Prerequisite: 234. Emphasizes topics varied to fit needs of the student at the time. Such topics as APL programming, tele-processing and PL/1 programming may be included.

239 RPG II PROGRAMMING 2 credits
Prerequisite: 121 or permission of coordinator. Report Program Generator (RPGII) programming includes RPG coding and debugging with applications which lend themselves to use of RPG II.

241 DATA PROCESSING SYSTEMS 3 credits
Prerequisite: 132. Covers all phases of business systems analysis, design, development and implementation. Such principles as system design and program flowcharting, and file and document design emphasized.

250 BASIC PROGRAMMING APPLICATIONS IN BUSINESS 5 credits
Prerequisite: 130. Offers intensive training in business applications programming on microcomputer systems including data analysis, text processing, error trapping, sorting, development of menu driven programs, -SAM file creation and upkeep.

251 DATA PROCESSING PROJECTS 5 credits
Prerequisite: 241. Provides workshop for the accomplished student to thoroughly apply studied material. Projects involve design and implementation using COBOL.

252 JOB CONTROL LANGUAGE 1 credit
Prerequisite: 234. Explanation of JOB, EXEC and DD statements and their associated parameters, JOB, procedures and overrides.

261 CICS CUSTOMER INFORMATION CONTROL SYSTEM 3 credits
Prerequisite: 253. Advanced COBOL. Basic concepts of CICS, demonstrates particular usefulness of CICS features that application programmers need.

262 COBOL EFFICIENCY 2 credits
Prerequisite: 253. Provides students with opportunity to enhance their knowledge of COBOL language. The development of COBOL, its facility for change and its place in today's businesses.

263 DATA BASE CONCEPTS 3 credits
Prerequisite: 234-241. Fundamental concepts of three main types of data base management systems, their similarities and differences. Data base design project required. No programming.

264 PL/1 PROGRAMMING 2 credits
Prerequisite: 132 or permission of coordinator. Basic concepts of PL/1 programming and particular usefulness of PL/1 in business applications.

265 PROGRAMMING ETHICS AND SECURITY 2 credits
Prerequisite: 133. Legal principles specific to field of data processing; potential for computer-related crimes and security measures necessary for their prevention.

266 BASIC FOR PROGRAMMERS 3 credits
Prerequisite: 253. Application Programming and permission of coordinator. To familiarize students with important programming techniques and concepts in BASIC language. Emphasis on complex interactive business applications programs using microcomputers.

290 SPECIAL 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.

203 FOUNDATIONALS OF INDUSTRIAL DISTRIBUTION 3 credits
Prerequisite: 2420:101. An introductory examination of the industrial distribution network and pertinent middlemen involved. Includes wholesalers, service institutions and other channel members.

207 Techniques of Merchandising Research 2 credits

210 CONSUMER SERVICE FOUNDATIONS 2 credits
Prerequisite: 2420:101. Discussion of problems facing business today created by social issues in society. Emphasis on understanding viewpoints of all groups involved.

211 MATHEMATICS OF RETAIL DISTRIBUTION 3 credits
Prerequisite: 2420:170. Basic course dealing with merchandising mathematics. Includes understanding markup types, retail method of inventory, sales and stock planning, and open-to-buy computations.

212 PRINCIPLES OF SALESMANSHIP 4 credits
Study of basic principles of selling, emphasizing individual merchandising and sales projects. Includes review of sales function as integral part of marketing process.

290 SPECIAL TOPICS: MARKETING AND SALES (May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in sales and merchandising.

OFFICE ADMINISTRATION 2540:

119 BUSINESS ENGLISH 3 credits
Fundamentals of English language with emphasis on grammatical correctness, acceptable usage, spelling and punctuation. Emphasis writing primarily involves choice of precise words and effective sentence structure with some attention to paragraph development.

121 OFFICE PROBLEMS 3 credits
Introduction to concepts regarding role of office worker, human relations, communications, productivity, reference materials, technical advances in processing information and employment opportunities.

125 BUSINESS MACHINES 10 credits
Basic operations of 10 key electronic calculators. Applied business problems in depreciation, selling, payroll, interest, taxes, metrics, profit, sales reports, percentages, and basic statistics.

130 INTRODUCTION TO INFORMATION MANAGEMENT 3 credits
Prerequisite: 172. Study of the creation, classification, encoding, encapsulating, transmission and storage of information. Emphasis on electronic storage and transmission of information.

131 COMPUTERIZED DOCUMENT CONTROL 4 credits
Prerequisite: 130. Study of the planning and controlling of documents from the time of their creation until their final disposition with emphasis on automated storage and retrieval systems.

140 TYPWRITNG FOR NON-SECRETARIAL MAJORS 2 credits
Beginning typewriting for the non-secretarial student. Fundamentals of the typewriter; application emphasis on individual student needs such as resumes, application letters and forms, term papers, abstracting, etc. Video display terminal instruction. Credit not applicable toward Associate Degree in Office Administration.

150 BEGINNING TYPWRITNG 3 credits
For the beginning student or one who desires a review of fundamentals. Covers basic keyboard, letters, tables and manuscripts. Minimum requirement: 30 wpm with a maximum of 5 errors for 3 minutes.

151 INTERMEDIATE TYPWRITNG 3 credits
Prerequisite: 150 or equivalent. Further development of typewriting. Includes advanced letter styles, forms, letters and reports. Minimum requirement: 40 wpm with a maximum of 5 errors for 5 minutes.

171 SHORTHAND PRINCIPLES 4 credits
Gregg shorthand theory is taught. Minimum attainments: reading from notes at 100 wpm and taking dictation from new material at 50 wpm for 3 minutes. Credit not allowed if taken after 122.

172 SHORTHAND REFRESHER AND TRANSCRIPTION 4 credits
Accelerated review of Gregg shorthand theory. Minimum attainments: reading from notes at 100 wpm and taking dictation from new material at 60 wpm for 3 minutes. Credit allowed if taken after 171.

173 SHORTHAND AND TRANSCRIPTION 4 credits
Prerequisite: 171. Experiential or prerequisite: 151. Emphasis on developing skill in taking shorthand dictation and transcribing at typewriter. Minimum speed requirement of 70 wpm for 5 minutes on new material required.

241 INFORMATION MANAGEMENT 3 credits
Prerequisite: 150 or equivalent. Study of creation, classification, encoding, transmission, storage, retention, transfer and disposition of information. Emphasis on written, oral and machine language communication media in business information systems.

MARKETING AND SALES TECHNOLOGY 2520:

103 PRINCIPLES OF ADVERTISING 3 credits
Review of basic principles and functions of current advertising practice. Includes overview of related distributive industries, market types and economic functions of advertising.

106 VISUAL PROMOTION 4 credits
Studio course in retail display and promotion techniques. Window, interior and point of purchase categories; principles of design as applied to commercial art. Function in visual design, elements of design, color theory, lettering, printing process, layout to camera-ready art.

201 PRINCIPLES OF WHOLESALEING 2 credits
Examination of wholesaler and wholesaling function. Attention given to buying process and relationship of ultimate consumer to wholesaler.

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 of actual retail operations.
TRANSPORTATION ECONOMIC POLICY

110 TRANSPORTATION ECONOMIC POLICY 3 credits
Analysis of role of transportation in nation's economic development. Survey of technical problems, practices, regulations, rates, fares, tariffs and their application in motor transport field and extensive study through progressive problem solving.

115 MOTOR TRANSPORTATION 3 credits
Corequisite: 110 is to be taken in the first semester of the first year of the program. Study of economic characteristics of commercial motor industry with emphasis on problems, practices, rates, regulations, tariffs, operation, equipment and financial aspects.

116 AIR TRANSPORTATION 2 credits
Analysis of economic characteristics of commercial air industry. Study of problems, practices, regulations, rates, tariffs, and services.

117 WATER TRANSPORTATION 2 credits
Prerequisite: 110. Analysis of economic characteristics of commercial water transportation including classification, rates, practices and tariffs.

118 TRANSPORTATION RATE SYSTEMS 3 credits
Analysis of freight rates, tariffs and classifications with particular attention to their application in motor transport field and extensive study through progressive problem solving.

120 TRANSPORTATION TERMINAL MANAGEMENT AND SAFETY OPERATIONS 2 credits
Prerequisite: 110. Management problems, practices, decision-making pertaining to location of facilities, personnel programs, operations and organization. An introduction to safety aspects of transportation operations.

221 TRAFFIC AND DISTRIBUTION MANAGEMENT 3 credits
Prerequisite: 110. Principles and practices applied to distribution management and factors affecting transportation decisions. Some items analyzed are operations, services, warehousing, privileges and documentation.

222 MICROCOMPUTER APPLICATIONS IN TRANSPORTATION 3 credits
Corequisite: 2440:120. Microcomputer solutions to transportation problems. Lease vs. buy analysis, model selection based on cost, vehicle scheduling, use of transportation algorithms.

223 TRANSPORTATION REGULATION 3 credits
Prerequisite: 110. Interstate Commerce Act and related acts including the railroad, communication, law of freight loss and damage. Regulatory procedures including practice and procedure before Interstate Commerce Commission.

224 TRANSPORTATION OF HAZARDOUS MATERIALS AND WASTES 2 credits
Federal regulations, identification and classification of hazardous materials, handling, loading and shipping procedures.

225 INTRODUCTION TO TRAVEL 2 credits
Travel geography, overview of passenger transportation systems role of travel agent, discussion of trends in travel industry.

229 PASSENGER TICKETING 2 credits
Prerequisite: 228. Use and preparation of passenger and group tickets fares, departure notices, refund notices, and other related documents used by travel agent organizations.

230 TOUR PLANNING AND PACKAGING 2 credits
Prerequisite: 228. Planning and packaging of Independent and Escorted Tours (domestic and foreign). Cost estimating, fare distribution, itinerary preparation and routing.

231 MEDICAL ASSISTING TECHNIQUES I 2 credits
Prerequisite: 130. Laboratory techniques, orientation to history of drugs, standardization, microbiology, care of instruments, sterilization and medical asepsis.

232 MEDICAL ASSISTING TECHNIQUES II 2 credits
Prerequisite: 130. Orientation to history of drugs, standardization, legislation, principles of action and classification with emphasis on responsibilities of administration and the medical system.

233 MEDICAL ASSISTING TECHNIQUES III 2 credits
Prerequisite: 231. Knowledge of diagnoses and disease, special duties, theory and practice in taking vital signs, phlebotomy, injections, and orientation to physical examination.

234 MEDICAL MACHINERY TRANSCRIPTION 2 credits
Prerequisites: 231 and 2540:257. Designed to correlate medical terminology with secretarial skills and includes practice in various machines used in dictation and transcription found in medical offices.

HISTOTECHNOLOGY

2730:

225 HISTOTECHNOLOGY PRACTICUM 5 credits
Prerequisites: 3100:366 and permission. Instruction and practical experience in a cooperativve hospital research laboratory.

290 SPECIAL TOPICS IN HISTOTECHNOLOGY 1-2 credits
Prerequisite: permission. Selected topics or subject areas of interest.
RADIOLOGIC TECHNOLOGY 2760:

101 INTRODUCTION TO RADIOLOGIC TECHNOLOGY 2 credits
- Prerequisite: Admission to the program. Introduction to fields of radiology including history of medicine and radiology. Clinical and professional responsibilities of radiologic technologist. Basic protection and basic skills. Orientation to radiology departments of affiliated hospitals. General patient care.

106,7 ANATOMY FOR RADIOLOGIC TECHNOLOGY I, II 3 credits each
- Prerequisite: Admission to the program. Study of human structure and function including visualization through a number of imaging techniques and prepared specimens in the laboratory.

140 MEDICAL AND SURGICAL DISEASES, RADIOLOGY 2 credits
- Prerequisites: 101 and 161. Fundamental principles of disease processes, functional arrangements. Background in pathology needed for radiographer will be provided by lecture and demonstrations.

141 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY I 2 credits
- Prerequisites: 200, 203, and permission. Introduction to systems of measurement. Matter, force, motion, work, power, energy, basic electricity and magnetism.

156,5 RADIOGRAPHIC PRINCIPLES I, II 3 credits each
- Prerequisite: 161. Elementary principles of x-ray generation and their application in medical setting. Radiographic accessories and chemical processing of exposed x-ray film.

170 RADIOGRAPHIC POSITIONING I 3 credits
- Corequisite: 101. Introductory course in instructing student in basic positioning nomenclature and radiologic positioning. Positioning laboratory experience included.

170 RADIOGRAPHIC POSITIONING II 3 credits
- Prerequisite: 170. Continuation of 170. Includes additional positioning and refinement of positioning strategies. Laboratory.

184 CLINICAL APPLICATION I 4 credits
- Corequisites: 101 and 170. Introduction to clinical procedures including x-ray experience in hospital radiology departments. Lectures and laboratory experience correlated and clinical experience closely supervised. Film critique practiced. Observation related to nuclear medicine, therapy, and diagnostic techniques. Largely student observation.

185 CLINICAL APPLICATION II 4 credits
- Prerequisite: 184. Continuation of 184 with more involvement by student continuing under close supervision. Special procedures introduced. Student observations and student participation.

230 RADIOGRAPHIC TECHNIQUE AND CONTROL 3 credits
- Prerequisite: 261. Technical and control as related to basic positioning procedures. Various parts of body, relationship among anatomy and x-ray distance, films and contrast in radiograph. A student performs experiments to demonstrate effects of these factors. Energized control equipment utilized.

240 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY II 3 credits

272 RADIOGRAPHIC POSITIONING III 2 credits
- Prerequisite: 171. Continuation of 171 includes additional positioning and refinement of positioning strategies. Laboratory.

273 RADIOGRAPHIC POSITIONING IV 3 credits
- Prerequisite: 272. Continuation of 272 utilizing advanced techniques and providing concentration of functional and program in positioning techniques for percutaneous and interventional techniques. Laboratory.

286 CLINICAL APPLICATION III 5 credits
- Prerequisite: 185. Summer clinic internship in which student practices all radiographic procedures under supervision. Some independent performance with minimal supervision.

287 CLINICAL APPLICATION IV 4 credits
- Prerequisite: 286 and permission. Clinical performance with supervision. Application at an advanced level. Special techniques: nuclear medicine, therapy, medical surgical pathology, fluoroscopy and critique. Maintenance of equipment, department administration, ethical and professional responsibilities. Clinical experience in hospital radiology department.

288 CLINICAL APPLICATION V 4 credits
- Prerequisite: 287. Clinic experience and minimally supervised clinical procedures of diagnostic radiography.

SURGICAL ASSISTING 2770:

100 INTRODUCTION TO SURGICAL ASSISTING TECHNOLOGY 4 credits
- Prerequisite: Admission to the program. Study of principles of surgical patient care in the operating room. Role of operating room technician and legal and ethical responsibilities defined.

121 SURGICAL ASSISTING PROCEDURES I 2 credits
- Prerequisite: 100. Basic and laboratory procedures in principle and practice of surgical assisting. The surgical patient, surgical procedures, care and maintenance of equipment and materials, medical and infection control, emergency situations in operating room.

131 CLINICAL APPLICATION I 3 credits
- Prerequisite: Permission. Application of learned skills in case of patient in operating room of an affiliated hospital.

222 SURGICAL ASSISTING PROCEDURES II 4 credits
- Prerequisite: 121. Continuation of 121.

232 CLINICAL APPLICATION II 4 credits
- Prerequisite: 131. Application of learned skills in case of patient in operating room of an affiliated hospital.

233 CLINICAL APPLICATION III 4 credits
- Prerequisite: 222. Application of learned skills in case of patient in operating room of an affiliated hospital.

234 CLINICAL APPLICATION IV 4 credits
- Prerequisites: 232 and 242. A student is assigned to surgical services of affiliated hospitals. Assists in surgery and carries out preoperative and postoperative procedures as assigned. Participates under the supervision of the surgeon or the resident surgical staff.

235 CLINICAL APPLICATION V 3 credits
- Prerequisite: 234. A student is assigned to surgical services of affiliated hospitals. Assists in surgery and carries out preoperative and postoperative procedures as assigned. Participates under the supervision of the surgeon or the resident surgical staff.

236 CLINICAL APPLICATION VI 3 credits
- Prerequisite: 235. A student is assigned to surgical services of affiliated hospitals. Assists in surgery and carries out preoperative and postoperative procedures as assigned. Participates under the supervision of the surgeon or the resident surgical staff.

741 SURGICAL ANATOMY 1 credit
- Prerequisites: 100 and 207. Surgical anatomy of the human body as related to various surgical specialties.

242 SURGICAL LABORATORY PROCEDURES 3 credits
- Prerequisites: 121 and permission. Participation in laboratory instruction in surgical technic procedures.

243 INTRODUCTION TO MEDICINE 3 credits
- Prerequisites: 241, 242 and Pathophysiology, clinical manifestations and medical management of surgically related disorders.

244 MEDICAL HISTORY AND PHYSICAL EVALUATION 2 credits
- Prerequisites: 241, 242. Introduction to techniques of obtaining medical history and physical examinations, techniques of interviewing and physical examination.

245 ROENTGENOGRAM ASSESSMENT 1 credit
- Prerequisite: 242. Roentgenogram assessment, basic skill in a diagnostic and histologic interpretation of gross abnormalities on roentgenograms of the head, neck, chest, abdomen, pelvis and extremities.

246 MEDICAL LABORATORY PROCEDURES 1 credit
- Prerequisites: 241, 242. Introduction to the laboratory preparation and analysis of biological fluids and other substances through standard procedures utilized in surgical laboratories to aid the physician in diagnosis, treatment and prevention of disease.

247 PULMONARY ASSESSMENT AND ELECTROCARDIOGRAPHY 3 credits
- Prerequisite: 242. Oxygen administration, human control, breathing, blood pressure measurement, equipment ventilation, therapy, preoperative and postoperative pulmonary procedures, electrocardiography and recording techniques, interpretation of electrocardiograms and abnormal pulmonary functions.
ALLIED HEALTH

2780:

101 INTRODUCTION TO PHYSICAL THERAPY 2 credits
Prerequisite: admission to program. Basic science and laws governing gases as well as appliances to administer and monitor oxygen. Covers equipment used to generate and give aerosol therapy. Lecture/Laboratory.

122 PATIENT CARE IN RESPIRATORY THERAPY 3 credits
Prerequisite: 121. Covers basic hospital practices in sterile technique, suctioning and physical drainage. Lecture/Laboratory.

123 MECHANICAL VENTILATORS 3 credits
Prerequisite: 122. Introduction to different brands of ventilators and their functions. Activity and airway complications.

131 CLINICAL APPLICATIONS I 3 credits
Prerequisites: 121 and admission to program. Introduction to work in hospital and hands-on experience on hospital equipment. Laboratory.

132 CLINICAL APPLICATIONS II 2 credits
Prerequisites: 122, 131. First of several rotations through hospital. Mechanical ventilation is stressed.

133 CLINICAL APPLICATIONS III 5 credits
Prerequisites: 123, 132, 141, 211. Semester is broken into three five-week rotations. One at each hospital to cover specialty areas for that rotation. Laboratory.

134 CLINICAL APPLICATIONS IV 3 credits
Prerequisites: 131, 142, 213. Semester has three five-week sessions. They will be spent at different clinical sites working on their specialty areas. Laboratory.

141 PHARMACOLOGY 2 credits
Prerequisites: 2840 100 and 3100 130. Drugs administered by respiratory therapy and effect, route of action in the body. Lecture.

142 PATHOLOGY FOR RESPIRATORY THERAPY 2 credits
Prerequisites: 201 and 3100 130. Discussion of disease processes, diseases of lung and heart, their effect on respiratory therapy.

201 ANATOMY AND PHYSIOLOGY OF CARDIO-PULMONARY SYSTEMS 2 credits
Prerequisite: 3100 206. Corequisite: 3100 207. Study of normal anatomy and physiology of heart and lungs. Lecture.

223 ADVANCED RESPIRATORY THERAPY 2 credits
Prerequisites: 122, 141. Covers EKG, Pulmonary functions, research studies and radioactive pulmonary function studies. Lecture/Laboratory.

224 PULMONARY REHABILITATION AND THE RESPIRATORY THERAPY DEPARTMENT 2 credits
Prerequisites: 141. Covers areas of pulmonary rehabilitation. Includes essentials of establishing a respiratory therapy department. Lecture/Laboratory.

290 SPECIAL TOPICS: RESPIRATORY THERAPY 1-3 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in respiratory therapy.

CHEMICAL TECHNOLOGY

2840:

100 BASIC CHEMISTRY 3 credits
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.

101 INTRODUCTORY CHEMISTRY 3 credits
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.

102 INTRODUCTORY AND ANALYTICAL CHEMISTRY 3 credits
Prerequisite: 101 or permission. Chemical equilibria, ionization, radioactivity. Properties of selected metals and nonmetals. Introduction to organic chemistry. Basic concepts of qualitative analysis. Identification of cations and anions. Laboratory.

103 CHEMICAL CALCULATIONS I 1 credit
Corequisite 101 or permission of instructor. Calculations as applied to general chemistry courses. Topics include unit conversions, percentages, grams, significant figures, moles. Suitable as a refresher course.

105 CHEMICAL CALCULATIONS II 1 credit
Corequisite: 102 or permission of instructor. Continuation of calculations review for introductory chemistry. Chemical equilibria, concentrations, pH, solubility products, redox reactions, thermometry.

121 ORGANIC PRINCIPLES 4 credits
Structure, nomenclature and classification of simple organic compounds. Their physical and chemical properties, methods of separation, analysis and synthesis. Laboratory.

151 BASIC PHYSICS: MECHANICS 3 credits
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.

152 BASIC PHYSICS: ELECTRICITY AND MAGNETISM 2 credits
Prerequisite: 151 and 2020 131. Principles of electricity and magnetism. Electrodynamics, basic direct current circuits, magnetism and electromagnetism, alternating currents, basic AC circuits. Laboratory.

153 BASIC PHYSICS: HEAT, LIGHT AND SOUND 2 credits
Prerequisites: 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.

201 QUANTITATIVE ANALYSIS 4 credits
Corequisite: 102. Theory of quantitative analytical chemistry including gravimetric, volumetric and electrochemical procedures. Laboratory.

202 INSTRUMENTAL METHODS 4 credits
Prerequisites: 201 and one year of physics or permission. Instrumentation employed in qualitative and quantitative analysis. Theory and practice in chromatography, spectroscopic and other instrumental methods. Laboratory.

210 SCIENTIFIC GLASS BLOWING 1 credit
Laboratory instruction in art of glass blowing. Fabrication and blowing of scientific glassware and chemical apparatus.

250 ELEMENTS OF PHYSICAL CHEMISTRY 3 credits
Prerequisites: 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.

255 LITERATURE OF SCIENCE AND TECHNOLOGY 1 credit
Prerequisite: permission. Literature of science and technology as used to gather technical information. Techniques of abstracting and the computer search.

260 COMPOUNDING METHODS 2 credits
Prerequisites: 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.

270 NATURAL AND SYNTHETIC ORGANIC POLYMERS 4 credits
Prerequisite: 121 or permission. Structure and properties of macromolecules with particular reference to carbohydrates, proteins, nucleic acids, rubber, synthetic thermostatic, thermosetting and elastomeric polymers.

290 SPECIAL TOPICS: CHEMICAL TECHNOLOGY 1-2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in chemical technology.

ELECTRONIC TECHNOLOGY

2860:

120 DC CIRCUITS 4 credits
Corequisites: 2020 131. Nature of electricity, current and voltage, Ohm's Law, network analysis, DC instruments, magnetism, inductance, capacitance, transients and time constants.

122 AC CIRCUITS 3 credits
Prerequisite: 120. Corequisite: 2020 132. Sinusoidal voltages and currents, reactance and impedance, methods of AC circuit analysis, AC sources, transformers, resonance, polyphase circuits.

123 ELECTRONICS I 3 credits
Corequisite: 122. Physical theory, characteristics, operational parameters and circuit consideration of solid-state electronic devices.
Courses of Instruction

MANUFACTURING TECHNOLOGY

2880:

100 INTRODUCTION TO MANUFACTURING MANAGEMENT
Introduction to functions of major sections of manufacturing operation. Departmental purposes and interrelationships. Emphasis on conceptual relationships with other industries and relations to major functions encountered later in individual courses.

101 INTRODUCTION TO COMPUTER AIDED MANUFACTURING
Prerequisite: 100. Introduction to use of computer controlled equipment in solution of manufacturing related problems. Concepts of NC machine operation and programming, robotics and computer assisted parts measurement.

130 WORK MEASUREMENT PROCEDURES I
Prerequisite: 100. Familiarizes student with procedures for handwork and techniques for choosing the best method for accomplishing such tasks.

141 SAFETY PROCEDURES

200 MANUFACTURING PROFITABILITY
Prerequisite: 100. Analyzes and controls production cost and profit within market limitations discussed.

210 CONTROLLING AND SCHEDULING PRODUCTION
Prerequisite: 100. Production order followed from sales order through expediting, scheduling and shipping. Also covers material control and inventory record keeping. Critical path, linear programming and CPM techniques discussed.

211 COMPUTERIZED MANUFACTURING I
Prerequisite: 100. Processing of production orders by computer through requisitioning, plant loading, expediting, scheduling and shipping of product. Emphasis on computerized material requirements, plant schedules, and shipping orders as by-products of production control order.

231 PLANT LAYOUT
Prerequisite: 100. Solution of activities for a production facility. Emphasizes process factors of production: manpower, materials and equipment.

232 LABOR MANAGEMENT RELATIONS
Prerequisite: 100. Study of historical background of labor movement and management viewpoints. Legal framework for modern labor organizations and collective bargaining process.

235 WORK MEASUREMENT PROCEDURES II
Prerequisite: 130. Continuation of 130. Work measurement techniques and establishment of production standards for optimization of lowered costs.

241 QUALITY CONTROL PROCEDURES
Prerequisite: 200:131. Theory and practice of inspection and sampling techniques for measurement of quality. QC charts, sampling plans, tolerances, sampling techniques, and quality control.

290 SPECIAL TOPICS: INDUSTRIAL TECHNOLOGY
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in industrial technology.

INSTRUMENTATION TECHNOLOGY

2900:

121 FUNDAMENTALS OF INSTRUMENTATION
Prerequisites: 2840:151 and 2860:123 or 210. Study of variables encountered in process instrumentation, indicating and recording devices and applications of physical principles affecting measurement and control.

232 PROCESS CONTROL
Prerequisite: 231. Study of analysis and design of process control systems with emphasis on techniques and instrumentation used in process control. Digital control fundamentals introduced.
### MECHANICAL TECHNOLOGY

#### 2920:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>121: TECHNICAL DRAWING I</td>
<td>3 credits</td>
</tr>
<tr>
<td>Lettering and proper use of drawing instruments, freehand sketching, geometric drawing, orthographic projection, sections, introduction to basic descriptive geometry.</td>
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</tr>
<tr>
<td>122: TECHNICAL DRAWING II</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 121. Sections and conventions, lettering, dimensions, tolerances, threads, sections, descriptive geometry, intersections, development.</td>
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</tr>
<tr>
<td>242: DESIGN MATERIALS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 2800.125, concurrent 2980.241. Fundamental properties of materials. Material testing. Applications of methods to control material properties.</td>
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</tr>
<tr>
<td>242: KINETICS</td>
<td>2 credits</td>
</tr>
<tr>
<td>Prerequisite: 2980.241. Study of rigid-body motions of simple linkages, cams, gears and gear trains. Graphical vector solutions emphasize industrial applications presented.</td>
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</tr>
<tr>
<td>244: DYNAMICS</td>
<td>2 credits</td>
</tr>
<tr>
<td>Prerequisites: 241.2020.233 and 2890.125. Introduction to particle dynamics, displacement, velocity and acceleration of a constrained rigid body in plane motion. Kinetics of particles and rigid bodies, work and energy, mechanical vibrations.</td>
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</tr>
<tr>
<td>245: MECHANICAL DESIGN I</td>
<td>5 credits</td>
</tr>
<tr>
<td>247: TECHNOLOGY OF MACHINE TOOLS</td>
<td>3 credits</td>
</tr>
<tr>
<td>249: APPLIED THERMAL ENERGY</td>
<td>2 credits</td>
</tr>
<tr>
<td>251: FLUID POWER</td>
<td>2 credits</td>
</tr>
<tr>
<td>252: THERMO-FLUIDS LABORATORY</td>
<td>1 credit</td>
</tr>
<tr>
<td>Prerequisite: 249. Corequisite: 251. Laboratory experiments in applied thermal energy and fluid power.</td>
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<tr>
<td>290: SPECIAL TOPICS: MECHANICAL TECHNOLOGY (May be repeated for a total of four credits)</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: Permission. Selected topics on subjects of interest in mechanical technology.</td>
<td></td>
</tr>
<tr>
<td>310: ECONOMICS OF TECHNOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 81 or permission. Economic principles as they pertain to technology. Equivalence: alternatives, costs, depreciation, valuation. Project studies.</td>
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</tr>
<tr>
<td>356: WELDING, THEORY AND PRACTICE</td>
<td>3 credits</td>
</tr>
<tr>
<td>356: WELDING PROJECTS</td>
<td>1 credit</td>
</tr>
<tr>
<td>Prerequisite: 335. Individual projects containing elements of analysis, design and laboratory implementation.</td>
<td></td>
</tr>
<tr>
<td>339: ADVANCED TECHNOLOGY OF MACHINE TOOLS</td>
<td>2 credits</td>
</tr>
<tr>
<td>Prerequisite: 247, concurrent 242. Selected topics dealing with sophisticated metal cutting techniques.</td>
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</tr>
<tr>
<td>346: MECHANICAL DESIGN II</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 245. Continuation of design of machine components. Bearings, gears, brakes, clutches, machine vibrations and dynamic loads.</td>
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</tr>
<tr>
<td>347: PRODUCTION MACHINERY AND PROCESSES</td>
<td>2 credits</td>
</tr>
<tr>
<td>348: INTRODUCTION TO NUMERICAL CONTROL</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisites: 121, 2020.134, introduction to numerical control (N/C) of operation of machine tools and other processing machines. Includes programming types of N/C systems, economic evaluation.</td>
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</tr>
<tr>
<td>360: FUNDAMENTALS OF AUTOMOTIVE SYSTEMS</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 249. System function and interaction of various subsystems. Diagnosis of major important systems and use of instruments such as vacuum gauge, compression and cylinder leakage test gauges, diesel meter and system analyzer. Laboratory discussions with hands-on experience for student dependent on available lab time. Field trips to observe operation of computer controlled testing and diagnosis.</td>
<td></td>
</tr>
<tr>
<td>365: FUNDAMENTALS OF HEATING AND AIR CONDITIONING</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 249. Basic design knowledge of heating and air conditioning. Includes basic heat transfer concepts, heat loss and gain of buildings, human reactions to conditioned atmosphere, heating and cooling load requirements and variations in typical performance of heating and cooling equipment.</td>
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</tr>
</tbody>
</table>

### DRAFTING TECHNOLOGY

#### 2940:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>140: SURVEY OF ENGINEERING TECHNOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>Prerequisite: 2020.131. Introductory course in basic concepts pertaining to mechanical and architectural technology. Study of technical terminology, applied mathematics and algebra. Graphical solutions will be emphasized.</td>
<td></td>
</tr>
<tr>
<td>150: DRAFTING DESIGN PROBLEMS</td>
<td>2 credits</td>
</tr>
<tr>
<td>Prerequisite: 2020.131. Concurrent 151. Introductory course in basic concepts in engineering technology computations. A study of technical terminology and applied mathematics.</td>
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</tr>
<tr>
<td>151: TECHNICAL COMPUTATIONS</td>
<td>1 credit</td>
</tr>
<tr>
<td>Prerequisite: 2020.131. Corequisite for drafting technology students only. Use of Computer to solve typical problems in engineering technology. Concepts of how drafting, locating, variables, arrays, subroutines enhanced BASIC computer language introduced.</td>
<td></td>
</tr>
<tr>
<td>160: MANUFACTURING AND CONSTRUCTION PROCESSES</td>
<td>2 credits</td>
</tr>
<tr>
<td>Firm field trips in various technologies to familiarize student with manufacturing and construction processes. Water or oral reports will be required after each field trip.</td>
<td></td>
</tr>
<tr>
<td>170: SURVEYING DRAFTING</td>
<td>3 credits</td>
</tr>
<tr>
<td>(One hour lecture, six hour laboratory) Prerequisite: 2920.121. Provides basis understanding of drafting procedures, techniques and tools required for the various phases of survey office work. Production of topographic maps, plan and profile drawings, cross-section drawings and surfacing calculations.</td>
<td></td>
</tr>
<tr>
<td>200: ADVANCED DRAFTING</td>
<td>3 credits</td>
</tr>
<tr>
<td>(One hour lecture, six hour laboratory) Prerequisite: 2920.122. Descriptive geometry and geometric dimensioning. Principles of descriptive geometry applied to practical problems pertaining to the civil and mechanical study of geometry. Geometric dimensioning.</td>
<td></td>
</tr>
<tr>
<td>210: COMPUTER DRAFTING</td>
<td>3 credits</td>
</tr>
<tr>
<td>(One hour lecture, six hour laboratory) Prerequisite: 151 and 2920.122. Provides basic understanding of equipment used in computerized drafting and of numerical control (N/C) concept. Principles are definitions of most important terminology and drafting standards relating to N/C.</td>
<td></td>
</tr>
</tbody>
</table>
SURVEYING AND CONSTRUCTION TECHNOLOGY

2980:

122 BASIC SURVEYING 3 credits
Basic tools and computations for surveying; measurements of distance, elevations and angles; traverse surveys. Field practice.

123 SURVEYING FIELD PRACTICE 2 credits
Prerequisite: 122. Practical experience in use of surveying equipment and methods of surveying. Provides student with responsibility for making decisions and planning and directing complete project.

125 STATICS 3 credits
Prerequisites: 2940:151 and 2920:132. Forces, resultant and couples. Equilibrium of force systems. Trusses, frames, first and second moment of areas, friction.

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 earthwork. Field practice.

224 LAND SURVEYING 3 credits
Prerequisite: 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.

225 ADVANCED SURVEYING 4 credits
Prerequisite: 122. Introduction to theory of errors, precise leveling, baseline measurement, triangulation, trilateration and bearings from celestial observation. Photogrammetry. Field practice.

226 SUBDIVISION DESIGN 2 credits
Prerequisite: 222 corequisite: 224. Site analysis, land use controls and plotting procedures. Laboratory includes preparation of various types of projects leading to a complete subdivision.

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.

232 CONSTRUCTION 3 credits
Prerequisite: 222 or permission. Planning of construction operations. Construction equipment and selection for typical jobs. Emphasis on heavy construction.

233 CONSTRUCTION ADMINISTRATION 2 credits

234 ELEMENTS OF STRUCTURES 3 credits
Prerequisite: 241. Principles of stress and structural analysis, members in steel, timber and concrete connections.

237 MATERIALS TESTING I 2 credits
Laboratory testing of soils with emphasis on physical properties of soil. Laboratory and field procedures used for quality control. Testing of concrete mixes.

238 MATERIALS TESTING II 2 credits
Prerequisite: 237. Corequisite: 241. Mix design of concrete. Laboratory testing of ferrous and nonferrous metals, woods and concrete. Experiments demonstrate physical properties as related to design.

241 STRENGTH OF MATERIALS 3 credits
Prerequisite: 125. Stress, strain and stress-strain relationships. Tension, compression, torsion, beams. Stress and moment diagrams.

245 COST ANALYSIS AND ESTIMATING 3 credits
Quantity surveys in construction. Elements of cost in construction, determination of unit costs, analysis of cost records.

250 STRUCTURAL DRAFTING 2 credits
Prerequisite: 2920:121. Duties of structural draftsman in preparation of detailed working drawings for steel and concrete. Emphasis on portrayal, dimensions and notes on a working drawing.

290 SPECIAL TOPICS: 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

COOPERATIVE EDUCATION

3000:

301 COOPERATIVE EDUCATION 0 credits
(May be repeated)
For Cooperative Education Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

BIOLOGY

3100:

100 NATURE STUDY: PLANTS 3 credits
Identification and biology of common plants of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.

101 NATURE STUDY: ANIMALS 3 credits
Identification and biology of common animals of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.

104 ECOLOGY AND BIOLOGICAL RESOURCES 1 credit
FIELD LABORATORY
Corequisite: 105. Short field trips and laboratory studies illustrating natural and man-modified characteristics of selected local ecosystems.

105 INTRODUCTION TO ECOLOGY 2 credits
Basic principles governing structure and function of natural ecosystems. Various options for managing natural resources, human populations, biotic communities and industrial technologies at global level emphasized. Not available for credit toward a degree in biology.

111 PRINCIPLES OF BIOLOGY 4 credits
Molecular, cellular basis of life: energy transformations, metabolism, nutrient procurement, gas exchange, internal transport, homeostatic mechanisms, control systems in plants and animals. Laboratory.

112 PRINCIPLES OF BIOLOGY 4 credits
Prerequisite: 111. Cell reproduction, genetics, development, evolution, classification, behavior, ecology of plants and animals. (111-112 are an integrated course for majors in biology and related fields.) Laboratory.

130 PRINCIPLES OF MICROBIOLOGY 2 credits
Basic principles and terminology of microbiology; cultivation and control of microorganisms; relationships of microorganisms to man and his environment; medical microbiology. Laboratory.

190,1 HEALTH CARE DELIVERY SYSTEMS 1 credit each
Health care principles and practices. Restricted to the student in NEUCOM six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences.

192 BIOLOGY OF AGING 3 credits
Prerequisite: 112 or 265 or equivalent. Introduction to anatomical and physiological changes occurring in organ systems of man during aging process; cellular basis for these changes; biological theories of aging.

206,7 HUMAN ANATOMY AND PHYSIOLOGY 3 credits each
Sequential. Structure and function of the human body. Background of high school chemistry and biology recommended.

211 GENERAL GENETICS 3 credits
Prerequisite: 112. Principles of heredity, principles of genetics.

212 GENETICS LABORATORY 1 credit
Prerequisite or corequisite: 211. Fundamental principles of genetics illustrated by experiments with Drosophila and other organisms.

217 GENERAL ECOLOGY 3 credits
Prerequisite: 112. Study of interrelationships between organisms and environment.

254 ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING 3 credits
Prerequisite: 265. Study of anatomy and physiology of organs directly and indirectly responsible for sound perception and production of speech. Laboratory.

265 INTRODUCTORY HUMAN PHYSIOLOGY 4 credits
Study of physiological processes in human body, particularly at organ systems level. Not open to preprofessional majors. Laboratory.

290,1 HEALTH CARE DELIVERY SYSTEMS 1 credit each
Health care principles and practices. A continuation of 190,1 for a second year student in NEUCOM six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences. Some field trips.

311 CELL BIOLOGY 3 credits
Prerequisites: 112 and 3150:202 (organism and biochemistry). Study of structure and function of cells using microsomal and animal cells for demonstration of common functions.

315 EVOLUTIONARY BIOLOGY DISCUSSION 1 credit
Prerequisite: 211. Informal discussions of various aspects of organic evolution of general or special interest.

316 EVOLUTIONARY BIOLOGY 3 credits
Prerequisite: 211. History of evolutionary thought; Darwinian and post-Darwinian concepts and mechanisms of evolution; molecular evolution; evolutionary history of plants and animals.

331 MICROBIOLOGY 4 credits
Prerequisites: 112 and 3150:202 or equivalent. Survey of prokaryotes with emphasis on the bacteria: their morphology, cultivation and chemical characteristics. Relationships of microorganisms to man and his environment. Laboratory.

341 FLORA AND TAXONOMY I** 3 credits
Prerequisite: 112. Collection-identification of autumn-flowering plants, their family characteristics and discussion of methods used to determine their relationships. Plants used by man discussed and plant collection required. Laboratory.

342 FLORA AND TAXONOMY II** 3 credits
Prerequisite: 112. Classification systems, international rules governing application of names and collection-identification of spring-flowering plants. Family characteristics. Plant collection. Laboratory.

351 INVERTEBRATE ZOOLOGY** 4 credits
Prerequisite: 112. Invertebrate groups, their classification, anatomy and life history of representative forms. Laboratory.

353 GENERAL ENTOMOLOGY** 4 credits
Prerequisite: 112. Structure, physiology, life cycles and economic importance of insects; survey of orders and major families. An insect collection is made. Laboratory.

355 PARASITOLOGY 4 credits
Prerequisite: 112. Principles of parasitism; survey of the more important human and veterinary parasitic diseases. Laboratory.

361,2 HUMAN ANATOMY AND PHYSIOLOGY 3 credits each
Sequential. Prerequisite: one year of college chemistry. Study of structure and function of the human body. Laboratory.

365 HISTOLOGY I 3 credits
Prerequisite: 311. Cellular structure of organs in relation to their functional activity, life history, comparative development. Laboratory.

366 HISTOLOGY II 3 credits
Prerequisite: 365. Microscopic study of animal tissue preparations and histochemical stains. Emphasis on functional differences. Laboratory.

381 HUMAN GENETICS 2 credits
Prerequisite: 112 or 362. Principles of genetics in the human. Immunogenetics, mutation, genetics of population, selection and eugenics. Not open to biology majors.

383 LABORATORY TECHNIQUES AND INSTRUMENTATION IN BIOLOGY 2 credits
Prerequisites: 112 and 3150:132,133,134. Instruction in techniques and instrumentation used in biological laboratories.

384 TECHNIQUES AND INSTRUMENTATION LABORATORY IN BIOLOGY 1 credit
Prerequisite or corequisite: 383. Application of biological techniques and instrumentation with emphasis on isolation and identification of cellular components and processes. Also includes enzylogy, use of vetersopes and light and electron microscopy.

400/500 FOOD PLANTS 2 credits
Prerequisite: 311. or permission of instructor. A survey of the plants used for human food, including their history, structure, uses.

*Field trips involved; minor transportation costs.

**Field trips involved; minor transportation costs.
424/522 CONSERVATION OF BIOLOGICAL RESOURCES*  4 credits
Prerequisite: 217 or permission. Basic principles for management of plant and animal resources and natural areas. Political, economic, and social aspects of resource management. Laboratory with field trips.

424/524 FRESHWATER ECOLOGY*  3 credits
Prerequisite: 217. Field, laboratory study of lake ecosystems. Species composition of selected biotic communities, community energetics, nutrient cycling. Limnological survey of a local lake. Laboratory.

426/528 APPLIED AQUATIC ECOLOGY*  3 credits
Prerequisite: permission. Biological methods for assessing quality of natural waterways. Emphasis given to use of benthic invertebrates as indices of water quality. Laboratory.

428/529 BIOLOGY OF BEHAVIOR  2 credits
Prerequisites: 211, 217 and 316. Biological basis of behavior: ethological function; causation, significance, evolution and adaptability of behavior.

429/529 BIOLOGY OF BEHAVIOR LABORATORY  2 credits
Pre- or co-requisites: 428/528 and permission of instructor. Individualized, directed study to provide the student with firsthand experience in observing, describing and interpreting animal behavior.

431/531 BACTERIAL PHYSIOLOGY  3 credits
Prerequisites: 331 and 315202. Biochemical activities in bacterial cell, emphasizing enzymatic mechanisms of metabolic transformations. Energy relationships in catabolic and biosynthetic pathways stressed.

432/532 ADVANCED GENERAL BACTERIOLOGY  4 credits
Prerequisite: 331. Study of the groups of bacteria involved in the production of food or chemicals, those found in soil and water, and those involved in microorganism biochemical cycles. Laboratory.

433/533 PATHOGENIC BACTERIOLOGY  4 credits
Prerequisites: 331 and pre- or corequisites 437. Study of major groups of bacteria which produce infections in man. Biochemical properties of microorganisms which engender virulence and nature of host response. Laboratory.

435/535 VIROLOGY  4 credits
Prerequisite: 331. Physical, chemical and biological properties of viruses including mechanisms of infection, genetics and tumor formation; methods of cultivation and identification. Laboratory.

437/537 IMMUNOLOGY  4 credits
Prerequisite: 331; recommended: 433. Nature of antigens, antibody response and antigen-antibody reactions. Site and mechanism of antibody formation, hypersensitivity, immunologic tolerance and immune diseases considered. Laboratory.

440/540 MYCODOLOGY  4 credits
Prerequisite: 112. Structure, life history, classification of representative fungi with emphasis on the importance of fungi to man. Laboratory.

441/541 PLANT DEVELOPMENT  4 credits
Prerequisites: 112 and one year of organic chemistry. Embryology and morphogenesis of plants in relation to physical, chemical, genetic and spatial factors. Laboratory.

442/542 PLANT ANATOMY  3 credits
Prerequisite: 112. Structure and development of cells, tissues, organs and organ systems of seed plants. Laboratory.

443/543 PHYSIOLOGY  4 credits
Prerequisite: 112. Examination of the major groups of algae with emphasis on life histories and their relationship to algal form and structure. Laboratory.

445/545 PLANT MORPHOLOGY*  4 credits
Prerequisite: 112. Structure, reproduction, life cycles, ecology, evolution, economic significance of land plants-bryophytes, club-mosses, ferns, horsetails, ferns, seed plants. Laboratory.

447/547 PLANT PHYSIOLOGY  3 credits
Prerequisites: 112 and one year of organic chemistry. Water, soil and mineral requirements of plants, and their metabolism, growth and response to internal and external stimuli. Laboratory.

449/549 PLANT BIOTECNOMICS  2 credits
Prerequisite: four credits of biology at 400 level. Current research methods and theories in plant physiology and taxonomy. Includes study of original publications, discussion of experimental methods and use of herbarium in research.

450/550 ANIMAL PESTS AND VECTORS  3 credits
Prerequisite: 217 or permission of instructor. Study of the biology and control of disease vectors and urban pests. Laboratory.

456/556 ORNITHOLOGY*  3 credits
Prerequisite: 112. Introduction to the biology of birds, classification, anatomy, physiology, behavior, evolution, natural history and field identification. Laboratory.

458/558 VETERINARY ZOOLOGY  4 credits
Prerequisite: 316 or permission. Biology of vertebrates, except birds—evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.

461/561,2 HUMAN PHYSIOLOGY  4 credits each
Prerequisite: senior or graduate standing. Detailed study of function of the human body with special emphasis on neuromuscular, cardiovascular, respiratory, renal and endocrine physiology. Laboratory.

464/564 GENERAL AND COMPARATIVE PHYSIOLOGY  4 credits
Prerequisites: 112 and one year of organic chemistry. Study of cellular, organismic, respiratory, cardiovascular, endocrine and neural mechanisms involved in understanding the physiology of a variety of invertebrate and vertebrate animals. Laboratory.

465/565 ADVANCED CARDIOVASCULAR PHYSIOLOGY  3 credits
Prerequisite: 462 or 562 or permission. Study of biological mechanisms involved in heart attack, strokes, fluid balance, hypertension and heart disease. Controversial issues in each area will be examined and current research presented.

466/567 DEVELOPMENTAL ANATOMY  4 credits each
Prerequisite: 112. Sequence designed to introduce processes of vertebrate development. Lecture and laboratory work includes descriptive and experimental embryology; phylogenetic development of major vertebrate orders and individual study research. Laboratory.

468/568 THE PHYSIOLOGY OF REPRODUCTION  2 credits
Prerequisite: 462 or 562 or permission. Study of the physiological mechanisms of reproduction throughout the animal kingdom with special emphasis upon mammalian endocrinological control. Controversial issues in the field will be examined and current research presented.

469/569 RADIATION BIOLOGY**  3 credits
Prerequisite: permission. Principles of radioactivity, interaction with matter, particularly its effects on biological systems. Detection devices, radiation safety and dosimetry, use of radiotabeled compounds in laboratory. Laboratory.

471/571 ADVANCED GENETICS  3 credits
Prerequisite: 211. Nature of the gene; genetic codes; hereditary determinants; mutagenesis and genes in population. Lecture and seminar.

474/574 PHARMACOLOGY  3 credits
Prerequisite: 311. Recommended: college-level physiology. Interactions of drugs and living systems with emphasis on molecular and cellular mechanisms of action, drug metabolism and excretion, and selected aspects of environmental toxicology. Cancellation aspects and specific drug therapies not considered in detail.

478/578 WORKSHOP IN BIOLOGY  1-3 credits (May be repeated)
Prerequisite: permission of instructor. Group studies of special topics in biology. May not be used to meet undergraduate or graduate major requirements in biology. May be used for elective credit only.

495 SPECIAL TOPICS: BIOLOGY  1-3 credits (May be repeated)
Prerequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists. A maximum of six credits may be applied to requirements for a major.

497/597,8 BIOLOGICAL PROBLEMS  1-2 credits each
Prerequisite: permission. Honors level work, usually consisting of laboratory investigations.

499 SENIOR HONORS PROGRAM IN BIOLOGY  1-3 credits (May be repeated for a total of five credits)
Prerequisites: senior standing in Honors Program and approval of honors preceptor. Open only to biology majors in Honors Program. Independent study leading to completion of approved senior honors.

Graduate Courses

631 EXPERIMENTAL BACTERIAL PHYSIOLOGY  4 credits
Prerequisite: 531 or permission of instructor. Basic techniques peculiar to study of microbial physiology and modification of selected biochemical techniques for application to microbial systems. Laboratory.

660 ENVIRONMENTAL PHYSIOLOGY  3 credits
Prerequisite: 561.2. Study of physiological reactions of healthy mammals to natural changes or extremes of physical environment.

681 CYTOLOGY  3 credits
Prerequisite: 311. Structure and function of cells at ultrastructural level. Three lecture hours a week.

685 ANIMAL TISSUE CULTURE  3 credits
Prerequisite: 332. Tissue culture techniques; biology and physiology of animal cells and tissues under in vitro conditions; application of these techniques to radiology, cancer chemotherapy and animal cell genetics. Laboratory.

686,7 RESEARCH IN THE BIOLOGY OF AGING  3 credits each
 Sequential. Prerequisite: graduate standing in biology, or by approval in related fields. Introduction to research techniques in study of biological aspects of aging and experience in special research project in the field.
688 PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY  
Prerequisites: 311 or 681 or equivalent. Modern cytological methods using transmission electron microscopy. Preparation required to demonstrate proficiency in quantitative techniques, use of ultramicrotome, light and electron microscopes and darkroom techniques.  
3 credits

689 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY  
Prerequisites: 311, 681 or equivalent. An introduction to modern cytological methods using the scanning electron microscope. Preparation required to demonstrate proficiency in quantitative techniques, use of supplemental equipment such as the scanning point drying apparatus and the sputter-coating apparatus and the efficient use of the scanning electron microscope.  
3 credits

695 SPECIAL TOPICS: BIOLOGY  
(May be repeated: Prerequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.  
1-3 credits

697 SEMINAR IN BIOLOGY  
(May be repeated: Prerequisite: permission. Attendance at all departmental seminars and preparation of seminar based on original research. Required of all thesis option students who are planning their thesis research.  
1 credit each

699 MASTER'S RESEARCH  
(May be repeated: Prerequisite: permission. A minimum of six credits is required for thesis option student.  
1-6 credits

BIOLOGY/NEOUCOM  
3110:

620 MICROSCOPIC ANATOMY  
4 credits  
Prerequisites: Graduate standing, permission and cell biology. Histology suggested. Microscopic bases for normal and abnormal functions; structure-function relationships in human microscopic anatomy. Lectures, special laboratory, learning techniques using human tissues.

630 HUMAN GROSS ANATOMY AND EMBRYOLOGY  
3 credits  
Prerequisites: Graduate standing and permission. An extensive survey of human macroanatomy. 

631 HUMAN GROSS ANATOMY AND EMBRYOLOGY LABORATORY  
3 credits  

641 FUNCTIONAL NEUROANATOMY  
6 credits  
Prerequisites: Permission or graduate standing. Study of structure and function of mammalian nervous system with emphasis on human brain and human behavior. Laboratory.

643 NEUROPHYSIOLOGY  
4 credits  
Prerequisite: 641. The relations of the neurosciences to the fundamental properties of nervous tissue, establishing a firm base in experimental neurophysiology. Laboratory.

660 RADIOISOTOPES IN MEDICINE  
1 credit  
Prerequisite: permission or graduate standing. A survey of the use of radioisotopes in medicine and research. Successful completion of this course qualifies the student for approval by the Nuclear Regulatory Commission for use of radioisotopes in research, laboratory.

995 SPECIAL TOPICS: BIOLOGY/NEOUCOM  
1-6 credits  
Prerequisite: permission of instructor. Advanced topics in medical education covering areas not otherwise available. May be repeated with a change in topic.

MEDICAL TECHNOLOGY  
3120:

401 SPECIAL TOPICS LABORATORY  
MANAGEMENT, EDUCATION AND SAFETY  
Seminars, lectures, workshops in medical technology not included in formal clinical courses. Minimum one credit required for graduation.  
1-4 credits

410 CLINICAL ANALYSIS OF URINE AND OTHER BODY FLUIDS I  
1 credit  
Prerequisites: 300:361,2 or equivalent. Physiology of renal system; theory of renal functions in health and disease states. Theory of other fluid systems in diagnosis of disease.

411 CLINICAL ANALYSIS OF URINE AND OTHER BODY FLUIDS II PRACTICUM  
Prerequisites: 3100:361,2 or equivalent. Renal function tests to include chemical and microscopic examination of urine. Methods of detection of chemical and cellular elements of other body fluids.  
1 credit

420 CLINICAL CHEMISTRY AND BIOCHEMISTRY I  
4 credits  
Prerequisites: 3100:383,4 or equivalent. 3152:201, 02. 335, 35 or equivalent. Concepts of clinical biochemistry, identification and quantification of specific chemical substances in body fluids in normal and disease states; principles of instrumentation and quality control.

421 CLINICAL CHEMISTRY AND BIOCHEMISTRY II PRACTICUM  
Prerequisites: 3100:385,4 or equivalent. 3152:201, 02. 335, 35 or equivalent. Clinical application by various analytical techniques; clinical correlation of results with disease states.  
4 credits

430 CLINICAL HEMATOLOGY I  
2 credits  
Prerequisites: 3100:311 and 3100:361,2 or equivalent. Theory of blood cell formation; identification of blood and bone marrow cells; differentiation of erythrocytes, leucocytes, morphology.

431 CLINICAL HEMATOLOGY II PRACTICUM  
2 credits  
Prerequisites: 3100:311 and 3100:361,2 or equivalent. Clinical application and practice of blood cell counting procedures using automated and manual techniques.

432 CLINICAL COAGULATION  
1 credit  
Prerequisites: 3100:311 and 3100:361,2 or equivalent. Theory of coagulation mechanisms and their relationship to disease states. Emphasis on identification of coagulation deficiencies and abnormalities.

440 CLINICAL IMMUNOHEMATOLOGY I  
2 credits  
Prerequisites: 3100:347, 211 or equivalent. Theory of principles of immunology applied to blood grouping, cross matching, blood components, transfusion, blood collection, processing and preservation.

441 CLINICAL IMMUNOHEMATOLOGY II PRACTICUM  
2 credits  
Prerequisites: 3100:347, 211 or equivalent. Clinical application of theory: crossmatching; blood donors; blood bank management.

450 CLINICAL IMMUNOLOGY  
1 credit  
Prerequisite: 3100:347 or equivalent. Antigens and antibodies and their interaction in disease states.

451 CLINICAL IMMUNOLOGY II PRACTICUM  
1 credit  
Prerequisite: 3100:347 or equivalent. Qualitative and quantitative serological laboratory procedures in immunology.

450 CLINICAL MICROBIOLOGY  
4 credits  
Prerequisites: 3100:331,2 or equivalent. Theory of diagnosis of medical microbiology with emphasis on pathogenic bacteria and their relationship to disease.

451 CLINICAL MICROBIOLOGY II PRACTICUM  
4 credits  
Prerequisites: 3100:331,2 or equivalent. Isolation and identification of pathogenic bacteria, media making, sensitivity and antimicrobial agents, principles of sensitization and allergies.

452 CLINICAL MYCOLOGY  
1 credit  
Study of pathogenic fungi, basic methods of cultivation and identification, treatment and safety precautions.

453 CLINICAL PARASITOLOGY  
1 credit  
Prerequisite: 3100:355 or equivalent. Study of parasites common to man, life cycles, and relationships to man, procedure for harvesting and examining, identification by morphological characteristics.

CYTOLOGY  
3130:

401 INTRODUCTION TO CYTOLOGY  
1 credit  
A brief course in which by means of lecture and demonstration the student becomes familiar with the cyto­technologist's role and with cyto­technology laboratory. Areas covered include historical background of clinical cytology, micr­技­cology and basic histology.

410 CYTOPREPARATION  
2 credits  
Combines lecture and laboratory of different cytologic techniques, stain preparation, staining processes, mounting and cover slipping of specimens. Also included are pertinent laboratory measurements, record keeping and safety measures for cytopreparation laboratory.

411 SYNECLOGIC CYTOPATHOLOGY  
5 credits  
Anatomy, histology and cellular morphology of female reproductive systems. Study of diseases, processes and endocrinopathies, inflammation and benign lesions. Stressed are pre­malignant lesions of cervix and endometrium, as well as malignant neoplasms and their cyto­logical characteristics. A study of exudative and metastatic tumors is included.

412 GENITOURINARY CYTOPATHOLOGY  
3 credits  
Study of anatomy, histology, pertinent physiology and cellular morphology of kidneys, ureters, bladder and lower urinary tract. Emphasis on recognition of cancer cells and various benign pathologic conditions in the urinary tract by microscopic studies of urine sediment.

413 RESPIRATORY CYTOPATHOLOGY  
3 credits  
Study of disease processes as related to cytology of respiratory tract. Covers general anatomy, normal histology and cytology of inflammatory and hypertrophic diseases, benign proliferative disorders and malignant neoplasms with emphasis on associated cell morphology.

414 BODY FLUIDS CYTOPATHOLOGY  
4 credits  
Anatomy, histology and clinical aspects of benign and malignant diseases involving body cavities, central nervous system, and venous cavities are presented. Cytology is placed in cellular morphology of primary and metastatic tumors in different cytopathology.

415 CYTOPATHOLOGY OF THE ALIMENTARY TRACT  
3 credits  
Anatomy, histology and pertinent physiology of the oral cavity, esophagus, stomach, esophagus and large intestines, e-cum and anal canal. The biologic behavior clinical presentation and cellular morphology of various benign epithelial lesions and malignant tumors emphasized.
CHEMISTRY

121, 2 INORGANIC CHEMISTRY I, II 3 credits each
Sequential. Designed primarily for a student in medical technology. Fundamental laws and theories of chemistry; the more important elements and their components. Lecture.

124 CHEMISTRY 3 credits
Fundamentals of organic, inorganic and physiological chemistry. Discussion.

128, 130 INTRODUCTION TO GENERAL, ORGANIC AND BIOCHEMISTRY I, II 4 credits each
Sequential. Introduction to principles of chemistry and fundamentals of inorganic and biochemistry. Structure and chemistry of carbohydrates, lipids, proteins, biochemistry of enzymes, metabolism, body fluids and radiation effects.

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 major, premedical student and most other science majors. Laboratory.

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 major, premedical student and most other science majors.

134 QUALITATIVE ANALYSIS 2 credits
Corequisite: 133. Laboratory course applying principles of chemical equilibrium to inorganic qualitative analysis.

201, 2 ORGANIC CHEMISTRY AND BIOCHEMISTRY I, II 4 credits each
Sequential. Prerequisite: 122. Designed especially for student in medical technology. Principles of organic chemistry with emphasis on biological systems. Laboratory.

203 NUTRITIONAL BIOCHEMISTRY 3 credits
Prerequisite: 122 or 130. Catalytic processes for energy production and nutritional requirements in liver, heart and skeletal muscle and adipose tissue. Biochemistry of diabetes, heart disease, obesity and atherosclerosis. May not be used to meet undergraduate major requirements in chemistry.

263, 4 ORGANIC CHEMISTRY LECTURE I, II 3 credits each
Sequential. Prerequisite: 134 or permission. Structure and reactions of organic compounds, mechanism of reactions.

265, 6 ORGANIC CHEMISTRY LABORATORY I, II 2 credits each
Sequential. Corequisites: 263, 4. Laboratory experiments to develop techniques in organic chemistry and illustrate principles.

303, 4 ELEMENTARY PHYSICAL CHEMISTRY I, II 3 credits each
Sequential. Prerequisites: 264, 3650:232, 262 or 292, 3450:222 or permission of instructor. Chemical thermodynamics and kinetics (I) and molecular structure and spectra (II). Not accepted for credit toward B.S. degree in chemistry or chemical engineering.

313, 4 PHYSICAL CHEMISTRY LECTURE I, II 3 credits each
Sequential. Prerequisites: 264, 3450:235, 3650:292 or permission of instructor. Gases, thermodynamics, thermochromy, solutions, dilute solutions, chemical equilibrium, phase rule, chemical kinetics, electrochemistry, electrolytic equilibria, atomic and molecular structure.

315, 6 PHYSICAL CHEMISTRY LABORATORY I, II 2 credits each
Sequential. Corequisite for 315 is 314. Laboratory designed for illustrating techniques and equipment used in physical chemical investigations.

335, 6 ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS I, II 4 credits each
Sequential. Prerequisites: 133.4 or 122. Intended primarily for preparation for a laboratory or technical position. Theory and calculations in qualitative and quantitative analysis. Laboratory, methods used in hospital laboratories.

401/501 BIOCHEMISTRY LECTURE I 3 credits
Prerequisite: 264. Biochemistry of amino acids and proteins; enzymes, role as biocatalysts; structure, biochemistry of nucleotides, nucleic acids, carbohydrates and lipids; energy storage, utilization.

402/502 BIOCHEMISTRY LECTURE II 3 credits
Prerequisite: 401/501. Carbohydrate, lipid and amino acid metabolism, protein, nucleic acid and nucleic acid biosynthesis and gene function.

405/505 BIOCHEMISTRY LAB 2 credits

408/508 THE PROFESSIONAL CHEMIST IN INDUSTRY 2 credits
Prerequisite: senior year or degree in chemistry or chemical engineering or permission. Business, legal, societal, economic and other nonchemical aspects of a chemist’s profession.

411/511 PHYSICAL CHEMISTRY FOR BIOLOGY MAJORS 3 credits
Prerequisites: 266 and 3450:146 and permission. Gases, thermodynamics, electrochemistry, chemical kinetics, macromolecules and coloids; special topics in biochemistry, biophysics and molecular biology.

415/515 CHEMICAL INSTRUMENTATION 3 credits
Prerequisite: permission. Principles and applications of electrical and electronic devices and various transducers for chemical analysis. Laboratory.

418/518 INSTRUMENTAL METHODS OF ANALYSIS 3 credits
Prerequisite: 415/515. Principles and applications of analytical chemical techniques based on physical measurements. Laboratory.

421/521 QUALITATIVE ORGANIC ANALYSIS 4 credits
Prerequisite: 266. Identification and characterization of organic substances, separation and identification of components of organic mixtures. Laboratory.

423 QUANTITATIVE ANALYSIS 3 credits
Prerequisite: 134. Theoretical principles of quantitative analysis. Techniques and calculations.

425 QUANTITATIVE ANALYSIS LABORATORY 2 credits
Corequisite: 423. Laboratory techniques employed in gravimetric, volumetric and instrumental analysis.

427 ANALYTICAL CHEMISTRY LECTURE 3 credits
Prerequisites: 304 or 314, 316 or permission. Instrumental analysis with emphasis on newer analytical tools and methods.

428 ANALYTICAL CHEMISTRY LABORATORY 2 credits
Corequisite: 427. Laboratory techniques employed in gravimetric, volumetric, instrumental analysis; emphasizes instrumental analysis.

463/562 ADVANCED ORGANIC CHEMISTRY 3 credits
Prerequisites: 264, 304 or 314 or permission. Introduction to study of mechanisms of organic reactions.

472/572 ADVANCED INORGANIC CHEMISTRY 3 credits
Prerequisite: 304 or 314. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organometals and metal carbonyls.

480/580 WORKSHOP IN CHEMISTRY 1-3 credits
(May be repeated) Group studies of special topics in chemistry. May not be used to meet undergraduate or graduate major requirements in chemistry.

497 HONORS PROJECT IN CHEMISTRY 2 credits
Prerequisites: junior or senior standing in Honors Program and permission of departmental honors preceptor. Independent research leading to completion of honors thesis under guidance of honors project adviser.

498 SPECIAL TOPICS: CHEMISTRY 1-3 credits
(May be repeated for a total of eight credits) Prerequisite: permission. Assignment of special problems to student, designed as an introduction to research problems.

Graduate Courses

601, 2 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.

604, 5 CHEMISTRY OF POLYMERS LABORATORY I, II 2 credits each
Sequential. Prerequisites: 264, 266. Preparation, identification of polymers to illustrate polymerization methods in 601, 602, 649.
610 BASIC QUANTUM CHEMISTRY 2 credits
Prerequisite: 314. Quantum mechanics with applications to molecular systems. Include angular momentum, molecular hamiltonians, variation and perturbation methods and molecular orbital theories.

611 CHEMICAL BONDING AND SPECTROSCOPY 2 credits
Prerequisite: 610. Application of quantum chemistry to elucidation of chemical bonding, structure and interpretation of molecular spectra.

613 SYNTHETIC METHODS OF ORGANIC CHEMISTRY 2 credits
Prerequisite: 264. Discussion of synthetic organic chemistry. Standard synthesis of organic compounds as well as newer techniques.

621 ADVANCED PREPARATIONS 1-2 credits
Prerequisite: permission. Methods for preparing and purifying organic and inorganic compounds Laboratory.

620, 30 THEORETICAL INORGANIC CHEMISTRY I, II 2 credits each
Sequential. Prerequisites: 314, 472 or permission. Detailed treatment of chemistry of transition elements. Group theoretical applications, igger field theory, kinetics and mechanisms, magnetism, electronic spectra, molecular orbital theory.

635 THERMODYNAMICS, STATISTICAL THERMODYNAMICS AND KINETICS I 2 credits

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.

640 CHEMISTRY OF ELASTOMERS 2 credits
Prerequisites: 264, 266 or permission. Study of molecular structure and chemical reaction and properties of natural and synthetic rubbers, polymerization processes in formation of synthetic elastomers.

661 ENZYMATIC REACTIONS I 2 credits
Prerequisites: 401, 402 or instructor's permission. General aspects of enzyme catalyzed reactions, enzyme structure, methods of determining reaction mechanisms, kinetics and solvolytic and transfer reactions of phosphorous, glycosyl and acyl groups.

662 ENZYMATIC REACTIONS II 2 credits
Prerequisites: 401, 402 or permission of instructor. Specific bio-organic reactions continued, eliminations, oxidation/reductions, isomerizations, rearrangements, cofactors.

663 ADVANCED METABOLISM 2 credits
Prerequisites: 401, 402 or permission of instructor. Study of advanced pathways in carbohydrates, lipid and protein metabolism with emphasis placed on metabolic dysfunction.

664 MEMBRANE BIOGENESIS 2 credits
Prerequisites: 401/501 and 402/502. Structure, function and biosynthesis of membranes, compartmentation of intracellular and secretory proteins, posttranslational modification, mitochondrial genetics.

666 BIOINORGANIC CHEMISTRY 2 credits
Prerequisites: 401, 402, 472 or permission of instructor. Survey of the structure and properties of metal ion complexes with amino acids, nucleotides, metabolites and macromolecules; metal ion metabolism; metals in medicine.

667 ADVANCED BIOCHEMISTRY TECHNIQUES 2 credits
Prerequisites: 402, 405, 428 or permission. Advanced analytical course in biochemistry laboratory, purification and characterization of D.N.A, R.N.A. and chromatin, study of metabolic pathways in bacteria using advanced biochemistry techniques.

671 THERMOCHEMICAL TECHNIQUES 2 credits
Prerequisite: permission. Methods of differential thermal analysis, thermogravimetry and related techniques and methods of programming, recording, data treatment and effects of atmosphere and sample parameters described with applications.

672 ADVANCED ANALYTICAL CHEMISTRY 2 credits
(One lecture, one laboratory period)
Prerequisite: 428 or equivalent. Advanced techniques for separation, determination and identification, classical as well as recent techniques.

673 STEREOCHEMISTRY OF ORGANIC COMPOUNDS 2 credits
Prerequisite: 264. Stereochemistry and its application to reactions of organic chemistry.

674, 5 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.

685, 6 EXPERIMENTAL PHYSICAL CHEMISTRY OF POLYMERS I, II 2 credits for 685, 2-3 credits for 686
Sequential. Prerequisites or corequisites: 674, 675. respectively. Laboratory to illustrate methods and principles discussed in 674 and 675.

682 ADVANCED INSTRUMENTATION 2 credits
Prerequisites: 316, 428. Theory and application of instrumental measurement and interpretation of data.

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.

710 SPECIAL TOPICS: ANALYTICAL CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Topics in advanced analytical chemistry. Electroanalysis, activation analysis, atomic absorption spectrometry, mass spectrometry, liquid-liquid, liquid-solid and gas chromatography, ion exchange, thermoanalytical methods, separations, standards, sampling, recent developments.

711 SPECIAL TOPICS: INORGANIC CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Consideration of topics in modern inorganic chemistry such as coordination compounds, chemistry of the solid state, representative elements, nonaqueous solvents, organometallic compounds, homo or heterocatalysis.

712 SPECIAL TOPICS: ORGANIC CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Topics in advanced organic chemistry such as natural products, heterocyclic compounds, photochemistry.

713 SPECIAL TOPICS: PHYSICAL CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Subject from modern physical chemistry.

714 SPECIAL TOPICS: POLYMER CHEMISTRY 1-2 credits
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. Lectures and/or laboratory.

715 SPECIAL TOPICS: BIOCHEMISTRY 1-2 credits
Prerequisite: permission. Consideration of topics in biochemistry such as isoenzymes and disease, genetic engineering, membrane structure and functions and recent developments in field.

738, 4 PHYSICAL ORGANIC CHEMISTRY I, II 3 credits each
Sequential. Corequisites: 610 or permission. Consideration of physical chemical principles that determine course of an organic chemical reaction; discussion of reactive intermediates.

738 THEORETICAL ORGANIC CHEMISTRY 2 credits
Prerequisite: 734. Application of modern quantum chemistry and thermodynamics to problems of organic chemistry.

899 DOCTORAL RESEARCH CHEMISTRY 1-16 credits
Open to qualified student accepted as a candidate for degree of Doctor of Philosophy in chemistry. Supervised original research undertaken in organic, inorganic, physical, analytical or biochemistry.

CLASSICS

3200:

189 MYTHOLOGY OF ANCIENT GREECE 3 credits
Myth, legends and folklore in ancient Greece, with some attention to religion (Olympian deities, Orphism, etc.) and the transmission of Greek myth to Rome and the West. No foreign language necessary.

190 THE MAKING OF ENGLISH WORDS FROM LATIN AND GREEK ELEMENTS 3 credits
The influence of Latin and Greek on English vocabulary with some attention to the use of these languages in the scientific and legal fields. No foreign language is necessary.

313 ARCHAEOLOGY OF GREECE 3 credits
The ruins and monuments of Greece; history reconstructed by examination of the material remains. No foreign language necessary. Required of majors.

314 ARCHAEOLOGY OF ROME 3 credits
The ruins and monuments of Rome; history reconstructed by examination of the material remains. No foreign language necessary. Required of majors.

361 THE LITERATURE OF GREECE 3 credits
Major writers of Ancient Greece and their influence on later European literature. No foreign language necessary. Required of majors.

362 THE LITERATURE OF ROME 3 credits
Major writers of Ancient Rome and their influence on later European literature. No foreign language necessary. Required of majors.

401/501, 2 EGYPTOLOGY 3 credits each
(May be repeated with change of subject)
Prerequisite: permission of instructor. Classical Egyptian (standard hieroglyphic of Eighteenth Dynasty), history and antiquities of Egypt as far as Roman occupation.

404, 5 504, 5 ASYRTOLOGY 3 credits each
(May be repeated for credit with another cuneiform language)
Prerequisite: permission of instructor. The Akkadian language, history and antiquities of Mesopotamia.
Courses of Instruction

**Greek**

3210:

121, 122. ELEMENTARY GREEK

Sequences. Standard language of Hellenistic times with some attention to Modern Greek.

3 credits each

221A. INTERMEDIATE GREEK

May be repeated for credit with change of subject. (Prerequisite: 121). A survey of readings of the less difficult authors such as Homer, certain dialogues of Plato, Herodotus, Xenophon, New Testament or the like.

3 credits each

303. ADVANCED GREEK

Prerequisite: permission of instructor. Advanced work in various aspects of Ancient Near Eastern Studies (archeology, Assyriology, Egyptology, etc.).

3 credits each

497. 597,8 GREEK READING AND RESEARCH

Prerequisite: permission of instructor. Greek. Selections from Homer, Sophocles, Plato, or the like.

3 credits each

**Latin**

3220:

121, 122. ELEMENTARY LATIN

Sequences. Some attention to development of Romance languages, especially Italian.

4 credits each

231, 232. INTERMEDIATE LATIN

Prerequisites: 121. A survey of readings of the less difficult authors such as Pliny, Caesar, Plautus, Cicero's Letters or equivalent material.

3 credits each

303. ADVANCED LATIN

Prerequisites: 222, 224 or equivalent. Satirists, dramatists, philosophical, religious writers, lyric and elegiac poets, medieval writers.

3 credits each

497. 597,8 LATIN READING AND RESEARCH

Prerequisite: permission of instructor. Generally Latin epigraphy, prose composition or philology, numismatics or certain other archaicological topics may be offered.

3 credits each

**Economics**

3250:

100. INTRODUCTION TO ECONOMICS

May not be substituted for 201, 244. Economics primarily considered in a broad social science context. Adequate amount of math theory is introduced.

3 credits

201. PRINCIPLES OF MACROECONOMICS

Study of the economic factors which affect the price level, national income, employment, economic growth. No credit if 244 already taken.

3 credits

202. PRINCIPLES OF MICROECONOMICS

Analysis of decision-making in the part of the firm and household, and the market processes affecting price, output and resource allocation. No credit if 244 already taken.

3 credits

244. INTRODUCTION TO ECONOMIC ANALYSIS

Prerequisite: permission of instructor. Systems of economic organization, ranging from the theoretical extreme of a perfectly free market economy to the socialist varieties. Historical evolution of economic systems covering periods in theory and practice.

3 credits

248. CONSUMER ECONOMICS

Prerequisite: permission of instructor. Study of the factors affecting the spending decisions of consumers, personal finance, budget planning, saving programs, installment buying, insurance, investments, housing and finance.

3 credits

330. LABOR PROBLEMS

Prerequisite: 201. Labor economics and public policy. Study of labor market and union-management relations.

3 credits

333. LABOR ECONOMICS

Prerequisite: 202. Labor economics and public policy. Study of labor market and union-management relations.

3 credits

360. INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

Prerequisite: 201. Role of industrial structure and firm conduct in performance of industry and in what limited policy is designed to provide remedies where performance is unsatisfactory.

3 credits

380. MONEY AND BANKING

Prerequisite: 201. Theories of money and banking, monetary expansion and contraction, public policies affecting the process, development of our money and banking system.

3 credits

385. ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT

Prerequisites: 100, 202, 244 or permission. Introduction to economic analysis of the use of natural resources and environmental resource scarcity, conservation, economic growth.

3 credits

389. ECONOMICS OF ENERGY

Prerequisite: 201. Principles of the energy sector. Theoretical issues relating energy with inflation, economic growth and public policy will also be examined.

3 credits

400. MACROECONOMICS

3 credits

405. PUBLIC FINANCE


3 credits

406/506. STATE AND LOCAL PUBLIC FINANCE

Prerequisite: 405; recommended: 406. Examines economic rationale and problems for provision of goods and services by different governmental units. Considers alternative revenue sources and special topics.

3 credits

410. MICROECONOMICS

Advanced analysis of consumer demand, production costs, market structures, determinates of factor income.

3 credits

420. MATHEMATICAL ECONOMICS I

Prerequisites: 201, 3450, 147, 148, 244 or permission of instructor. Mathematical treatment of economic theory in framework of comparative statics. Emphasis on theory of the firm, theory of consumer behavior, general equilibrium analysis and welfare analysis.

3 credits

421. MATHEMATICAL ECONOMICS II

Prerequisite: 420. Use of calculus and linear algebra to dynamic economic analysis. Solution techniques; some significant dynamic models from labor.

3 credits

425. ECONOMETRIC METHODS AND APPLICATIONS

Prerequisites: 6500:321 or the equivalent of permission of instructor. The study and use of regression and analysis of variance in analyzing economic data. Students will learn to specify and test economic hypotheses and make economic projections. Use of the computer will be extensive.

3 credits

430/430. HUMAN RESOURCE POLICY

Prerequisite: 530. Comprehensive overview of dimensions of human resource policy, issues in human resource development, allocation, maintenance and utilization.

3 credits

431. LABOR AND THE GOVERNMENT

Prerequisite: 330. Development of public policy for control of industrial relations, from judicial control of Nineteenth Century to statutory and administrative controls of World War II and post-war periods.

3 credits

432. THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING

Prerequisite: 202. Principles and organization of collective bargaining, collective bargaining agreements, issues presented in labor disputes and settlements, union status and security, wage scales, technological change, production standards, etc.

3 credits

435/535. THE DEVELOPMENT OF AMERICAN CORPORATE STRUCTURE

Prerequisite: 432. Trajectory of American corporate structure from late Nineteenth Century to present. Explains and analyzes changing dimensions of corporate structure and response of government. Case studies analyzed.

3 credits

440/540. SPECIAL TOPICS: ECONOMICS

Prerequisite: permission. Opportunity to study special topics and current issues in economics.

3 credits

450/550. COMPARATIVE ECONOMIC SYSTEMS

Prerequisites: 201, 424. Comparative analysis and comparison of systems of economic organization, ranging from the theoretical extreme of a perfectly free market economy to the socialist varieties. Historical evolution of economic systems covering periods theory and practice.
Graduate Courses

600 FOUNDATIONS OF ECONOMIC ANALYSIS 3 credits
Prerequisites: graduate standing. Determination of national income, employment, price level, aggregate consumption, investment and asset holding, decision problems faced by businesses and firms. Partial equilibrium analysis of consumption and monopoly, general equilibrium analysis. May not be substituted for 602 or 603, or applied toward the 30 graduate credits required for M.A. in economics.

602 MACROECONOMIC ANALYSIS I 3 credits
Construction of static macroeconomic models. Analysis predominantly in terms of comparative statics with only relatively brief mention of dynamic models.

603 MACROECONOMIC ANALYSIS II 3 credits
Prerequisite: 602. Macroeconomic models and stability analysis of closed and open Keynesian systems. Inclusive coverage of post-Keynesian theories of economic growth.

606 PUBLIC FINANCE 3 credits

610 FRAMEWORK OF ECONOMIC ANALYSIS 3 credits
Prerequisite: graduate standing. Development of theoretical and analytical framework for decision making. Discussion of applications of the framework to situations concerning demand, cost, supply, production, price, employment and wage.

611 MICROECONOMIC THEORY I 3 credits

612 MICROECONOMIC THEORY II 3 credits
Prerequisite: 611. Continuation of 611. Covers multi-market equilibrium, general equilibrium and welfare economic theory, and applications in public choice and applied welfare theory.

615 INDUSTRIAL ORGANIZATION 3 credits
Prerequisite: 610 or permission. Examines link between market structure, firm conduct and economic performance. Measurement and effects of monopoly power, industrial concentration and changes.

616 ANTITRUST ECONOMICS 3 credits
Prerequisite: 615 or permission of instructor. Emphasis on economic rationale behind legislative and judicial decisions affecting mergers, vertical-horizontal restraints, monopolization, collusion, price discrimination.

617 THE ECONOMICS OF REGULATION 3 credits
Prerequisite: 615 or permission of instructor. Examinations of methods and success of government regulation of public utility, transportation and communications industries.

620 APPLICATIONS OF MATHEMATICAL MODELS TO ECONOMICS 3 credits
Prerequisites: courses in calculus, intermediate microeconomics or permission of the instructor. Review of selected topics of differential and integral calculus and their application to economic analysis. Theory of optimization in production and consumption; static macroeconomic models. Analysis of growth and stability.

621 APPLICATION OF LINEAR MODELS IN ECONOMIC ANALYSIS 3 credits
Prerequisites: courses in intermediate microeconomics. Review of selected topics of linear algebra, application to economic theory. Static open and closed input-output tables, dynamic models, consumption technology and theory of demand, linear programming, general equilibrium analysis.

626 STATISTICS FOR ECONOMETRICS 3 credits
Prerequisites: courses in elementary differential and integral calculus, 5600.121 or equivalent. A review of statistical theory and its application to research in economics. Emphasis is on estimation and hypothesis testing as a prelude to econometrics.

627 ECONOMETRICS 3 credits
Prerequisite: 626 or equivalent. Formulation of functional relationships among economic variables suitable for statistical estimation from observational data and construction of multivariate econometric models and methods of estimation.

629 SEMINAR IN RESEARCH METHODS 3 credits
Prerequisite: permission of instructor. A seminar in the research use of applied mathematical economics or econometrics. Emphasis on individual development of a theoretical proposition or research statement, its empirical examination and policy implications.

633 THEORY OF WAGES AND EMPLOYMENT 3 credits
Analytical approach to integration of economic theory with observed labor market phenomena. Discussion of wage and employment theories, effects of unions, collective bargaining theories and effects of government regulation.

634 COLLECTIVE BARGAINING 3 credits
Economic issues and problems involved in hours of work, employment and unemployment, and the impact of trade unions upon basic institutions of a free private enterprise economy.

655 LABOR LAW 3 credits

636 COLLECTIVE BARGAINING II 3 credits
Prerequisite: 635 or permission of instructor. Examination of process of negotiation. Course is an actual contract negotiation. Student decides on issues, positions and tactics, then negotiates contract.

637 LABOR LAW II 3 credits
Intensive study of selected aspects of current labor legislation affecting employer-employee relationship. Special focus on arbitration, public sector bargaining law and employment discrimination.

639 PUBLIC EMPLOYEE COLLECTIVE BARGAINING 3 credits
Prerequisite: 635 or permission of instructor. Examination of unique problems of public employees under collective bargaining agreements. Focus on legal framework, tripartite nature of negotiations and special situations facing public employees.

644 SEMINAR ON ECONOMIC GROWTH AND DEVELOPMENT 3 credits
Review of main theories of economic growth across age of classical economics, Problems in development of emerging countries. Discussion of aggregative macroeconomic of capital formation, investment, technological and external trade.

655 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 of planning.

656 SEMINAR ON REGIONAL ECONOMIC ANALYSIS AND DEVELOPMENT 3 credits
Study of a particular national or international regional development. Any one or a combination of following regions may be considered: Middle East, North Africa, South America, Southern Europe, Southeast Asia or Eastern Europe.

670 INTERNATIONAL MONETARY ECONOMICS 3 credits
International financial relations, foreign exchange market and exchange rate adjustments. Balance of payments adjustment policies, International monetary system.

671 INTERNATIONAL TRADE 3 credits
Traditional trade theory. Recent developments in trade theory, policy implications in trade relations among developed and developing economics.

680 MONETARY ECONOMICS 3 credits
Intensive study of important areas of monetary theory. Emphasis on integration of money and value theory among other areas, plus some pressing policy issues.

697 A READING IN ADVANCED ECONOMICS 1-4 credits each
(May be repeated for a total of six credits) A maximum of six credits may be applied toward the master's degree in economics. Intensive investigation of selected problem area in advanced economics under supervision of instructor. Since the subject matter is decided upon in each case, the course may be taken repeatedly for credit.

699 RESEARCH AND THESIS 3 credits
(May be repeated for a total of six credits)

ENGLISH

3300:

270 INTRODUCTION TO LINGUISTICS 3 credits
Broad range of topics on language and introduction to its specific study. Topics include language origins and history, dialects, sound systems, syntax, semantics, animal language, writing systems and language universals.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td><strong>275 SPECIALIZED WRITING</strong></td>
<td>3</td>
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<tr>
<td>(May be repeated for different topics, with permission)</td>
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<tr>
<td>Principles and practice of style, structure, and purpose in writing, with special applications to writing demands of a specific career area.</td>
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<tr>
<td><strong>277 INTRODUCTION TO POETRY WRITING</strong></td>
<td>3</td>
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<tr>
<td>Practice in writing poetry. Study of techniques in poetry, using contemporary poems as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.</td>
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<tr>
<td><strong>278 INTRODUCTION TO FICTION WRITING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Practice in writing short stories. Study of various techniques in fiction, using contemporary models as stories. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.</td>
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<tr>
<td><strong>279 INTRODUCTION TO SCRIPT WRITING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Practice in writing scripts. 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.</td>
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<tr>
<td><strong>280 POETRY APPRECIATION</strong></td>
<td>3</td>
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<tr>
<td>Close reading of a wide selection of British and American poems with emphasis on dramatic situation, description, tone, and lexicon of language, theme, and meaning.</td>
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<tr>
<td><strong>281 FICTION APPRECIATION</strong></td>
<td>3</td>
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<tr>
<td>Close reading of modern masters of short story and novel.</td>
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<tr>
<td><strong>282 DRAMA APPRECIATION</strong></td>
<td>3</td>
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<tr>
<td>(May be repeated for credit as a text or an appreciation course)</td>
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<tr>
<td>Close reading and analysis of a variety of plays.</td>
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<tr>
<td><strong>283 FILM APPRECIATION</strong></td>
<td>3</td>
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<tr>
<td>Introduction to dramatic choices made by filmmakers in scripting, directing, editing and photographing narrative films, and qualities of reliable film reviews.</td>
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<tr>
<td><strong>301 ENGLISH LITERATURE I</strong></td>
<td>3</td>
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<tr>
<td>Studies in English literature from Old English to 1800, with emphasis upon specific representative works and upon the cultural and intellectual background which produced them. Literature to be read will include both major and minor poetry, prose and drama.</td>
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<tr>
<td><strong>302 ENGLISH LITERATURE II</strong></td>
<td>3</td>
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<tr>
<td>Studies in English literature from 1800 to present. Emphasis will be given to cultural and intellectual backgrounds and to the development of various modes and genres.</td>
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<tr>
<td><strong>315 SHAKESPEARE: THE EARLY PLAYS</strong></td>
<td>3</td>
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<tr>
<td>Introduction to early drama of Shakespeare with close reading of tragedies, histories and comedies. Includes explanatory lectures of both the plays and their backgrounds.</td>
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<tr>
<td><strong>316 SHAKESPEARE: THE MATURE PLAYS</strong></td>
<td>3</td>
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<tr>
<td>Study of Shakespeare's plays after 1598, beginning with mature comedies. Concentration on major tragedies and romances.</td>
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<tr>
<td><strong>341 AMERICAN LITERATURE I</strong></td>
<td>3</td>
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<tr>
<td>Historical survey of major and minor American writers to 1865.</td>
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<tr>
<td><strong>342 AMERICAN LITERATURE II</strong></td>
<td>3</td>
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<tr>
<td>Readings in major, minor American writers from 1865 to present.</td>
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<tr>
<td><strong>350 BLACK AMERICAN LITERATURE</strong></td>
<td>3</td>
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<tr>
<td>Survey of representative Black American writers from Nineteenth Century to present, with particular attention to historical and social backgrounds.</td>
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<tr>
<td><strong>354 FICTION OF THE SOUTH</strong></td>
<td>3</td>
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<tr>
<td>A study of novels and short stories by major Southern authors such as Faulkner, O'Connor and Styron.</td>
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<tr>
<td><strong>355 THE OLD TESTAMENT AS LITERATURE</strong></td>
<td>3</td>
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<tr>
<td>History of Hebrews to 566 B.C. as revealed through epic, fiction, saga and poetry, viewed against background of the Oriental World.</td>
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<tr>
<td><strong>356 THE NEW TESTAMENT AND APOCRYPHA AS LITERATURE</strong></td>
<td>3</td>
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<tr>
<td>These two bodies of literature read with emphasis on form, genre, and epistle, and concept of apocalypse. Both are viewed against their historical and social backgrounds.</td>
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<tr>
<td><strong>366 EUROPEAN BACKGROUNDS OF ENGLISH LITERATURE</strong></td>
<td>3</td>
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<tr>
<td>Representative continental texts from Homer to Cervantes, selected both for their excellence and for their important influence on English and American literature.</td>
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<tr>
<td><strong>370 INTERMEDIATE LINGUISTICS</strong></td>
<td>3</td>
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<tr>
<td>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.</td>
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<tr>
<td><strong>377 LEGAL WRITING</strong></td>
<td>3</td>
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<tr>
<td>Intensive practice in writing for prelaw students through assignments based on actual legal situations and real cases. Particular attention to stating legal issues, writing persuasively, applying rules of law, and other topics that will help those preparing for law school and the profession.</td>
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<tr>
<td><strong>377 ADVANCED POETRY WRITING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 277 or permission. Advanced practice in writing poems, emphasis on shaping publishable works. Survey of market. Class discussion of student poems. Individual conferences with instructors.</td>
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<tr>
<td><strong>378 ADVANCED FICTION WRITING</strong></td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 278 or permission. Advanced practice in writing short stories, emphasis on shaping publishable works. Survey of market. Class discussion of student stories. Individual conference with instructor.</td>
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<tr>
<td><strong>380 FILM CRITICISM</strong></td>
<td>3</td>
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<tr>
<td>Application of literary critical theory to the study of film.</td>
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<tr>
<td><strong>388 WOMEN IN MODERN NOVELS</strong></td>
<td>3</td>
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<tr>
<td>Students will read various modern novels to increase their awareness of how these texts reflect, reinforce, but more often challenge traditional attitudes towards women, their places and circumstances.</td>
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<tr>
<td><strong>389 SPECIAL TOPICS: LITERATURE AND LANGUAGE</strong></td>
<td>3</td>
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<tr>
<td>(May be repeated for credit as different topics are offered)</td>
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<tr>
<td>Prerequisite: 110/112, Traditional and nontraditional topics in English literature and language. Selection supplemented by readings to be listed in University Bulletin, generally constructed around theme, genre and language study.</td>
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<tr>
<td><strong>390 PROFESSIONAL WRITING I</strong></td>
<td>3</td>
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<tr>
<td>Designed to help prepare students for a career as a professional business writer. Stresses theory and practice of written and oral communication in business organization. Individual and group performances relating to communicating theories, concepts of semantics. Functional writing, as well as special needs of business are illustrated by actual cases. Adapting style and organization is practiced.</td>
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<tr>
<td><strong>391 PROFESSIONAL WRITING II</strong></td>
<td>3</td>
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<tr>
<td>Designed to help prepare students for a career as a professional technical writer. Covers principles and practices concerning editing company technical communications, such as specifications, annual reports, promotional brochures for technical products, services, scientific abstracts, proposals. Also treats problems of adapting materials to formal, graphic display of technical information, adaptation of technical material to nontechnical reader.</td>
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<tr>
<td><strong>399 THE GOTHIC IMAGINATION</strong></td>
<td>3</td>
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<tr>
<td>A closely chronological study of major British, American and European authors in the Gothic tradition, from the Eighteenth Century to the present. Attention will be paid to the literary conventions of Gothic fiction, to the &quot;popular&quot; nature of the literature, and to its major themes.</td>
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<tr>
<td><strong>406/506 ANGLO SAXON</strong></td>
<td>3</td>
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<tr>
<td>Studies in Old English language and Old English prose and poetry, including Beowulf.</td>
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<tr>
<td><strong>403/503 DEVELOPMENT OF THE ARTHURIAN LEGEND</strong></td>
<td>3</td>
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<tr>
<td>Traces evolution of Arthurian materials from 540 to 1500 and beyond, with emphasis on characters, themes, events and treatments.</td>
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<tr>
<td><strong>406/506 CHAUCER</strong></td>
<td>3</td>
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<tr>
<td>Close study of Chaucer's major works — The Canterbury Tales and Troilus and Criseyde in Middle English.</td>
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<tr>
<td><strong>407/507 MIDDLE ENGLISH LITERATURE</strong></td>
<td>3</td>
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<tr>
<td>Study of genres, topics, styles and writers of Middle English literary works from Twelfth to Fifteenth Century. Readings in Middle English.</td>
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<tr>
<td><strong>412/512 SPENGER</strong></td>
<td>3</td>
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<tr>
<td>Close reading of major narrative and lyric poems and selections from the minor works, all studied in the context of Elizabethan aesthetic theory, learning and politics.</td>
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<tr>
<td><strong>418/518 METAPHYSICAL POETS</strong></td>
<td>3</td>
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<tr>
<td>Selected Seventeenth-Century British poets exclusive of John Donne. The course examines the particular styles and themes of the secular and sacred poets who wrote in the metaphysical mode. Particular emphasis is placed on Herbert, Crashaw, Vaughan, Traherne, Marvell, Cowley, Cleveland, Southwell, and King.</td>
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<tr>
<td><strong>418/518 MILTON</strong></td>
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<tr>
<td>Emphasis on Milton's major poems and prose works: Paradise Lost, Paradise Regained, Areopagitica, the divorce tracts, and poems of the 1645 edition. Student becomes acquainted with Milton the man and Milton the artist.</td>
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<tr>
<td><strong>421/521 SWIFT AND POPE</strong></td>
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<tr>
<td>An intensive study of the major satires of Swift and Pope. Concentration on the rhetorical strategies of each author within the context of the shifting intellectual and cultural milieu at the end of the Seventeenth and beginning of the Eighteenth Centuries.</td>
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<tr>
<td><strong>424/524 EARLY ENGLISH FICTION</strong></td>
<td>3</td>
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<tr>
<td><strong>425/525 STUDIES IN ROMANTICISM</strong></td>
<td>3</td>
</tr>
<tr>
<td>Literary, philosophical, psychological and social revolutions of romantic period as reflected in works of such major writers as Wordsworth, Byron and Keats.</td>
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<tr>
<td><strong>430/530 VICTORIAN POETRY AND PROSE</strong></td>
<td>3</td>
</tr>
<tr>
<td>Poetry, prose of later Nineteenth Century, excluding fiction, with attention to Tennyson, Browning, Arnold, Carlyle, Ruskin and other major writers.</td>
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<tr>
<td><strong>431/531 VICTORIAN FICTION</strong></td>
<td>3</td>
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<tr>
<td>Reading of at least five major novels of Victorian era, of varying length, by Emily Bronte, Dickens, Eliot, Thackeray and Hardy. Characterization, theme and attitude toward life emphasized.</td>
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<tr>
<td><strong>434/534 CHARLES DICKENS</strong></td>
<td>3</td>
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<tr>
<td>Growth of Dickens as a novelist, with attention to the social and political backgrounds of the novels and changes in their structure and treatment of character.</td>
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<tr>
<td><strong>435/535 TWENTIETH CENTURY BRITISH POETRY</strong></td>
<td>3</td>
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<tr>
<td>Concentrated study of major poems of Yeats, Eliot and Auden, with attention also to Hardy, Housman, Spender, C. Day Lewis, Dyson Thomas and others.</td>
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<tr>
<td><strong>438/538 BRITISH FICTION: 1600-1625</strong></td>
<td>3</td>
</tr>
<tr>
<td>Study of Comenius, Joyce, D. H. Lawrence and Virginia Woolf, with attention to their innovations in narrative and style, their psychological realism and symbolism. Brief consideration of other important fiction writers of the period, including Wells, Bennett and Mannfield.</td>
<td></td>
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</tbody>
</table>
### 449/549 SEMINAR IN ENGLISH
(May be repeated with different topics)
Special studies, and methods of literary research, in selected areas of English and American literature and language.

### 490/590 WORKSHOP IN ENGLISH
(May be repeated with different topics)
Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for elective credit only.

### 498 INDEPENDENT STUDY
Prerequisite: permission of instructor. Directed study in a special field of interest chosen by student in consultation with instructor.

### Graduate Courses

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
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<td>600</td>
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<td>615</td>
<td>SHAKESPEARIAN DRAMA</td>
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<td>618</td>
<td>SHAKESPEARE'S CONTEMPORARIES IN ENGLISH DRAMA</td>
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<tr>
<td>627</td>
<td>KEATS AND HIS CONTEMPORARIES</td>
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<td>639</td>
<td>THEORY AND PRACTICE OF MODERN POETRY</td>
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<td>642</td>
<td>SEMINAR IN DICKINSON</td>
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<td>643</td>
<td>SEMINAR IN JAMES</td>
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<tr>
<td>655</td>
<td>LITERARY CRITICISM</td>
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<td>670</td>
<td>MODERN LINGUISTICS</td>
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<td>672</td>
<td>THEORIES OF COMPOSITION</td>
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<td>673</td>
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<td>WRITING FOR MBAs</td>
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<td>683</td>
<td>SEMINAR IN SATIRE</td>
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<td>685</td>
<td>SEMINAR IN ENGLISH</td>
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<tr>
<td>691</td>
<td>BIBLIOGRAPHY AND LITERARY RESEARCH</td>
</tr>
</tbody>
</table>

### Course Descriptions

- **449/549 SEMINAR IN ENGLISH**: Special studies, and methods of literary research, in selected areas of English and American literature and language.
- **490/590 WORKSHOP IN ENGLISH**: Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for elective credit only.
- **498 INDEPENDENT STUDY**: Directed study in a special field of interest chosen by student in consultation with instructor.

## Course Descriptions

1. **449/549 SEMINAR IN ENGLISH**
   - **Title**: May be repeated with different topics.
   - **Description**: Special studies, and methods of literary research, in selected areas of English and American literature and language.

2. **490/590 WORKSHOP IN ENGLISH**
   - **Title**: May be repeated with different topics.
   - **Description**: Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English; for elective credit only.

3. **498 INDEPENDENT STUDY**
   - **Prerequisite**: Permission of instructor.
   - **Description**: Directed study in a special field of interest chosen by student in consultation with instructor.
### GEOGRAPHY

#### 3350:

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<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<td>320</td>
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<td>330</td>
<td>RURAL AND URBAN SETTLEMENT</td>
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<td>RECREATION RESOURCE PLANNING</td>
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<td>345</td>
<td>ANGLO AMERICA</td>
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<td>350</td>
<td>OHIO: ENVIRONMENT AND SOCIETY</td>
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<td>LATIN AMERICA</td>
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<tr>
<td>363</td>
<td>AFRICA SOUTH OF THE SAHARA</td>
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<td>385</td>
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<td>377</td>
<td>SPECIAL PROBLEMS</td>
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<tr>
<td>405/505</td>
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<td>422/522</td>
<td>TRANSPORTATION SYSTEMS PLANNING</td>
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<td>428/528</td>
<td>INDUSTRIAL AND COMMERCIAL SITE LOCATION</td>
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<tr>
<td>433/533</td>
<td>URBAN, REGIONAL AND RESOURCE PLANNING</td>
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<tr>
<td>435/535</td>
<td>URBAN LAND USE ANALYSIS</td>
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</tr>
<tr>
<td>438/538</td>
<td>WORLD METROPOLITAN AREAS</td>
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<tr>
<td>442/542</td>
<td>THESIS CLASSES</td>
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<td>444/544</td>
<td>MAP COMPILATION AND REPRODUCTION</td>
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<tr>
<td>445/545</td>
<td>INTRODUCTION TO REMOTE SENSING</td>
<td>3</td>
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<tr>
<td>446/546</td>
<td>AUTOMATED COMPUTER MAPPING</td>
<td>3</td>
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<tr>
<td>450/550</td>
<td>SPECIAL TOPICS IN GEOGRAPHY</td>
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<tr>
<td>459/559</td>
<td>ADVANCED REMOTE SENSING</td>
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<tr>
<td>461/561</td>
<td>GEOGRAPHIC RESEARCH METHODS</td>
<td>3</td>
</tr>
<tr>
<td>463/563</td>
<td>SPATIAL ANALYSIS</td>
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<tr>
<td>464/564</td>
<td>HONORS RESEARCH IN GEOGRAPHY</td>
<td>1-2</td>
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<tr>
<td>467/567</td>
<td>FIELD RESEARCH METHODS</td>
<td>3</td>
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<tr>
<td>470/570</td>
<td>WORKSHOP IN GEOGRAPHY</td>
<td>1-3</td>
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<tr>
<td>470/570</td>
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#### Graduate Courses

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<tr>
<td>500, 1.2</td>
<td>SEMINAR</td>
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<tr>
<td>508</td>
<td>ADVANCED SPATIAL ANALYSIS</td>
<td>3</td>
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<tr>
<td>585</td>
<td>PLANNING: FIELD EXPERIENCE</td>
<td>3</td>
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</tbody>
</table>

### Notes
- **Additional Notes:**
  - Courses of Instruction
  - Graduate Courses
  - Special Requirements
  - Permission: instructor's permission required for enrollment.
  - Prerequisites: as indicated in course descriptions.
  - Course credit ranges are indicated for each course.
  - Specific credit requirements and prerequisites are noted in individual course descriptions.

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**Graduate Courses:**

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**Special Requirements:**

- **Permission:**
  - Instructor's permission required for enrollment.
  - Prerequisites: as indicated in course descriptions.
  - Course credit ranges are indicated for each course.
  - Specific credit requirements and prerequisites are noted in individual course descriptions.
401 HONORS SEMINAR
Pre-requisite: permission of department head or instructor. Selected readings, writing of research paper. For student seeking to graduate with honors in History and for student in Honors Program.

402/502 SPECIAL STUDIES IN HISTORY
Includes experimental and interdisciplinary studies, as well as those subjects that are not listed in this Bulletin. See departmental office for information on particular offerings.

403/503 UNITED STATES SOCIAL-CULTURAL HISTORY TO 1877
3 credits
Concepts and attitudes considered in their social, cultural, historical framework. Emphasis on population growth, rural and urban life, literature, the arts, family life, slavery and impact of Civil War.

404/504 UNITED STATES SOCIAL-CULTURAL HISTORY SINCE 1877
3 credits
Concepts and attitudes; emphasis on business, agrarianism, self-made man, progressivism; impact of world wars, social-economic planning; trends in literature and art; social structure and change; blacks; American women's movements.

405/505 HISTORICAL METHODS
2 credits
Practice in historical research and writing. Required for history major, and for graduate major who has not taken equivalent course elsewhere but does not count for graduate credit requirements.

406/506 THE AMERICAN REVOLUTIONARY ERA: POLITICAL, MILITARY, AND CONSTITUTIONAL ASPECTS
3 credits
The struggle for the rights of Englishmen and independence; the impact of war on American society and the creation of republican institutions.

407/507 UNITED STATES DIPLOMACY TO 1919
3 credits
Establishment of basic policies, diplomacy of expansion, and emergence of a world power.

408/508 UNITED STATES DIPLOMACY SINCE 1914
3 credits
Responses of government to public challenges of war, peacemaking and power politics.

410/510 HISTORICAL AGENCY ADMINISTRATION
3 credits
Organization and administration of non-academic historical agencies (e.g., societies, libraries, etc.). Some field experience in a local historical agency.

411/511 FUNCTIONS OF HISTORICAL AGENCIES
3 credits
Prerequisite: 410/510 or permission. The functions and programs of historical agencies. Student will develop a project that involves participating in an agency function.

412 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.

414/514 HISTORY OF CANADA
3 credits
Survey of Canadian history from the age of the explorers to the present. Special emphasis will be placed on the history of French-Canadian, on economic development and on Canadian-American relations.

415/515 LATIN AMERICA: ORIGINS OF NATIONALITY
3 credits
Pre-Colombian civilizations; discovery and conquests; colonialism, struggle for independence and formation of new societies.

416/516 LATIN AMERICA: THE TWENTIETH CENTURY
3 credits
Social revolution, poitical ideology and contemporary problems.

417/517 THE UNITED STATES, LATIN AMERICA AND IMPERIALISM
3 credits
International relations, militarism, dependency, Marxism and recent international and ideological trends.

418/518 MEXICO
3 credits
History of Mexico from Indian civilizations to present with emphasis on relations with United States, social and political ramifications of the Twentieth Century Mexican revolution.

419/519 CENTRAL AMERICA AND THE CARIBBEAN
3 credits
Selected aspects of the histories of Central American and Caribbean countries with emphasis on popular and peasant movements, political reform, social revolution, economic and under-development, and relations with the United States.

421/521 THE AMERICAN CITIES OF THE 17TH CENTURY, 1607-1713
3 credits
Establishment of European colonies in America with special emphasis on English settlements and evolution of the first British Empire to 1713.

423/523 THE 18TH CENTURY COLONIES AND FOUNDING OF THE UNITED STATES, 1713-1800
3 credits
Colonial life from the Glorious Revolution to the founding of the United States. Major movements (wars, religious revivals, economic growth) and political controversies.

424/524 AGE OF JEFFERSON AND JACKSON, 1800-1850
3 credits
The evolution in its formative stages from Jefferson through Jackson to the Compromise of 1850. Emphasis upon political, social, intellectual, and constitutional developments.

425/525 THE CIVIL WAR AND RECONSTRUCTION, 1850-1877
4 credits
Secessionism, slavery and the causes of the Civil War; wartime activities of the Union and Confederacy, leading personalities; problems of Reconstruction and the new Union.

428/528 THE ORIGINS OF MODERN AMERICA, 1877-1917
3 credits
United States: From Reconstruction to Era World War I (1877-1920); emphasis on political responses to rise of an industrialized urban society, the popular and progressive movements.

429/529 AMERICA IN WORLD WARS AND DEPRESSION, 1917-1945
3 credits
World War I and Versailles, the 1920s, the Great Depression and the New Deal; World War II.

430/530 RECENT AMERICA: THE UNITED STATES SINCE WORLD WAR II
3 credits
Nuclear age, cold war, Soviet policy and domestic affairs to present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.

431/531 HISTORY OF AMERICAN TRANSPORTATION
3 credits
A survey of development of major transportation forms: water, road, rail and air. Special emphasis on technological change, social and economic trends, and government support and control.

432/532 AMERICAN ECONOMY TO 1900
3 credits
Survey of economic developments from colonial era; including agriculture, commerce, labor. Special emphasis on role of big business and evolution of monetary and fiscal policy.

433/533 AMERICAN ECONOMY SINCE 1900
3 credits
Survey of economic developments since 1900; topics include agriculture, business and labor. Special emphasis on role of big business and evolution of monetary and fiscal policy.

434/534 AMERICAN ENVIRONMENTAL HISTORY
3 credits
Utilization, conservation of natural resources from beginnings of American society to present. Combination of economic, technological history of extensive treatment of public policy, environmental issues.

435/535 OHIO
3 credits
Politics, social, economic and intellectual history of Ohio, with special emphasis on Ohio's relationship to Old Northwest and to the nation.

436/536 THE AMERICAN CITY
3 credits
Development of urbanization and its consequences from colonial period to present.

437/537 AMERICAN FAMILY HISTORY
3 credits
Evolution of American family, colonial times to present, including developments in structure and roles of family members, and status of the aged. Exploration of methods for historical study of the family.

438/538 BRONZE AGE AND ARCHAIC GREECE (3000-480 BC)
3 credits
An intensive survey of the history of Greece from the Neolithic period to the Persian Wars. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.

439/539 CLASSICAL AND HELLENISTIC GREECE (480-146 BC)
3 credits
Prerequisite: 438/538. An intensive survey of the history of Greece from 480 B.C. to the Hellenistic Age. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.

440/540 THE ROMAN REPUBLIC
3 credits
An intensive survey of the Roman Republic. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.

441/541 THE ROMAN EMPIRE
3 credits
Prerequisite: 440/540. An intensive survey of the Roman Empire. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.

442/542 MEDIEVAL EUROPE, 400-1200
3 credits
Migration of peoples, Carolingian revivals, renewal of invasions, social, economic and intellectual stirrings leading to "birth of Europe."

443/543 MEDIEVAL EUROPE, 1200-1500
3 credits
Middle Ages and the middle class; economic and political change, international wars, social unrest and religious crosscurrents.

445/545 THE RENAISSANCE
3 credits
The European Renaissance (1350-1600). Economic and political trends with special emphasis on Protestant, Anglican and Catholic reformation.

446/546 THE REFORMATION
3 credits
Europe in Sixteenth Century, its religious, cultural, political and diplomatic development, with special emphasis on Protestant, Anglican and Catholic reformation.

447/547 EUROPEAN ABSOLUTION AND THE ENLIGHTENMENT, 1680-1789
3 credits
Constitutional, diplomatic, cultural, intellectual and social developments of Seventeenth Century Europe.

448/548 EUROPE IN THE FRENCH REVOLUTIONARY ERA, 1789-1815
3 credits
Development of Revolution, Napoleon's reign and satellites.

451/551 NINETEENTH CENTURY EUROPE, 1815-1871
3 credits
Europe in the century of change, revolution, romanticism, industrialization, democratization, first wars of the industrial age.

452/552 NINETEENTH CENTURY EUROPE, 1871-1914
3 credits
Socialism, imperialism, nationalism, and the great war. The Belle époque and contemporary art, intellectual currents.

454/554 TWENTIETH CENTURY EUROPE, 1914-1939
3 credits
Europe between world wars; Russian revolution, fascism and national socialism; plight of democracies.

455/555 TWENTIETH CENTURY EUROPE SINCE 1939
3 credits
Europe in World War II, the cold war and attempts at unity.

456/556 RUSSIA TO 1801
3 credits
Survey of Russian history from Kievan period to death of Paul I, emphasizing development of autocratic government, Russian culture, reigns of Peter and Catherine.

459/559 RUSSIA SINCE 1801
3 credits
Survey of Nineteenth and Twentieth Centuries. Special emphasis on problems of modernization, the revolution and development of communism.
460/560 war and western civilization 3 credits
War and society in Europe, America and beyond from ancient world to present with special emphasis on period since 1740.

470/570 england to 1668 3 credits
Survey of English history from the Anglo-Saxon conquest to the Revolution of 1668. Medieval and early modern institutions, social and cultural life.

471/571 england since 1668 3 credits
Survey of English history from 1668 to the present. The reform of English institutions and life, modernization of the economy, the welfare state, society and war.

472/572 tudor and stuart england, 1485-1714 2 credits
Emphasis on social, economic and cultural topics, including literature, art and architecture.

477/577 western science to 1600 2 credits
Science in Greek, Roman, Islamic, European societies with special emphasis on the scientific revolution of the Sixteenth and Seventeenth Centuries.

478/578 western science since 1600 3 credits
Continuing development of physical, medical, biological sciences in European and American societies. Atomic physics and weapons, evolution, genetics, modern medicine.

479/579 western technology 3 credits
Technology in Mesopotamia, Egypt, Greece, Rome, Islam, medieval Europe; first and second industrial revolutions in Europe, America.

480/580 traditional china 3 credits
Selective study of institutional, intellectual, political and artistic developments in Chinese civilization from antiquity to Sixteenth Century. Emphasis on general features of traditional Chinese culture.

481/581 modern china 3 credits
Survey of China since Eighteenth Century with focus on process of modernization, Background of contemporary scene stressed.

485/585 japan 3 credits
Survey of history of Japan from antiquity to present; emphasis on developments since 1600, impact of the west and modernization process.

490/590 workshop in history 1-3 credits
(May be repeated as long as desired.) Group studies of special subjects pertaining to history. May be used for elective credit only. May not be used to meet undergraduate or graduate major requirements in history.

497 honors project 1-3 credits
(May be repeated for a total of six credits.) Prerequisite: senior status. Independent study. An honors project related to history, supervised by a member of the Department of History, culminating in an undergraduate thesis.

Graduate Courses

522 reading seminar in ancient history 4 credits
Study of historical literature, sources of materials and major interpretations of ancient history, especially Greek and Roman periods.

523 writing seminar in ancient history 4 credits
Prerequisite: 522. Research and writing in selected topics of ancient history, particularly Greek and Roman eras.

526 reading seminar in medieval history 4 credits
Study of historical literature, sources of materials and major interpretations of medieval European history.

528 writing seminar in medieval history 4 credits
Prerequisite: 525. Research and writing in selected topics of European medieval history from barbarian invasions through later Middle Ages.

531 reading seminar in modern european history to 1815 4 credits
Study of historical literature, sources of materials, major interpretations of early modern European history to Napoleonic era.

532 writing seminar in modern european history to 1815 4 credits
Prerequisite: 531. Research and writing in selected topics of early modern European History, occasionally including social, economic and intellectual subjects.

534 reading seminar in modern european history since 1815 4 credits
Study of historical literature, sources of materials and major interpretations of modern European history since early Nineteenth Century.

535 writing seminar in modern european history since 1815 4 credits
Prerequisite: 534. Research and writing in selected topics of modern European history, occasionally including social, economic and intellectual subjects.

540 reading seminar in history of science 4 credits
Study of historical literature, sources of materials and major interpretations in history of science.

541 writing seminar in history of science 4 credits
Research and writing in selected topics in history of science.

651 reading seminar 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.

652 writing 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.

666 reading seminar in american history to 1865 4 credits
Study of historical literature, sources of materials and major interpretations of American colonial and United States history to Civil War.

667 writing seminar in american history to 1865 4 credits
Prerequisite: 666. Research and writing in selected topics of American history from colonial period to Civil War.

669 reading seminar in american history since 1865 4 credits
Study of historical literature, sources of materials and major interpretations of United States history since Civil War.

670 writing seminar in american history since 1865 4 credits
Prerequisite: 669. Research and writing in selected topics of United States history since Civil War.

677 reading seminar in latin american history 4 credits
Prerequisite: two courses in Latin American studies or permission of instructor. Study of historical literature, sources of materials and major interpretations of Latin American history.

678 writing 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.

689 historicography 3 credits
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.

690 history teaching practicum 3 credits
Prerequisite: graduate assistantship. Required of all graduate assistants each fall semester. Training and experience in college teaching of history under the supervision of an experienced faculty member. May not be used to meet degree requirements.

694 thesis research 3 credits
Research for Master of Arts degree thesis.

695, 6 individual reading for m.a. student 1-4 credits each
(May be repeated for a total of 12 credits) Directed reading to fit individual student programs. May be repeated, but no more than six credits may count toward the M.A. degree in history. Written permission of the instructor required.

699 thesis writing 3 credits
Prerequisite: 694. Writing of Master of Arts degree thesis.

705, 8 individual reading for Ph.D. student 1-6 credits each
(May be repeated, but no more than 12 credits may apply toward the Ph.D. in history) Directed reading to fit individual student programs. Written permission of the instructor required.

898 dissertation research 1-12 credits
Research for Doctor of Philosophy degree dissertation.

899 dissertation writing 1-12 credits
Prerequisite: 898. Writing of Doctor of Philosophy degree dissertation.

MATHMATICS

3450:

111-38 modern university mathematics 1 credit each
A series of modules designed primarily for the non-physical science major to be taken after consultation with an advisor.

101 elementary algebra 2 credits
(Does not count toward the University General Studies Mathematics requirement.) Prerequisite: placement. An introductory course in algebra to prepare the student for entry-level mathematics courses at the University. Topics include real numbers, arithmetic operations, symbols, word problems, linear equations and inequalities, quadratic equations, radicals, rational expressions and exponents.

111 algebra 1 credit
Prerequisite: placement. Sets, signed numbers, algebraic expressions, factoring, exponents, radicals, binomial theorem.

112 algebraic functions and graphing 1 credit
Prerequisite: 111. Linear and quadratic functions and equations, complex numbers, inequalities, absolute value, ratio and proportions, graphing functions and inequalities.
113 COMBINATORICS AND PROBABILITY 1 credit
Prerequisite: 112. Permutations, combinations, sample spaces events; simple, compound and conditional probability; Bernoulli trials, expectations and odds.

114 MATRICES 3 credit
Prerequisite: 112. Nomenclature, operations, inverse, solution of m linear equations in n variables using elementary row operations.

115 LINEAR PROGRAMMING 1 credit
Prerequisite: 114 or equivalent. Minimizing and/or maximizing a linear function subject to a system of linear inequalities (geometrically and simplex method); introduction to game theory.

117 INTRODUCTION TO TRIGONOMETRY 1 credit
Prerequisite: 112 Definitions of trigonometric functions, identities, solving right triangles, applications.

119 TRIGONOMETRIC FUNCTIONS AND GRAPHING 1 credit
Prerequisite: 117. Graphing, deducing, solving triangles, applications.

121 ANALYTIC GEOMETRY 1 credit
Prerequisite: 112. Cartesian coordinate system; rational, logarithmic, exponential functions; sequences, series, limits, definition of series.

122 DIFFERENTIAL CALCULUS 1 credit
Prerequisite: 121. Differentiation of algebraic, logarithmic and-exponential functions, higher derivatives, partial derivatives, applications.

123 INTEGRAL CALCULUS 1 credit
Prerequisite: 122. Indefinite and definite integral differentials, change of variable, numerical integration, improper integrals, double integral.

124 CALCULUS WITH TRIGONOMETRY 1 credit
Prerequisite: 118. Differentiation and integration of trigonometric functions, trigonometric substitution, applications.

126 NUMBER SYSTEMS 1 credit
Prerequisite: 112. Ancient number systems, number bases, Euclidean algorithm, modular arithmetic.

128 ELEMENTARY GEOMETRY 1 credit
Prerequisite: 112. Definitions and measure of line segments; angles and triangles in Euclidean plane geometry; Hilbert's axioms.

136 SYSTEMS OF MEASUREMENT 1 credit
English and metric systems of weights and measures. Troy, avoirdupois and apothecaries' systems.

138 MATHEMATICS OF FINANCE 1 credit
Prerequisite: 112 or equivalent. Simple and compound interest; bank discount, ordinary annuities (present value, amount and rate), amortization, annuities, perpetuities.

147 ELEMENTARY FUNCTIONS I 3 credits
Prerequisite: placement. Real numbers, equations and inequalities, radicals, absolute value, relations and functions, linear and quadratic functions, system of equations, matrices and determinants, complex numbers.

148 ELEMENTARY FUNCTIONS II 3 credits
Prerequisite: placement. Exponential and logarithmic functions, exponential and logarithmic equations, trigonometric functions, reduction formulas, trigonometric identities, arithmetic and geometric sequences and series, mathematical induction.

149 PRE-CALCULUS MATHEMATICS 4 credits
Prerequisite: placement. Sets; number systems; absolute value; relations; functions; polynomial functions; determinants; systems of equations, inequalities; trigonometric functions, identities, exponential, logarithmic functions, complex numbers, infinite sequences, binomial theorem, mathematical induction.

211 CALCULUS FOR THE LIFE SCIENCES I 3 credits
Prerequisite: 149 or equivalent or placement. A calculus course for students majoring in the biological and health sciences. Functions, limits and continuity, differentiation, applications of derivatives, exponential and logarithmic functions, integration.

212 CALCULUS FOR THE LIFE SCIENCES II 3 credits
Prerequisite: 211. A calculus course for students majoring in the biological and health sciences. Functions, limits and continuity, differentiation, applications of derivatives, exponential and logarithmic functions, integration.

215 CONCEPTS OF CALCULUS I 4 credits
Prerequisite: 149 or equivalent or placement. Analytic geometry, functions, limits and continuity, differentiation, applications of differentiation; integration; logarithmic and exponential functions. An intensive treatment designed for computer science/business-option majors and those students who desire the Computer Science Certificate or a computer science minor.

216 CONCEPTS OF CALCULUS II 4 credits
Prerequisite: 215. Trigonometric and inverse trigonometric functions; differentiation and integration; techniques of integration, conic sections; parametric equations; quadric surfaces; cylindrical and spherical coordinates; sequences and series; partial differentiation; multiple integration.

221 ANALYTIC GEOMETRY-CALCULUS I 4 credits
Prerequisite: 149 or equivalent or placement. Fixed 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.

222 ANALYTIC GEOMETRY-CALCULUS II 4 credits
Prerequisite: 221. Derivatives of exponential, logarithmic trigonometric, inverse trigonometric, hyperbolic and inverse hyperbolic functions; methods of integration, moments, centroids, incompartment forms, polar coordinates, vector algebra, cylindrical and spherical coordinates, vector valued functions, curvature.

223 ANALYTIC GEOMETRY-CALCULUS III 4 credits
Prerequisite: 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.

235 DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 223. Methods of forming and solving important types of differential equations. Analysis of models involving differential equations of first order and simple equations of second order.

289 SELECTED TOPICS IN MATHEMATICS 1-3 credits
Prerequisite: permission. Selected topics of interest in mathematics.

301 HISTORY OF MATHEMATICS 2 credits
Prerequisite: 222. Origin and development of mathematical ideas.

311 ABSTRACT ALGEBRA 3 credits
Prerequisite: 222. Introduction to groups, rings, integral domains, axiomatic foundation natural, integer, rational, real, complex number systems.

312 LINEAR ALGEBRA 3 credits
Prerequisite: 222. Study of vector spaces, linear transformations, matrices, determinants, inner products, the eigenvalue problem, quadratic forms and canonical forms.

413/513 THEORY OF NUMBERS 3 credits
Prerequisite: 222 or permission. Euclidean algorithm, unique factorization theorem, congruences, primes, primitive roots, index, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.

414/514 VECTOR AND TENSOR ANALYSIS 3 credits
Prerequisite: 223. Vector algebra, calculus of scalar, vector, vector-scalar, vector-vector functions, integral theorems, coordinate transformations, cartesian, contravariant, covariant vectors, tensors, fundamental operations with tensors, differentiation of tensors, operations with tensors.

415/515 COMBINATORIALS AND GRAPH THEORY 3 credits
Prerequisite: 222 or permission. Introduction to basic ideas and techniques of mathematical counting, properties of structures of systems.

421/521,2 ADVANCED CALCULUS I AND II 3 credits each
Sequential. Prerequisite: 235. 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.

425/525 COMPLEX VARIABLES 3 credits
Prerequisite: 235. Complex variables; elementary functions, differentiation and analytic functions; integration and Cauchy's theorem; power series and Laurent series, residue theorem; applications such as conformal mappings, inversion or integral transform.

427/527 INTRODUCTION TO NUMERICAL ANALYSIS 3 credits
Prerequisites: 223 and 3460-201 or 4100-206. Mathematical analysis of numerical methods for solving equations, interpolating function values, approximating derivatives and integrals, approximating functions.

428/528 NUMERICAL ANALYSIS 3 credits
Prerequisites: 223 and 3460-201 or 4100-206. Mathematical analysis of numerical methods for solving systems of linear equations, eigenvalue problems, nonlinear systems, unconstrained minimization problems.

429/529 NUMERICAL METHODS IN DIFFERENTIAL EQUATIONS 3 credits

431/531 SPECIAL FUNCTIONS AND OPERATIONAL CALCULUS 3 credits
Prerequisite: 225. Series solutions to differential equations; Bessel functions; orthogonal polynomials, self-adjoint boundary value problems and Fourier series. Laplace transforms, Fourier transforms.

432/532 PARTIAL DIFFERENTIAL EQUATIONS 4 credits
Prerequisite: 225. The classical initial value and boundary value problems of mathematical physics developed and solved using Fourier series and integral transforms.

435/535 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 235. Analysis, solution of systems of equations, linear, nonlinear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.

438/538 MATHEMATICAL MODELS 3 credits
Prerequisite: 225. Formulation and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topics may include stochastic processes, large programing, graph theory, theory of measurement.

441/541 CONCEPTS IN GEOMETRY 4 credits
Prerequisite: 222 or permission of instructor. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformation, constructions and inversions.

442/542 PROJECTIVE GEOMETRY 3 credits
Prerequisite: 222 or permission. Complex projective planes, duality, homogeneous coordinates, 1-1 correspondence, cross ratios, harmonic ranges, conics, quadrilaterals, quadrangles, applications to Euclidean geometry, quadratic surfaces.
Graduate Courses

801 INTRODUCTION TO ANALYSIS
4 credits
Prerequisite: permission. An introduction to analysis to include differentation and integration, maxima and minima, Lagrange multipliers, transformations, infinite series, line and surface integrals, improper integrals. May not be used to meet degree requirements for mathematical sciences majors.

810 MATRIX ALGEBRA
3 credits
Prerequisite: 235. Study of matrix theory and techniques concerning inverses, linear systems of equations, vector spaces, transformations, quadric forms, the eigenvalue problem and canonical forms.

811,2 ALGEBRAIC THEORIES I AND II
3 credits each
Sequential. Prerequisites: 311, 312 or 610. In-depth analysis of algebraic theory — monoids, groups, rings, modules, vector spaces, lattices and algebras.

821,2 FUNCTIONS OF A REAL VARIABLE I AND II
3 credits each

825 ANALYTIC FUNCTION THEORY
3 credits
Prerequisite: 422/522. Complex number system, holomorphic functions, continuity, differentiability, power series, complex integration, residue theory, singularities, analytic continuation, asymptotic expansion.

827,8 ADVANCED NUMERICAL ANALYSIS I AND II
3 credits each

831 CALCULUS OF VARIATIONS
3 credits
Prerequisite: 235. Problems with fixed and movable endpoints, problems with constraints, generalization to several variables, the maximality principle, linear time-optional problems, the connective between classical theory and the maximality principle.

832 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS
3 credits
Prerequisite: 430/532 or permission. Existence, uniqueness, stability of solutions to general classes of partial differential equations. Methods for solving these classes introduced, emphasizing both analytical and numerical techniques.

833,4 CONTINUOUS SYSTEMS I AND II
3 credits each
Sequential. Prerequisite: 422/522 or permission of instructor. Boundary value problems formulated as ordinary differential equations, partial differential equations and integral equations analyzed as linear operator equations on function spaces using tools of generalized functions. Green's functions and spectral theory. Particular attention paid to evolution and potential equations as well as variational methods.

835 OPTIMIZATION
3 credits
Prerequisite: 422/522 or permission. Unconstrained and constrained optimization theory and methods in applied problems.

838 ADVANCED COMBINATORICS AND GRAPH THEORY
3 credits
Prerequisite: 235. Theory and techniques of combinatorics as applied to network problems and graph theoretic problems.

842 DIFFERENTIAL GEOMETRY
3 credits
Prerequisite: 422/522. Analytic representation of space curves, surfaces; intrinsic geometry of surface; geometry of surfaces in large.

845 TOPOLOGY
3 credits
Prerequisite: 422/522. Set theory, ordinal and cardinal numbers, topological spaces, filters and nets, separation, coverings, metric spaces, homotopy, related topics.

889 ADVANCED TOPICS IN MATHEMATICS
1-3 credits
May be repeated for a total of six credits. Prerequisite: permission of instructor. Topics within research interests of faculty members in mathematics and applied mathematics.

892 MATHEMATICS AND STATISTICS SEMINAR
2 credits
May be repeated for a total of four credits. For properly qualified candidate for Master's degree in mathematics and statistics. Seminar-type discussions involving special problems dealing with mathematics and statistics. Includes a supervised research project.

895 PRACTICUM IN MATHEMATICS AND STATISTICS
1-3 credits
Prerequisite: graduate teaching assistant or permission. Training and experience in college teaching of mathematics and statistics. May not be used to meet degree requirements.

897 INDIVIDUAL READING
1-2 credits
May be repeated for a total of four credits. Prerequisites: graduate standing and permission. Directed studies in mathematics at graduate level under guidance of selected faculty member.

899 THESIS RESEARCH
2 credits
May be repeated for a total of four credits. Prerequisite: permission. Properly qualified candidate for master's degree may obtain four credits for research experience which culminates in presentation of faculty-supervised thesis.

COMPUTER SCIENCE

3460:

125 DESCRIPTIVE COMPUTER SCIENCE
1 credit
Computer literacy: terminology, methods, media for data representation, storage, elements of a computing system, data organization.

126 INTRODUCTION TO BASIC PROGRAMMING
1 credit
Prerequisite: 3450:112. Introduction to syntax and semantics of BASIC language: assignment statement and arithmetic, control statements and loops, input/output.

127 COMPUTERS IN TODAY'S WORLD
3 credits
Introduction to nature of computers and their capabilities. Special attention given to topics such as effects of computer on privacy, employment and education, ethics in computer community, potential for computer crime. Designed for nonmajors.

128 ADVANCED BASIC PROGRAMMING
1 credit
Prerequisite: 125 or equivalent. A continuation of 126 to include such topics as arrays, files, graphics, simulations, subroutines, top-down programming, control structures, and applications. Hands-on experience in the Apple Lab will be scheduled.

201-5 INTRODUCTION TO PROGRAMMING LANGUAGES
2 credits each
Introduction to syntax and semantics of programming languages: assignment statement and arithmetic, control statements and loops, input/output, subprograms.

201 INTRODUCTION TO FORTRAN PROGRAMMING
2 credits
Prerequisites: 111, 112, 114 or 147 or equivalent. Does not meet Computer Science major, minor and/or certificate requirements.

202 INTRODUCTION TO COBOL PROGRAMMING
2 credits
Prerequisites: 3450:111, 112, 114 or equivalent.

203 INTRODUCTION TO APL PROGRAMMING
2 credits
Prerequisites: 3450:111, 112, 114 or equivalent.

204 INTRODUCTION TO PL/1 PROGRAMMING
2 credits
Prerequisite: 201 or 209, or 4100:206.

205 INTRODUCTION TO PASCAL PROGRAMMING
2 credits
Prerequisite: 201 or 209, or 4100:206.

209 COMPUTER PROGRAMMING I
3 credits
Prerequisite: 3450:149 or equivalent. An introduction to problem-solving methods and algorithm development. Programming in a high-level language including solving design, code, debug and document programs using techniques of good programming style.

210 COMPUTER PROGRAMMING II
3 credits
Prerequisites: 209 and 3450:221 or 215 or 4100:206. Method of representation of information on a digital computer: character representation, fixed point-floating point numbers, introduction to computer organization, algorithms and machine language programming, Boolean algebra, computer circuits.

306 ASSEMBLY LANGUAGE PROGRAMMING
3 credits
Prerequisite: 210. Basic computer organization and data representation. Programming in assembly language on a typical digital computer Subroutine linkage and macro instructions.

307 APPLIED SYSTEMS PROGRAMMING
3 credits
Prerequisites: 4450:306 and 210. Introduction to systems programming using OS/370, Job Control Language, loaders and compilers, utilities. Stresses actual systems programming.

316 INTRODUCTION TO DATA STRUCTURES
3 credits
Prerequisites: 210 and 3450:222 or 216 or permission. Standard data structures: stacks, queues, deques, trees, graphs, vectors, arrays, files, searching, sorting.

418/518 INTRODUCTION TO DISCRETE STRUCTURES
3 credits
Prerequisite: 210 or permission. Introduction to a number of structures in algebra of particular use to student in computer science. Topics include algorithms and flow chart language, graphs and digraphs, trees, lattices codes.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>420/530</td>
<td>STRUCTURED PROGRAMMING</td>
<td>3</td>
<td>Prerequisite: 316. Techniques of block programming using a structured programming language, program readability, program verification and program design.</td>
<td></td>
</tr>
<tr>
<td>425/525</td>
<td>INTRODUCTION TO SOFTWARE SYSTEMS</td>
<td>3</td>
<td>Prerequisite: 210. introduction to software systems: operating systems, input/output systems, languages and their processors; memory management; software engineering principles.</td>
<td></td>
</tr>
<tr>
<td>426/526</td>
<td>OPERATING SYSTEMS</td>
<td>3</td>
<td>Prerequisites: 307 and 316 or 4450:407. Introduction to various types of operating systems, batch processing systems, multiprogramming systems and interacting processes, storage management processes and resource control. Course is independent of any particular operating system.</td>
<td></td>
</tr>
<tr>
<td>430/530</td>
<td>THEORY OF PROGRAMMING LANGUAGES</td>
<td>3</td>
<td>Prerequisite: 316. More advanced concepts underlying programming languages and their applications, formal definitions of programming languages, Backus Normal Form, semantics, compiler design.</td>
<td></td>
</tr>
<tr>
<td>435/535</td>
<td>ANALYSIS OF ALGORITHMS</td>
<td>3</td>
<td>Prerequisites: 316 and 418. Design and analysis of efficient algorithms for random access machines; derivation of pattern classification algorithms.</td>
<td></td>
</tr>
<tr>
<td>440/540</td>
<td>COMPILER DESIGN</td>
<td>3</td>
<td>Prerequisite: 307 or 4450:407. Techniques used in writing and modifying compilers including translation, loading, execution, symbol tables and storage allocation; compilation of simple expressions and statements. Organization of a compiler for handling lexical scan, syntax scan, object code generation, error diagnoses, and code optimization. Use of compiler writing languages and boot-strapping. The course requires a project involving compiler writing.</td>
<td></td>
</tr>
<tr>
<td>457/557</td>
<td>COMPUTER GRAPHICS</td>
<td>3</td>
<td>Prerequisite: 210. Topics in vector graphics, scan line graphics, representations and languages for graphics.</td>
<td></td>
</tr>
<tr>
<td>460/560</td>
<td>ARTIFICIAL INTELLIGENCE AND NEUROISTIC PROGRAMMING</td>
<td>3</td>
<td>Prerequisite: 316. Study of various programs which have displayed some intelligent behavior. Exploration of level at which computers can display intelligence.</td>
<td></td>
</tr>
<tr>
<td>465/555</td>
<td>COMPUTER ORGANIZATION</td>
<td>3</td>
<td>Prerequisite: 4450:306. An introduction to the hardware organization of the computer at the register, processor and system levels. An in-depth study of the architecture of a particular computer systems family.</td>
<td></td>
</tr>
<tr>
<td>470/570</td>
<td>AUTOMATA, COMPUTABILITY AND FORMAL LANGUAGES</td>
<td>3</td>
<td>Prerequisite: 418. Presentation in theory of formal languages and their relation to automata. Topics include description of languages, regular context-free and context-sensitive grammars, finite, pushdown and linear-bounded automata; turing machines; closure properties; computational complexity; stack automata and decidability.</td>
<td></td>
</tr>
<tr>
<td>475/575</td>
<td>DATA BASE MANAGEMENT</td>
<td>3</td>
<td>Prerequisites: 202, 210. Fundamentals of data base organization, data manipulations and representation, data integrity, privacy.</td>
<td></td>
</tr>
<tr>
<td>488/589</td>
<td>TOPICS IN COMPUTER SCIENCE</td>
<td>1-3</td>
<td>Prerequisite: permission of instructor. Selected topics in computer science at an advanced level.</td>
<td></td>
</tr>
<tr>
<td>491/591</td>
<td>WORKSHOP IN COMPUTER SCIENCE</td>
<td>1-3</td>
<td>Prerequisite: permission. Selected topics in computer science. May not be used to meet graduate or undergraduate major requirements in mathematics, statistics or computer science.</td>
<td></td>
</tr>
<tr>
<td>491/592</td>
<td>INDIVIDUAL READING IN COMPUTER SCIENCE</td>
<td>1-3</td>
<td>Prerequisite: permission. Computer science major only. Directed studies designed as an introduction to research problems, under guidance of designated faculty member.</td>
<td></td>
</tr>
<tr>
<td>498</td>
<td>SENIOR HONORS PROJECT</td>
<td>1-3</td>
<td>Prerequisite: 489 (honors). Directed study for senior student in the Honors Program who has completed 3450:489 (honors). An introduction to research problems in the mathematical sciences under the guidance of selected faculty.</td>
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</tbody>
</table>

**STATISTICS 3470:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>251/1</td>
<td>INTRODUCTION TO STATISTICS</td>
<td></td>
<td>Introduction to fundamental ideas of statistics at precalculus level including topics from the following:</td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>DESCRIPTIVE STATISTICS AND PROBABILITY</td>
<td>1</td>
<td>Prerequisite: one semester of college algebra or equivalent.</td>
<td></td>
</tr>
<tr>
<td>252</td>
<td>DISTRIBUTIONS</td>
<td>1</td>
<td>Prerequisite: 251.</td>
<td></td>
</tr>
<tr>
<td>253</td>
<td>HYPOTHESES TESTING (PARAMETRIC)</td>
<td>1</td>
<td>Prerequisite: 252.</td>
<td></td>
</tr>
<tr>
<td>254</td>
<td>HYPOTHESES TESTING (NONPARAMETRIC)</td>
<td>1</td>
<td>Prerequisite: 253.</td>
<td></td>
</tr>
<tr>
<td>255</td>
<td>REGRESSION AND CORRELATION</td>
<td>1</td>
<td>Prerequisite: 253.</td>
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</tr>
<tr>
<td>256</td>
<td>EXPERIMENTAL DESIGN</td>
<td>1</td>
<td>Prerequisite: 253.</td>
<td></td>
</tr>
<tr>
<td>257</td>
<td>TIME SERIES AND INDEX NUMBERS</td>
<td>1</td>
<td>Prerequisite: 255.</td>
<td></td>
</tr>
<tr>
<td>258</td>
<td>STATISTICAL COMPUTATIONS ON THE MICROCOMPUTER</td>
<td>1</td>
<td>Prerequisites: 254:56 and 3460:126. The utilization and generation of computer programs in the BASIC language to implement algorithms for the solution of a variety of statistical problems.</td>
<td></td>
</tr>
<tr>
<td>263</td>
<td>EXPLORATORY DATA ANALYSIS</td>
<td>1</td>
<td>Prerequisites: 251,2.3,5. Topics to include Stem and Leaf displays; letter-value displays; graphical description of data; resistant line; smoothing data (optional); two-way tables (optional).</td>
<td></td>
</tr>
<tr>
<td>450/550</td>
<td>PROBABILITY</td>
<td>3</td>
<td>Prerequisite: 3450:221. Introduction to probability, random variables and probability distributions, expected value, sums of random variables, Markov processes.</td>
<td></td>
</tr>
<tr>
<td>451/551/1</td>
<td>THEORETICAL STATISTICS I AND II</td>
<td>3</td>
<td>Prerequisites: 3450:222. 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.</td>
<td></td>
</tr>
<tr>
<td>461/561</td>
<td>APPLIED STATISTICS</td>
<td>4</td>
<td>Prerequisites: 3450:222 or 216 or equivalent. Applications of statistical theory to natural and physical sciences and engineering, including hypotheses tests, regression, correlation, analysis of variance, nonparametric statistics, sampling, quality assurance and other advanced topics.</td>
<td></td>
</tr>
<tr>
<td>463/563</td>
<td>EXPERIMENTAL DESIGN</td>
<td>4</td>
<td>Prerequisites: 461/561 or 661 or equivalent. Analysis of variance, crossed, nested designs, multiple comparisons, power considerations, randomized blocks, repeated measure designs, latin squares, random and fixed effects, analysis of covariance, applications.</td>
<td></td>
</tr>
<tr>
<td>468/580</td>
<td>STATISTICAL COMPUTER APPLICATIONS</td>
<td>3</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>489/589</td>
<td>TOPICS IN STATISTICS</td>
<td>1-3</td>
<td>(May be repeated for a total of six credits) Prerequisite: permission. Selected topics in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others.</td>
<td></td>
</tr>
<tr>
<td>491/591</td>
<td>WORKSHOP IN STATISTICS</td>
<td>1-3</td>
<td>(May be repeated with change of topic) Group studies of special topics in statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be used for elective credit only.</td>
<td></td>
</tr>
<tr>
<td>497</td>
<td>INDIVIDUAL READING</td>
<td>1-2</td>
<td>(May be repeated for a total of four credits) Prerequisites: senior standing and permission. Directed studies in statistics designed as an introduction to research problems under guidance of selected faculty member.</td>
<td></td>
</tr>
<tr>
<td>498</td>
<td>SENIOR HONORS PROJECT</td>
<td>1-3</td>
<td>Prerequisite: 489 (honors). Directed study for senior student in the University Honors Program who has completed 3450:489 (honors). An introduction to research problems in the mathematical sciences under the guidance of selected faculty.</td>
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</table>

**Graduate Courses**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
<th>Description</th>
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<tr>
<td>620</td>
<td>APPLICATIONS OF MATRICES TO STATISTICS</td>
<td>3</td>
<td>Prerequisites: 461/561 or equivalent. Matrices, introduction to multivariate normal distribution, applications to matrices to linear models.</td>
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<tr>
<td>644</td>
<td>ADVANCED EXPERIMENTAL DESIGN</td>
<td>2</td>
<td>Prerequisite: 463/563. An extension and continuation of 563 to include topics from confounding, fractional factorial designs, split-plot designs, analysis of covariance, unequal subclass frequencies, tests of assumptions, applications.</td>
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<tr>
<td>650</td>
<td>ADVANCED PROBABILITY AND STOCHASTIC PROCESSES</td>
<td>3</td>
<td>Prerequisite: 651. Random walk, distributions, unlimited sequence of trials, laws of large numbers, convolutions, branching processes, renewal theory, Markov chains, time-dependent stochastic processes.</td>
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<tr>
<td>651</td>
<td>PROBABILITY AND STATISTICS</td>
<td>4</td>
<td>Prerequisites: 561 or 661 or equivalent and 340:501 or equivalent. Probability, random variables, moments and generating functions, random vectors, special distributions, limit theorems, sampling, point estimation, hypothesis testing, confidence estimation.</td>
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Courses of Instruction

652 ADVANCED MATHEMATICAL STATISTICS 2 credits
Prerequisite: 651. Moment generation functions, convergence - in distribution - in probability -almost everywhere - estimation - properties and criteria, likelihood, test construction, order statistics and nonparametric methods, bivariate normal distribution.

655 LINEAR MODELS 3 credits
Prerequisites: 620 and 651. General linear model in matrix notation, general linear hypothesis, regression, models, experimental design models, analysis of variance and covariance, variance components.

661,2 ADVANCED BEHAVIORAL STATISTICS I AND II 3 credits each
Sequential. Prerequisite: College-level algebra or equivalent. Descriptive statistics, probability distributions, hypothesis testing, estimation, nonparametric statistics, correlation, simple and multiple regression, experimental designs, factorial experiments, comparisons, nested designs, repeated measures designs, randomized blocks, analysis of covariance, applications.

664 STATISTICS FOR THE HEALTH SCIENCES 4 credits
(May not be used to meet degree requirements for mathematical sciences majors.) Prerequisite: College-level algebra or equivalent. Descriptive statistics, probability distributions, hypothesis testing, estimation, nonparametric statistics, correlation, simple and multiple regression, experimental designs, factorial experiments, comparisons, nested designs, repeated measures designs, randomized blocks, analysis of covariance, applications.

665 REGRESSION AND CORRELATION 3 credits
Prerequisite: Four credits of sequential statistics courses or equivalent. Analytical theory, least squares - matrix notation, methodology, multiple regression, orthogonal polynomials, correlation, partial correlation, stepwise regression, model building, response surfaces.

666 NONPARAMETRIC STATISTICS-METHODS 2 credits
Prerequisites: 250, 662 or permission. Theoretical bases and relationships among various nonparametric techniques compared with parametric ones.

667 FACTOR ANALYSIS 2 credits
Prerequisite: 661 or permission. Theory and techniques in identifying variables through use of factor analysis.

668 MULTIVARIATE STATISTICAL METHODS 3 credits
Prerequisite: 463/563, or 662 or equivalent. Multivariate techniques including distance concept, Hotelling's T², multivariate ANOVA, regression and correlation, linear contrasts, factorial experiments, nested and repeated measure designs, Bonferroni’s F test, linear discrimination analysis, canonical correlation, application.

669 ADVANCED TOPICS IN STATISTICS 1-3 credits (May be repeated for a total of six credits)
Prerequisite: 651. Selected topics in statistics including concepts in order, statistics, advanced inference, sequential analysis, stochastic processes, reliability theory, Bayesian statistics, and regression.

697 INDIVIDUAL READING 1-2 credits (May be repeated for a total of four credits)
Prerequisites: Graduate standing and permission. Directed studies in statistics under guidance of selected faculty member.

MODERN LANGUAGES

3500:

PLACEMENT PROCEDURES FOR NEW STUDENT
Student who has 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 (Counseling and Testing, Simmons Hall 161). For placement in third-year courses or higher, department permission is required.

101,2 BEGINNING MODERN LANGUAGE I AND II 4 credits each (May be repeated for a different language)
Sequential. Reading, speaking, writing and listening comprehension; intensive drill in pronunciation, short stories, outside reading and supplementary work in language laboratory.

201,2 INTERMEDIATE MODERN LANGUAGE I AND II 3 credits each (May be repeated for a different language)
Sequential. Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking and listening comprehension; short stories, plays, novels on intermediate level.

490/590 WORKSHOP 2 credits (May be repeated)
Group studies of special topics in modern languages.

498 SENIOR HONORS PROJECT IN MODERN LANGUAGES 1-3 credits
Prerequisites: Senior standing in Honors Program and permission. Open only to language major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

FRENCH

3520:

101,2 BEGINNING FRENCH I AND II 4 credits each
Sequential. Thorough study of sound system and basic structural patterns of French language, including oral practice and reading of simple prose. A placement test is required.

201,2 INTERMEDIATE FRENCH I AND II 3 credits each
Sequential. Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking and listening comprehension. Grammar review, short stories, plays, and novels on intermediate level. A placement test is required.

207,8 INTERMEDIATE FRENCH I AND 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.

301,2 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.

305,6 INTRODUCTION TO FRENCH LITERATURE 3 credits each
Prerequisite: 202 or equivalent. Survey of French literature from its origins to present, with lectures, reading and class discussion of representative works.

312 INDIVIDUAL SUMMER STUDY ABROAD 2 credits
Prerequisite: 202 or equivalent and permission of instructor.

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.

351,2 TRANSLATION: FRENCH 3 credits each

401 FRENCH PHONETICS 3 credits
Prerequisite: 202 or equivalent. Intensive drill in pronunciation with correction and improvement of student's accent, emphasis on intonation and rhythm.

403,4 ADVANCED FRENCH COMPOSITION AND CONVERSATION 3 credits each
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

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.

411/511 SEVENTEENTH 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.

415/515 EIGHTEENTH CENTURY FRENCH LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of selected authors: emphasis on the Philosophes. Conducted in French.

419/519 NINETEENTH CENTURY FRENCH LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of selected works pertaining to romantic, realistic and naturalistic movements. Conducted in French.

427/527 TWENTIETH CENTURY FRENCH LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of the most representative works of period. Conducted in French.

450 EXPlication DE TEXTES 2 credits
Prerequisite: 302 or 306 or permission. Study of traditional French method of literary analysis based on passages of representative authors from selected periods of French literary history.

471/571 FRENCH LANGUAGE READING PROFICIENCY 4 credits
Designed to develop proficiency in reading comprehension.

497,8 INDIVIDUAL READING IN FRENCH 1-3 credits each

Graduate Courses

601 ADVANCED FRENCH GRAMMAR 4 credits
Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure and phonetic principles.

603,4 ROMANCE AND APPLIED LINGUISTICS 4 credits each
History of French language from 842 to present. Second semester deals with application of linguistic research to teaching of French.

607,8 SELECTED TOPICS IN THE MOVEMENT OF IDEAS IN FRENCH LITERATURE 4 credits each
Study of ideas instrumental in shaping French thought and culture.

619,2 FRENCH CULTURE EXPRESSED IN LITERATURE 4 credits each
Anthropological approach emphasizing social and civic institutions, education, music and arts, value systems and national characteristics.

641 SEMINAR: FRANCOPHONE LITERATURE, CULTURE AND CIVILIZATION 2 credits
Study of various aspects of culture, civilization and literature of French expression outside of France.

642 SEMINAR: THE IMAGE OF THE WOMAN IN FRENCH LITERATURE 2 credits
Study of the woman as characterized in French literature from Middle Ages to present.
GERMAN

3530:

101.2 BEGINNING GERMAN I AND II 4 credits each
Sequential. Reading, speaking, writing, and listening comprehension; intensive drill in pronunciation, short stories, outside reading and supplementary work in language laboratory.

201.2 INTERMEDIATE GERMAN I AND 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 language laboratory.

207.8 INTERMEDIATE GERMAN I AND II READING OPTIONS 3 credits each
Sequential. Prerequisites: 102 or equivalent. Readings cover various aspects of German culture through the centuries, with particular emphasis on history, literature, art and contemporary German way of life as compared with American one.

250 TWENTIETH CENTURY GERMAN LITERATURE IN TRANSLATION 2 credits
Reading and discussion of works of Mann, Rike, Hesse, Kafka, Benn, Brecht, Frisch, Dürrenmatt, Borchert, Grass. May not be taken for credit toward the major in German.

251 NINETEENTH CENTURY GERMAN LITERATURE IN TRANSLATION 2 credits
Reading and discussion of works in Kleist, Heine, Hebbel, Keller, Storm, Meyer, and Hauptmann. May not be taken for credit toward the German major.

252 AGE OF GOETHE IN TRANSLATION 2 credits
Reading and discussion of representative drama, prose and poetry of Lessing, Goethe and Schiller. May not be taken for credit toward the German major.

301.2 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.

305.6 INTRODUCTION TO GERMAN LITERATURE 3 credits each
Prerequisite: 202 or equivalent. Introduction to study of German literature. Reading and class discussion of representative works. Conducted in German.

351.2 TRANSLATION: GERMAN 3 credits each

403.4 ADVANCED GERMAN CONVERSATION AND COMPOSITION 3 credits each
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

ITALIAN

3550:

101.2 BEGINNING ITALIAN I AND II 4 credits each
Sequential. Reading, speaking, writing, and listening comprehension; intensive drill in pronunciation, short stories, outside reading and supplementary work in language laboratory.

201.2 INTERMEDIATE ITALIAN I AND 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 language laboratory.

207.8 INTERMEDIATE ITALIAN I AND II READING OPTION 3 credits each
Sequential. Prerequisite: 102 or equivalent. Readings cover various aspects of Italian culture through the centuries, with particular emphasis on history, literature, art and contemporary Italian way of life as compared with American one.

250 GENIUS OF ITALIAN LITERATURE IN TRANSLATION 2 credits
Reading and discussion of works of Dante, Petrarcha, Boccaccio, Ariosto, Machiavell, Cellini, Tasso, Bruno and Pirandello De Filippo.

301.2 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.

305.6 INTRODUCTION TO ITALIAN LITERATURE 3 credits each
Prerequisite: 202 or equivalent. Introduction to study of Italian literature. Reading and class discussion in Italian of representative works.

497 INDIVIDUAL READING IN ITALIAN 1-3 credits
Prerequisite: permission.

RUSSIAN

3570:

101.2 BEGINNING RUSSIAN I AND II 4 credits each
Reading, speaking, writing, and understanding; intensive drill in pronunciation and supplementary work in language laboratory.

201.2 INTERMEDIATE RUSSIAN I AND 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 language laboratory.

207.8 INTERMEDIATE RUSSIAN I AND II READING OPTION 3 credits each
Sequential. Prerequisite: 102 or equivalent. Readings cover various aspects of Russian culture through the centuries, with particular emphasis on history, literature, art and contemporary Russian way of life as compared with American one.

305.6 INTRODUCTION TO RUSSIAN LITERATURE 3 credits each
Prerequisite: 202 or equivalent. Advanced composition using Russian models, special attention to words and idioms, development of oral expression and conversational ability.

351.2 TRANSLATION: RUSSIAN 3 credits each

403.4 ADVANCED RUSSIAN COMPOSITION AND CONVERSATION 3 credits each
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

612,2 SCIENTIFIC RUSSIAN 3 credits each
Prerequisite: 202 or equivalent. Intensive reading of scientific articles in chemistry, physics, mathematics, biology and medicine.
420.1 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.

427.8 RUSSIAN LITERATURE OF THE TWENTIETH CENTURY 3 credits each
Prerequisite: 402 or equivalent. Reading and discussion of selected literary works from Gorky to Solzhenitsyn.

439 ADVANCED RUSSIAN SYNTAX, GRAMMAR AND CONVERSATION 3 credits each
Prerequisite: 404 or equivalent. Advanced work in composition, translation into Russian and diacritical use of the spoken language.

497.8 INDIVIDUAL READING IN RUSSIAN 1-3 credits each
Prerequisite: permission.

SPANISH
3580:

101.2 BEGINNING SPANISH I AND II 4 credits each
Sequential. Reading, speaking, writing and listening comprehension; intensive drill in pronunciation and grammar. Intensive drill in pronunciation, short stories, outside reading and supplementary work in language laboratory.

102.2 INTERMEDIATE SPANISH I AND 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 language laboratory.

107.8 INTERMEDIATE SPANISH I AND II READING OPTION 3 credits each
Sequential. Prerequisites: 102 or equivalent and permission. Reading of texts in Spanish dealing with culture of Spanish-speaking people. Not open to majors.

302.2 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.

305.8 INTRODUCTION TO HISPANIC LITERATURE 4 credits each
Prerequisite: 202 or equivalent. Reading and discussion of works written in Spanish with emphasis on the literature of contemporary authors. Conducted in Spanish.

312 SPANISH/SPANISH-AMERICAN CULTURAL EXPERIENCE 1-2 credits each
Prerequisite: permission. Student’s residence and/or independent study in Spanish-speaking country which results in demonstrable assimilation of country’s culture may earn a maximum of two credits.

350 CONTEMPORARY LATIN AMERICAN FICTION IN TRANSLATION 3 credits
(May not be credited toward the Spanish major.) Reading, discussion of novels, short stories of major Spanish-American and Brazilian writers. Designed as an elective for upper level students. Texts and discussion in English.

351.2 TRANSLATION: SPANISH 3 credits each
Prerequisites: 202 or equivalent. Development of proficiency in speaking and writing Spanish at a level beyond that achieved in 301.2. Conducted in Spanish.

400 ADVANCED GRAMMAR 3 credits each
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

407/507 MEDIEVAL AND RENAISSANCE SPANISH LITERATURE 4 credits each
Prerequisite: 302 or permission. Reading and discussion of representative works that mark 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.

409.10 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.

411/511 SPANISH LITERATURE OF THE GOLDEN AGE 4 credits each
Prerequisite: 302 or permission. Reading and discussion of representative novels and short stories with special emphasis on works of Miguel de Cervantes. Drama, poetry and essays of Sixteenth and Seventeenth Centuries studied. Conducted in Spanish.

415/515 EIGHTEENTH AND NINETEENTH CENTURIES SPANISH LITERATURE 4 credits each
Prerequisite: 302 or 306 or permission. Reading, discussion and lectures. Study of Neoclassicism, Romanticism, Realism, Naturalism; the generation of 1898. Conducted in Spanish.

419/519 TWENTIETH CENTURY SPANISH LITERATURE 4 credits each
Prerequisite: 302 or 306 or permission. Reading and discussion of the most representative writers of Twentieth Century Spain: representative poetry, drama, novels and short stories studied. Conducted in Spanish.

422/522 SPECIAL TOPICS IN HISPANIC CULTURE 1-4 credits each
Reading and discussion of significant works in literature or culture in Spain and Latin America not studied in other courses.

423/523 SPANISH-AMERICAN LITERATURE 4 credits each
Prerequisite: 302 or 306 or permission. Reading and discussion of representative Spanish-American literature from its discovery to present time. Oral and written reports. Conducted in Spanish.

427.81/82 SPANISH AND SPANISH-AMERICAN CULTURE AND CIVILIZATION 4 credits each
Prerequisite: 302 or 306 or permission. Emphasis on customs, traditions, literary trends and artistic tendencies that constitute Spain's specific contribution to Western Civilization. Study of Spanish-speaking world. Conducted in Spanish.

471/571 SPANISH LANGUAGE READING PROFICIENCY 4 credits each
Designed to develop proficiency in reading comprehension.

497 INDIVIDUAL READING IN SPANISH 1-3 credits each
Prerequisite: permission.

Graduate Courses

601 SEMINAR ON MEDIEVAL SPANISH LITERATURE 4 credits each
Reading and discussion of monumental medieval literary works of Spain such as Poema de mio Cid, El Conde Lucanor, El Libro de Buen Amor. Conducted in Spanish.

605.6 SEMINAR IN HISPANIC LINGUISTICS 4 credits each
Advanced topics in comparative, historical and descriptive Hispanic linguistics studied from contemporary theoretical perspectives. Includes practical applications.

606,10 SEMINAR ON SPANISH LITERATURE OF THE GOLDEN AGE: SIXTEENTH AND NINETEENTH CENTURIES SPANISH LITERATURE 4 credits each
Reading and discussion of representative writers from Renaissance to late Baroque period. Studies in essay, novel, theatre, poetry and philosophical writing. Conducted in Spanish.

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.

617 SEMINAR ON TWENTIETH CENTURY SPANISH-AMERICAN LITERATURE 4 credits each
Reading and discussion of contemporary writers with emphasis on theatre, novel and short story. Conducted in Spanish.

621 SEMINAR ON TWENTIETH CENTURY SPANISH LITERATURE 4 credits
Studies in representative present-day writers with analyses and discussions of novel, theatre, poetry and short stories. Conducted in Spanish.

661 SPANISH TEACHING PRACTICUM 2 credits
Prerequisites: teaching, assistantship or permission. Orientation and practice in 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.

697.8 INDIVIDUAL READINGS IN SPANISH 1-4 credits each
Content of given individual reading program taken from course contents approved for graduate work in Spanish.

699 THESIS WRITING 4 credits

PHILOSOPHY
3600:

101 INTRODUCTION TO PHILOSOPHY 3 credits
Introduction to philosophical problems and attitudes through acquaintance with thoughts of some leading thinkers of Western tradition.

120 INTRODUCTION TO ETHICS 3 credits
Introduction to problems of moral conduct through readings from the tradition and class discussions; nature of "good," "right," "ought" and "freedom."

125 THEORY AND EVIDENCE 3 credits
An investigation of the concept of evidence and the criteria for the evaluation of theories in various areas of study including the natural sciences, the social sciences and philosophy. The role of scientific information in the formation and justification of value judgments.

170 INTRODUCTION TO LOGIC 3 credits
Introduction to logic and critical thinking. Includes such topics as meaning, informal fallacies, propositional logic, predicate and syllogistic logic and nature of induction.

211 HISTORY OF ANCIENT PHILOSOPHY 3 credits
History and development of ancient Greek philosophy from pre-Socrates to Aristotle. Readings of primary sources in translation.
216 AMERICAN PHILOSOPHY
Prerequisite: one course in philosophy or permission of instructor. Movement of ideas in American from Royce to present. 3 credits

232 PHILOSOPHY OF RELIGION
Prerequisites: two philosophy courses. Discussion, analysis of problems of theology, nature of religious experience; God's nature, existence; immortality, sin, faith, reason; holy revelation, redemption. 3 credits

260 SOPHOMORE TOPICS IN PHILOSOPHY
(Prerequisite: two courses in philosophy) 1-3 credits

312 HISTORY OF MEDIEVAL PHILOSOPHY
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. 3 credits

313 HISTORY OF MODERN PHILOSOPHY
Analysis of major philosophical issues of Seventeenth and Eighteenth Centuries from Descartes through Kant. Readings of primary sources in translation. 3 credits

314 NINETEENTH CENTURY PHILOSOPHY
Prerequisite: one course in philosophy or permission of instructor. Urnquiry into philosophically significant ideas of Hegel, Marx, Schopenhauer, Mill, Kierkegaard and Nietzsche. 3 credits

323 ADVANCED TOPICS IN ETHICS
Prerequisite: one course in philosophy or permission of instructor. An examination of selected topics in Ethical Theory such as the Naturalistic Fallacy, Ethical Non-Cognitivism, Prescriptive Theories, Theories of Rights, Theories of Punishment, Nihilism, Relativism, Moral Skepticism. Specific topics will be announced in the course schedule. 3 credits

324 SOCIAL AND POLITICAL PHILOSOPHY
Prerequisite: one course in philosophy or permission of instructor. An examination of the normative justification of social, political institutions and practices. Analyses concepts such as justice, equality, political obligation from historical and contemporary points of view. Application to particular social issues covered. 3 credits

332 DIALECTICAL MATERIALISM
Prerequisite: 324 or permission of instructor. Includes Hegelian and other orientations as well as development in writings of Marx, Engels, Lenin and contemporary writers. Focus on metaphysics, social philosophy, philosophy of history, nature of man, ethics, aesthetics. 3 credits

350 PHILOSOPHY OF ART
Prerequisite: one course in philosophy or permission of instructor. An examination of theories of the nature of art and the grounds of aesthetic evaluation. Analysis of such concepts as representation, form, content, expression, institution, convention, meaning, truth as they apply in the context of the arts. 3 credits

371 PHILOSOPHY OF MIND
Nature of mind and the relationship between mind and body. Specific topics such as the limits of human reason, personal identity, the role of human thought in action and whether machines can think are also considered. 3 credits

374 SYMBOLIC LOGIC
Prerequisite: 170 or permission of instructor. Detailed consideration of propositional and first-order predicate logic. Introduction to class logic, modal logics and axiomatization. 3 credits

380 JUNIOR TOPICS IN PHILOSOPHY
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selected topics in philosophy at the junior level. 1-3 credits

390 JUNIOR HONORS COLLOQUIUM
Prerequisite: junior standing in Honors Program or junior honors standing as philosophy major or permission of instructor or nomination by department faculty member. Selected readings, research, writing and defense of one or more of philosophy projects and presentation for Senior Honors Project in philosophy. 3 credits

411/511 LATER DIALOGUES OF PLATO
Prerequisites: one introductory course and 211 or permission of instructor. Readings of dialogues in translation, commencing with Theaetetus including: Parmenides, Sophist, Statesman, Philebus. 3 credits

418/518 ANALYTIC PHILOSOPHY
Prerequisites: 211, 312 and 313 or permission of instructor. Study of ideal and ordinary language movements in Twentieth Century British and American philosophy. Deals with such figures as Russell, Carnap, Ayer, Moore, Wittgenstein, Ryle and Austin. 3 credits

419/519 BRITISH EMPIRICISM
Prerequisites: one introductory course and 313 or permission of instructor. Intensive analysis of selected major writings of Locke, Berkeley and Hume. 3 credits

421/521 PHILOSOPHY OF LAW
Prerequisite: one course in philosophy or permission of instructor. Philosophical inquiry into the nature of law and legal institutions. 3 credits

422/522 CONTINENTAL RATIONALISM
Prerequisites: one introductory course and 313 or permission of instructor. Intensive analysis of selected major writings of Descartes, Spinoza and Leibniz. 3 credits

424/524 EXISTENTIALISM
Prerequisites: one introductory course in philosophy, 314 or permission of instructor. In-depth inquiry into the thought of Kierkegaard, Jaspers, Heidegger, Sartre, Tillich and other existentialists with their concern for man and his human condition. 3 credits

426/526 PHENOMENOLOGY
Prerequisites: one introductory course, 314 or permission of instructor. Inquiry into methodology of Husserl and Heidegger and their influence upon Western European and American thought. 3 credits

432/532 ARISTOTLE
Prerequisites: 211, 312 and 313 or permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of man and ethics. Taught in alternate years. 3 credits

434/534 KANT
Prerequisite: 313 or permission of instructor. Study of Kantian system of thought and its relation to history of philosophy. Includes thorough investigation of one or more of Kant's philosophic works. 3 credits

444/544 PROBLEMS IN PHILOSOPHY
Prerequisites: two courses in philosophy or permission of instructor. Thorough, critical examination of one major philosophical problem. 3 credits

462/562 THEORY OF KNOWLEDGE
Prerequisites: three courses in philosophy, Examination of nature of knowledge, theories of perception, conception and truth, problem of induction and relation of language to knowledge. 3 credits

466/564 PHILOSOPHY OF SCIENCE
Prerequisites: 101, 170 or permission of instructor. Nature of scientific inquiry, types of explanation, laws and causality, theoretical concepts and reality. Also considers critics of hypothetico-deductive view of science, e.g., Hanson and Kuhn. 3 credits

471/571 METAPHYSICS
Prerequisites: 211, 312 and 313 or permission of instructor. Theories about ultimate nature and ultimate explanation of reality. Uses readings from classical and contemporary sources. 3 credits

480/580 SEMINAR
(May be repeated) Prerequisite: permission of instructor. 3 credits

481/581 PHILOSOPHY OF LANGUAGE
Prerequisites: 101 and 170 or permission of instructor. Contemporary philosophies about nature of language and its relation to reality and human thinking includes discussion of views of linguists such as Chomsky. 3 credits

490 SENIOR HONORS PROJECT IN PHILOSOPHY
(Open to senior philosophy majors only) Prerequisite: 211, 312 and 313 or permission of instructor. One course in philosophy or permission of instructor. Thesis written under the guidance of an instructor. 1-3 credits

497/597 INDIVIDUAL STUDY
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selection of topics of study in philosophy. May be repeated. 1-3 credits

Graduate Courses

615 SEMINAR: HISTORY OF PHILOSOPHY
Prerequisites: permission of instructor. Study in philosophical works of one major philosopher. 3 credits

626 ETHICAL THEORY
Examination of problems related to conduct and decision making in light of the Western tradition as well as contemporary insights of positivism, phenomenology, existentialism, logical analysis, naturalism and pragmatism. 3 credits

676 LOGICAL THEORY
Advanced topics in logic such as modal logics and axiomatization. Recommended for law student, as logic of normative systems is treated. It is suggested that a graduate student be familiar with material covered in a course like 374 before taking this course. 3 credits

680 SEMINAR
(May be repeated for a total of nine credits) 3 credits

690 SEMINAR: THESIS SUPERVISION
(May be repeated) 2 credits

PHYSICS

3650:

130 DESCRIPTIVE ASTRONOMY
Qualitative and nonmathematical introduction to subjects of astronomy and astrophysics, intended primarily as a first science course for students not majoring in physical science. 3 credits

133 MUSIC, SOUND AND PHYSICS
Qualitative introduction to sound production, perception and reproduction, with emphasis on music. 3 credits

137 LIGHT: COLORS, CAMERAS AND PERCEPTION
Introductory, qualitative course dealing with nature of light, and interaction of light with material objects to produce common visual effects. 3 credits
138 PROPERTIES OF LIGHT LABORATORY 1 credit
Prerequisite or corequisite: 129 or permission. An introductory laboratory dealing qualitatively and quantitatively with properties of light and interaction of light with material objects.

141 PHYSICS, ENERGY AND MAN 3 credits
Introductory, qualitative course dealing with nature of energy including its availability, conservation and utilization by man. Energy resources; conversion efficiencies; environmental effects of energy production; recent developments.

160 PHYSICS IN SPORTS 3 credits
An introduction to physics, particularly mechanics. Athletic activities utilized to illustrate principles.

231 CONCEPTS OF PHYSICS I 4 credits
Prerequisite: 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.

232 CONCEPTS OF PHYSICS II 4 credits
Prerequisite: 231. Electricity and magnetism; interference and diffraction of waves; nature of heat, space and time in theory of relativity; quantum phenomena; recent developments in study of elementary particles.

261 PHYSICS FOR THE LIFE SCIENCES I 3 credits
Prerequisites: high school algebra, trigonometry or 3450:149 as corequisite or permission. Introductory course for professional work in biology and 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.

262 PHYSICS FOR THE LIFE SCIENCES II 4 credits
Prerequisite: 261. Laws of thermodynamics, kinetic theory. Wave phenomena: sound, light, optics; electricity and magnetism; atomic and nuclear physics; radioactivity.

267,8 LIFE SCIENCE PHYSICS COMPUTATIONS I AND II 1 credit each
Corequisites: 261 (with 267), 262 (with 268). Optional companion courses to 261,2 provides additional computational experience in applications of physics to life sciences, emphasizing use of algebra and trigonometry. Particularly recommended for students with modest mathematical preparation.

291 ELEMENTARY CLASSICAL PHYSICS I 4 credits
Corequisite: 3450:221. Introductory physics for students of science and engineering. Classical statics, kinematics and dynamics, as related to concepts of mechanics. Oscillations, waves, fluid mechanics. Vectors and some calculus introduced as needed.

292 ELEMENTARY CLASSICAL PHYSICS II 4 credits
Prerequisite: 291. Thermodynamics from atomic point of view; basic laws of electromagnetism; mechanical and electromagnetic waves. Interference and diffraction; coherence, geometrical and physical optics.

293,4 PHYSICS COMPUTATIONS I AND II 1 credit each
Corequisite: 291 (with 293), 292 (with 294). Corequisite: 293, 294. Optional companion courses to 291,2 provides experience in problem solving, and elaborates application of calculus to simple physical phenomena. Particularly recommended for a freshman, and for student with modest preparation in mathematics or physical sciences.

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, topology in nuclear and solid-state physics.

310 ELECTRONICS 3 credits
Prerequisites: 262 or 269. AC and DC circuit theory, digital integrated logic circuits, counters, digital wave shaping. A and D to D and A conversion and applications.

320 OPTICS 3 credits
Prerequisites: 262 or 292 and 3450:223. Geometric optics: reflection, refraction, lenses, optical instruments. Physical optics: waves, superposition, coherence, interference, diffraction, absorption and scattering, dispersion, double refraction, polarization, optical activity.

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.

322,3 INTERMEDIATE LABORATORY I AND II 2 credits each
Prerequisites: 262 or 292. Laboratory course stressing measurement techniques with contemporary laboratory apparatus. Experiment design, instrument calibration and reporting emphasized. Modern physics experiments and measurement of fundamental natural constants.

325 LABORATORY DATA ANALYSIS 3 credits

351,2 ASTROPHYSICS I AND II 3 credits each
Prerequisites: 232, 262 or 292. One-year comprehensive, qualitative course recommended for student majoring in physics or natural science, and for secondary school teachers and others desiring comprehensive survey of astronomy and astrophysics at intermediate level.

340 THERMAL PHYSICS 3 credits
Prerequisites: 262 or 292. Basic principles of thermal and statistical physics. Ensembles, laws of thermodynamics, equilibrium, reversibility, equipartition theorem, canonical distribution, Maxwell distribution, phase changes, cyclical processes, transport processes.

399 UNDERGRADUATE RESEARCH 1-16 credits
May be repeated. Prerequisite: permission of instructor. Participation in current research project in department under supervision of faculty member.

400/500 HISTORY OF PHYSICS 3 credits
Prerequisites: 232, 262 or 292. Study of origin and evolution of major principles and concepts characterizing contemporary physics.

404 ENERGY AND THE ENVIRONMENT 3 credits
Prerequisites: 232, 262 or 292. Physics of macroscopic energy sources and techniques of use, emphasis on thermodynamic efficiencies, storage, transport, side effects, prospective availability.

406/506 WAVES 3 credits
Prerequisites: 232, 262 or 292. Analysis of phenomena common to all waves, including free oscillations, forced oscillations, traveling waves, reflection, polarization, interference and diffraction. Wave sound, electromagnetism, and the Bragg experiments.

431/531 MECHANICS I 3 credits
Prerequisites: 291 and 3450:235. Mechanics at intermediate level. Newtonian mechanics. Motion of a particle in one dimension, central field problem; system of particles; conservation laws, rigid bodies, gravitation.

432/532 MECHANICS II 3 credits
Prerequisites: 431/531. Advanced mechanics at the senior or beginning graduate level. Translating, rotating, moving coordinate systems; mechanics of continuous media; Lagrange's equations, tensor algebra and stress analysis, rotation of rigid bodies, vibration theory.

436/536 ELECTROMAGNETISM I 3 credits
Prerequisites: 292, 3450:235. Electromagnetism at intermediate level. Electrodynamics and magnetostatics. Electric field, scalar potential, electromagnetic induction, Maxwells' equations, current, magnetic field, vector potential, magnetic materials, and circuit properties.

437/537 ELECTROMAGNETISM II 3 credits
Prerequisite: 436/536. Special relativity, four vectors, Maxwell's equations in covariant form, propagation, reflection and refraction of electromagnetic waves, multipole radiation.

438/538 METHODS OF APPLIED PHYSICS 3 credits
Prerequisite or corequisite: 421. Topics: design, performance, interpretation, reporting of physical measurements; scientific method; measurements, their uncertainties, principles of experiment, measurement devices, data resolution and analysis, uncertainty.

441/541 QUANTUM PHYSICS I 3 credits
Prerequisites: 301 and 3450:235. Laboratory corequisite stressing measurement techniques with contemporary laboratory apparatus. Experiment design, instrument calibration and reporting emphasized. Modern physics experiments and measurement of fundamental natural constants.

442/542 QUANTUM PHYSICS II 3 credits
Prerequisite: 441/541. Applications of quantum mechanics to atomic, nuclear and solid state physics. Tunneling and alpha decay, periodic potential. Hydrogen and helium atoms, atomic forces, quantum statistics.

451/551.1 ADVANCED LABORATORY I AND II 2 credits each
Prerequisite: 412 or permission of instructor. Applications of electronic, solid-state devices, techniques to research-type projects in contemporary physics. Introduction to resonance techniques, nuclear magnetic resonance, electron spin resonance, nuclear quadrupole resonance. Spectroscopies: infrared, Raman, nuclear magnetic resonance, Raman spectroscopy, NMR spectroscopy, and spin-lattice relaxation.

468/568 DIGITAL DATA ACQUISITION 2 credits
Prerequisites: 310 or 342 and 4100:206. Designed to introduce physics students to the use of digital techniques, microprocessors in making physical measurements.

470/570 INTRODUCTION TO SOLID-STATE PHYSICS 3 credits
Prerequisite: 441 or permission of instructor. Account of basic physical processes occurring in solids, with emphasis on fundamental relation between these processes and periodicity of crystal lattice.

471,2/571,2 NMR SPECTROSCOPY I AND II 2 credits each
Prerequisite: 292 or permission of instructor. Theoretical basis and experimental techniques of NMR spectroscopy. Classical concepts and quantum mechanical treatments of NMR Bloch equations, spin-spin and spin-lattice relaxation times, steady state and transient phenomena. General features of broadline and high-resolution NMR. NMR instrumentation and operation principles. Theory and analysis of high-resolution NMR spectra. Quantitative applications of broadline and high-resolution NMR spectra and determination of physical and chemical structures.

481/581 METHODS OF MATHEMATICAL PHYSICS I AND II 3 credits each
Prerequisites: 292, 3450:235 and senior or graduate standing in a physical science or engineering. Vectors, generalized coordinates, tensors, calculus of variations, vector spaces, linear transformations, matrices, eigenvalues, Hilbert space, boundary value problems, transcendental functions, complex variables, analytic functions, Green's functions, integral equations.

487/587 LABORATORY PROJECTS 1-3 credits
Prerequisite: permission of instructor. Design of laboratory apparatus experiments, techniques or demonstrations.

488/588 SELECTED TOPICS IN PHYSICS 1-4 credits
May be repeated. Prerequisite: permission. Consideration of selected topics, procedures, techniques, materials or apparatus of current interest in physics.

490/590 WORKSHOP 1-4 credits
May be repeated. Prerequisite: permission. Excursions to special topics in physics. May not be used to meet undergraduate or graduate major requirements in physics. May be used for elective credit only.

497/597 INDEPENDENT STUDY 1-4 credits
May be repeated. Prerequisite: permission. Further investigations of various selected topics in physics, under guidance of faculty member.
601 ATOMIC AND NUCLEAR PHYSICS I
Prerequisites: 301 or 441 and 3450:236 or permission of instructor. Expository, analytical treatment of fundamental principles which operate to yield observed complex behavior of matter. Introductory quantum mechanics, free particle quantum mechanics, one-electron atom.

602 ATOMIC AND NUCLEAR PHYSICS II

605 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS I
Prerequisite: permission. Review of FORTRAN and basic topics in computer science. Numerical solutions to physics problems, including Newton's and Schrödinger's equations. Treatment and reduction of experimental data, plotting, simulation.

606 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II
Prerequisite: 605 or permission. Data reduction; Calumpl plotting; comparison of theoretical models with data; linear and non-linear least squares curve-fitting. May accommodate scientific problems of individual interest.

611 PHYSICAL PROPERTIES OF MATTER I
Prerequisite: 203. 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.

612 PHYSICAL PROPERTIES OF MATTER II
Prerequisite: 611 or permission. Measurement and analysis of friction and adhesion of real materials, surface tension of liquids and solids, thermodynamics of spreading and wetting, viscoelasticity.

615 ELECTROMAGNETIC THEORY I
Prerequisite: 437/537 or permission of instructor. Electromagnetics and magnetostatics at advanced level for graduate students. Boundary value problems, dielectrics, multipole expansions, time-varying fields, Maxwell's equations and electromagnetic waves, reflection, refraction, wave guides and cavities.

616 ELECTROMAGNETIC THEORY II
Prerequisite: 615. Scattering and refraction, plasma physics, special theory of relativity, dynamics of relativistic particles, light, collisions of charged particles, radiation from moving charges, bremsstrahlung, multipole fields.

621 ATOMIC AND MOLECULAR SPECTRA I
Prerequisites: 301, 3450:236 or permission of instructor. Elements of atomic theory; line spectra; electronic spin and multiplet structure; building up principle and periodic system of elements; special intensities, hyperfine structure, isotope effect.

622 ATOMIC AND MOLECULAR SPECTRA II
Prerequisite: 621 or permission of instructor. Molecular bands and development of theory; rotational-vibrational and electronic bands; Raman effect; isotope effect; intensity of bands; methods of determining molecular constants from wave number measurements.

625 QUANTUM MECHANICS I
Prerequisites: 441/541, 481/581 or permission of instructor. Basic concepts of quantum mechanics, representation theory, particle in a central field, addition of angular momentum and spins, De Broglie-Geiger coefficients, perturbation theory, scattering, transition probabilities.

626 QUANTUM MECHANICS II
Prerequisite: 625. Foundations of relativistic quantum mechanics; Klein-Gordon and Dirac equations, spin two particle and spin-1/2 particles in electromagnetic field, second quantization of bosons and fermions, superfluidity and superconductivity.

631 PHYSICS OF POLYMERS I
Prerequisite: 3450:236 or permission of instructor. Polymeric state of matter, crystallinity, rubber elasticity, viscoelasticity, transport and electrical properties, glassy state, fracture processes. Elasticity at large strains, phenomenological viscoelasticity, dielectric properties, diffusion. Introduction to NMR spectroscopy of polymers.

632 PHYSICS OF POLYMERS II
Prerequisite: 631 or permission. Phase transitions, temperature dependence of mechanical and electrical properties, crystalline polymers. Kinetics of crystallization, fracture, adhesion, wear. Applications of NMR spectroscopy to polymers.

635, 6 PHYSICS OF POLYMERS LABORATORY I AND II
Prerequisite: 201 or permission of instructor. Selected laboratory experiments illustrating principles and methods discussed in 631 and 632.

641 LAGRANGIAN MECHANICS
Prerequisite: 432/532 or permission of instructor. Principle of least action and Lagrangian equation of motion. Conservation laws, integration of equation of motion, collisions, small vibrations, Hamilton's equations, canonical transformations.

661 STATISTICAL MECHANICS
Prerequisite: 442/542 or permission of instructor. Fundamental principles of statistical mechanics; Gibbs, Fermi and Bose statistics, fluids, liquids, gases, phase equilibrium, chemical reactions.

664 ADVANCED NUCLEAR PHYSICS
Prerequisites: 622, 626. Quantum mechanics applied to nucleus. Interaction of radiation with nucleus, nuclear scattering, nuclear reactions, energy levels of nuclei.

665 SOLID-STATE PHYSICS I

666 SOLID-STATE PHYSICS II

669 SPECIAL PROBLEMS IN THEORETICAL PHYSICS

670 SPECIAL PROBLEMS IN EXPERIMENTAL PHYSICS
Prerequisite: 666. Perturbation theory, scattering, transition probabilities, statistical mechanics, quantum statistics, band theory of solids, integrals.

690 SPECIAL PROBLEMS IN THEORETICAL PHYSICS (May be repeated)

691 SEMINAR IN THEORETICAL PHYSICS

692 SEMINAR IN NMR SPECTROSCOPY

693 SEMINAR IN SOLID-STATE PHYSICS
Prerequisite: 666. Perturbation theory, scattering, transition probabilities, statistical mechanics, quantum statistics, band theory of solids, integrals.

697 GRADUATE RESEARCH
Prerequisite: permission. Candidates for M.S. degree may obtain up to five credits for faculty supervised research projects. Grades and credit received at completion of such project.

698 SPECIAL TOPICS: PHYSICS
Prerequisite: permission. Studies of specialized topics which may be limited to advanced graduate students or special problems in selected areas, under faculty supervision.

699 MASTER'S THESIS RESEARCH
Prerequisite: permission. With approval of department, one credit may be earned by candidate for M.S. degree upon satisfactory completion of a master's thesis.

POLITICAL SCIENCE

3700:

100 GOVERNMENT AND POLITICS IN THE UNITED STATES
Examination of American political system with emphasis on fundamental principles, ideas, institutions and processes of modern government. Lecture and discussion sections (day classes only).

110 CIVIL LIBERTIES IN AMERICA
Not open to science majors and cannot be used for credit toward a major in political science. Study of civil liberties issues in the United States.

120 CURRENT POLICY ISSUES
Cannot be used for credit toward major in political science. Survey of major political issues and problems confronting nation; environment in which public policies are formed and executed.

200 COMPARATIVE POLITICS
Introduction to comparative political analysis; description of political systems of Great Britain, France, Germany and Soviet Union; contrast between democracy and totalitarianism.

210 INTRODUCTION TO POLITICAL SCIENCE
Introduction to current and contemporary approaches and techniques employed in political analysis. Required of a political science major and recommended for others with good social science background.

210 STATE AND LOCAL GOVERNMENT AND POLITICS
Examination of institutions, processes and intergovernmental relations at state and local levels.

220 AMERICAN FOREIGN POLICY
Study of major thinkers and writers of American political thought.

230 AMERICAN POLITICAL IDEAS
Examination of American foreign policy-making process; public opinion and other limitations on policy; specific contemporary problems in selected areas.

240 MODERN POLITICAL THOUGHT
Survey of major ideas and concepts of Western political thought from pre-Socrates through period of Enlightenment.

250 MODERN POLITICAL THOUGHT
Examination of central concepts of political thought from the Nineteenth Century to present. Modern liberalism, communism, fascism and totalitarianism emphasized.
310 INTERNATIONAL POLITICS AND INSTITUTIONS 4 credits
Relations among nations examined in political context.

320 BRITAIN AND THE COMMONWEALTH 3 credits
Description and analysis of government and politics of Great Britain and leading nations of the Commonwealth.

321 WESTERN EUROPEAN POLITICS 3 credits
Description and analysis of government and politics of France, Germany, Italy and Switzerland, with appropriate references to Scandinavia and Low Countries.

322 SOVIET AND EAST EUROPEAN POLITICS 3 credits
Theory and practice of government and politics in Soviet Union; comparison with selected communist systems of Eastern Europe.

323 POLITICS OF CHINA AND JAPAN 3 credits
Examination of governmental structures and political processes of China and Japan.

325 COMPARATIVE PUBLIC POLICY 3 credits
Considers the formulation, decisions, implementation, impact of public policies in a comparative perspective. By examining public policies in a variety of countries the relationship of different economic and political systems to policy outcomes is observed.

326 POLITICS OF DEVELOPING NATIONS 3 credits
General introduction to concepts and theories of political development and political institutions, elite-recruitment and political processes of selected emerging nations.

327 AFRICAN POLITICS 3 credits
Examination of patterns of government and politics of nations south of Sahara.

330 CANADIAN POLITICS 3 credits
An examination of the instructions and processes of Canadian government; a survey of some of the pressing issues confronting public decision makers in Canada.

340 AMERICAN POLITICAL PARTIES AND INTEREST GROUPS 3 credits
Role of political parties and interest groups in political process. Development, structure and function of parties; patterns of party allegiance and voting behavior; interest groups and their effect on government.

341 THE AMERICAN CONGRESS 3 credits
Examination of structure and function of Congress, with comparative materials on legislative process on all levels. Presidential and congressional conflict examined.

342 MINORITY GROUP POLITICS 3 credits
Examination of political behavior of racial, religious and ethnic minority groups in the United States.

350 THE AMERICAN PRESIDENCY 3 credits
The presidency as focal point of politics, policy and leadership in American political system.

360 THE JUDICIAL PROCESS 3 credits
Role of police, lawyers, courts and judges in context of American political process. Structure and process of judicial policymaking and limitations on judicial power.

370 THE AMERICAN BUREAUCRACY 4 credits
Examination of implementation of public policy. Administrative organization and principles stressed.

380 URBAN POLITICS AND POLICIES 4 credits
Examination of problems emerging from urban and regional complexes in the United States. Structure and processes of political decision making at this level analyzed.

381 STATE POLITICS 3 credits
Analysis of the state political process in terms of its capacity to deal with a wide range of socioeconomic problems. Special emphasis on legislators, administrators, parties and interest groups.

382 INTERGOVERNMENTAL RELATIONS 3 credits
An examination of the history, theory, contemporary activities of intergovernmental relations in the United States. Interactions of local state federal units of government will be considered.

391 HONORS IN POLITICAL SCIENCE 3 credits
Prerequisites: at least 17 credits and a 3.25 average in political science and permission of adviser.

392 SELECTED TOPICS IN POLITICAL SCIENCE 1-3 credits
(May be repeated, but no more than three credits can be applied toward major in political science.) Topics of substantial current importance, specialized topics within political science or experimental courses.

395 INTERNSHIP IN GOVERNMENT AND POLITICS 2-3 credits
(May be repeated for a total of six credits. No more than four credits may be applied toward major in political science.) Prerequisites: two courses in political science or permission of instructor. Supervised individual placement with political officials, political party, governmental agency, interest groups.

397 INDEPENDENT STUDY 1-4 credits
(May be repeated for a total of four credits. Prerequisites: senior standing, 3.0 grade-point average and permission of adviser.

402 POLITICS AND THE MEDIA 3 credits
Examination of relationships between the press, the news media and political decision-makers.

405/505 POLITICS IN THE MIDDLE EAST 3 credits
The rise of the state system in the Middle East after World War I; an analysis of the socio-cultural, ideological forces influencing the political behavior of the people of the Middle East. In depth study of selected political systems.

415/515 COMPARATIVE FOREIGN POLICY 3 credits
Prerequisite: 310 or 220 or permission. Study of foreign policies of selected nations, with special attention to processes and instruments of decision making of the major powers.

420/520 ISSUES AND APPROACHES IN COMPARATIVE POLITICS 3 credits
Prerequisite: 200 or permission of instructor. Detailed examination of approaches to the study of comparative politics, political parties, elites and various theories of revolution.

425/525 LATIN AMERICAN POLITICS 3 credits
Prerequisite: 200 or permission of instructor. Examination of patterns of government and politics in Latin American area.

440/540 PUBLIC OPINION AND POLITICAL BEHAVIOR 4 credits
Prerequisite: 100 or 120 or permission. Nature and role of public opinion in political process. Historical development, current methods of measurement. Political behavior of American electorate.

441/541 THE POLICY PROCESS 3 credits
Prerequisite: eight credits in political science. Intensive study of policy-making process, emphasizing roles of various participants in executive and legislative branches as well as private individuals and groups.

442/542 METHODS OF POLICY ANALYSIS 3 credits
Prerequisite: 201. Examines variety of methods available for analyzing public policies. Techniques of cost benefit analysis, evaluation research, case experiment and coverage as well as consideration of ethical questions in policy analysis, the practical problems facing policy analysts.

451/551 THE SUPREME COURT AND CONSTITUTIONAL LAW 4 credits
Prerequisite: 100 or 201 or permission. Interpretation of the United States Constitution by Supreme Court, judicial review in democratic political process. Special emphasis on judicial policy making in areas of civil rights and liberties.

480/580 POLICY PROBLEMS 3 credits
(May be repeated for a total of six credits) Prerequisite: 380 or permission. Intensive study of selected problems in public policy.

480/590 WORKSHOP 1-3 credits
(May be repeated) Group studies of special topics in political science. May not be used to meet undergraduate course requirements in political science. Elective credit only.

497 SENIOR HONORS PROJECT IN POLITICAL SCIENCE 1-3 credits
Prerequisite: senior standing in Honors Program and permission. Open only to a political science major in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

GRADUATE COURSES

600 SCOPE AND THEORIES OF POLITICAL SCIENCE 3 credits
Prerequisite: six credits of political science or permission of instructor. Emphasis on the nature, scope and content of political theory, theory construction and validation in political science.

601 RESEARCH METHODS IN POLITICAL SCIENCE 3 credits
Prerequisite: six credits of political science, including 440 (or a satisfactory equivalent) or permission of instructor. Techniques of quantitative research methodology in political science; utility and limitations of quantitative analysis.

610 SEMINAR IN INTERNATIONAL POLITICS 3 credits
Prerequisite: six credits of political science or permission. Analysis of current problems in theory and practice of politics and organization.

620 SEMINAR IN COMPARATIVE POLITICS 3 credits
Prerequisite: six credits of political science or permission. Research on selected topics in comparative politics. Comparative method.

625 SEMINAR IN POLITICAL PARTIES AND INTEREST GROUPS 3 credits
Prerequisite: six credits of political science or permission. Selected topics investigated. Emphasis on theories of political development.

630 SEMINAR IN NATIONAL POLITICS 3 credits
Prerequisite: six credits of political science or permission. Reading and research on formulation, development and implementation of national policy in one or more areas of contemporary significance.

641 SEMINAR IN INTERGOVERNMENTAL RELATIONS 3 credits
Prerequisite: six credits of political science or permission. Graduate-level examination of problems resulting from changing relations between levels of government in the United States; comparisons with other federal systems.

660 SEMINAR IN CIVIL LIBERTIES AND THE JUDICIAL PROCESS 3 credits
Prerequisite: six credits of political science or permission. Civil liberties and judicial process viewed in political context. Readings and research on selected topics.

670 SEMINAR IN THE ADMINISTRATIVE PROCESS 3 credits
Prerequisite: six credits of political science or permission. Intensive examination of administrative implementation of public policies. Readings and research on selected topics.
### Graduate Courses

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<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>610</td>
<td>PSYCHOLOGY CORE I: ORGANIZATIONAL, SOCIAL AND APPLIED</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>620</td>
<td>PSYCHOLOGY CORE II: DEVELOPMENTAL, PERCEPTUAL AND COGNITIVE</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>630</td>
<td>PSYCHOLOGY CORE III: COUNSELING, INDIVIDUAL AND ABNORMAL</td>
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### PSYCHOLOGY 3750:

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<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>100</td>
<td>INTRODUCTION TO PSYCHOLOGY</td>
<td>3</td>
<td>-</td>
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<tr>
<td>110</td>
<td>QUANTITATIVE METHODS IN PSYCHOLOGY</td>
<td>3</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>120</td>
<td>INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>130</td>
<td>DEVELOPMENTAL PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 100 or permission</td>
</tr>
<tr>
<td>140</td>
<td>INTRODUCTION TO INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>300</td>
<td>ADVANCED EXPERIMENTAL PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>310</td>
<td>SENSORY AND PERCEPTUAL EXPERIENCE</td>
<td>4</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>320</td>
<td>PHYSIOLOGICAL PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>330</td>
<td>MOTIVATION AND THE DYNAMICS OF BEHAVIOR</td>
<td>3</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>340</td>
<td>SOCIAL PSYCHOLOGY</td>
<td>4</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>350</td>
<td>THE PSYCHOLOGY OF SMALL-GROUP BEHAVIOR</td>
<td>3</td>
<td>Prerequisite: 100 or permission</td>
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<tr>
<td>360</td>
<td>CROSS-CULTURAL PSYCHOLOGY</td>
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<td>Prerequisite: 100 or permission</td>
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<td>370</td>
<td>RESEARCH DESIGN AND ANALYSIS IN PSYCHOLOGY</td>
<td>3</td>
<td>Prerequisites: 100 or 340/540</td>
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<tr>
<td>400</td>
<td>500 PERSONALITY</td>
<td>3</td>
<td>Prerequisite: 100 or permission</td>
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</tbody>
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### 410/510 PSYCHOLOGICAL TESTS AND MEASUREMENTS

- **Prerequisites:** 100 or 130 or permission. Focus on processes of selecting topics in psychology, test construction, and design of studies. Includes treatment of techniques transferred. Includes the relationship of test design and technique to human behavior. Includes the design and interpretation of tests and instruments and appropriate statistical methods and developments in their design. Includes the relationship of test design and technique to human behavior. Includes the design and interpretation of tests and instruments and appropriate statistical methods and developments in their design.

### 420/520 ABNORMAL PSYCHOLOGY

- **Prerequisites:** 100 and 130 or permission. Focus on processes of selecting topics in psychology, test construction, and design of studies. Includes treatment of techniques transferred. Includes the relationship of test design and technique to human behavior. Includes the design and interpretation of tests and instruments and appropriate statistical methods and developments in their design.

### 430/530 PSYCHOLOGICAL DISORDERS OF CHILDREN

- **Prerequisites:** 100 and 130 or permission. Focus on processes of selecting topics in psychology, test construction, and design of studies. Includes treatment of techniques transferred. Includes the relationship of test design and technique to human behavior. Includes the design and interpretation of tests and instruments and appropriate statistical methods and developments in their design.
640 PSYCHOLOGY CORE IV: SENSORY, BIOPSYCHOLOGICAL AND EXPERIMENTAL
4 credits

671 PRE-PRACTICUM IN COUNSELING PSYCHOLOGY
2 credits
Prerequisites: 630, graduate standing in psychology and permission of instructor. Introduction to and training in skills used in process of counseling and psychotherapy. This course is a preparation for actual client contact in subsequent practica.

672 COUNSELING PRACTICUM
4 credits
Prerequisites: 630, 671.2, graduate standing in psychology and permission of instructor. Extension and development of therapeutic skills and intervention techniques, with supervised training in counseling clients in the Psychology Department Counseling Clinic.

673 COUNSELING ASSESSMENT PRACTICUM
4 credits
Prerequisites: 630, 671.2, graduate standing in psychology and permission of instructor. Instruction and supervised experience with the use of assessment devices as part of a counseling treatment program.

677 PERSONNEL PRACTICUM
1-4 credits
(May be repeated)
Prerequisites: 610, graduate standing in psychology, 14 credits of graduate psychology and departmental permission. Supervised field experience in industrial/Organizational Psychology in settings including business, government or social organizations. The field experience requires the application of industrial/Organizational psychological theories and techniques.

675 DEVELOPMENTAL PRACTICUM
1-4 credits
(May be repeated)
Prerequisites: 610, graduate standing in psychology, 14 credits of graduate psychology and departmental permission. Supervised field experience and developmental psychology is provided to the student with the opportunity to apply skills and knowledge acquired in the academic setting and to obtain knowledge about community programs and agencies which focus on developmental processes.

699 THESIS RESEARCH
1-4 credits
(May be repeated)
Prerequisites: departmental permission. Research analysis of data and preparation of thesis for master's degree.

700 SURVEY OF PROJECTIVE TECHNIQUES
4 credits
Prerequisite: 630 or instructor's permission. Introduction to rationale, assumptions and strategies, and research of projective testing. Elementary administration, scoring and interpretation of Rorschach, and survey of other important contemporary projective instruments.

781 PSYCHOEDUCATIONAL DIAGNOSIS
4 credits
Prerequisite: 700. Application of psychological testing to problems of diagnosis and evaluation. Practical experience in administration, scoring and interpretation. Integration of projective data with other assessment techniques in variety of settings.

702 PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING
4 credits
Prerequisites: 630 or graduate standing in School Psychology, and instructor's permission. History, principles and methodology of intelligence testing, supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.

703 THEORIES OF PSYCHOTHERAPY
4 credits
Prerequisite: 630 or departmental permission. Theories of individual psychotherapy that include Jungian, Adlerian, Gestaltian, and other current theories. Consideration is given to ancillary therapeutic and/or psychological, important research findings are reviewed and contemporary problems in evaluation are discussed. Skills of psychotherapy are also covered.

704 THEORIES OF PERSONALITY
3 credits
Prerequisite: 630. Examinations of historical consideration of personality, psychoanalytic and deviations from it. Contemporary theoretical formulations, personality dynamics, structure and organization.

705 VOCATIONAL BEHAVIOR
4 credits
Prerequisite: 630 or departmental permission. Theories and research on vocational behavior. Vocational counseling. Topics include major theories of vocational behavior, empirical research on these theories, and work in vocational counseling and applied research.

706 ADVANCED COUNSELING PSYCHOLOGY
4 credits
Prerequisite: 630. Advanced study of the background, theoretical foundations, techniques, research and applications of counseling psychology as it science and profession.

725 DEVELOPMENTAL PSYCHOLOGY: PRENATAL, INFANCY AND EARLY EXPERIENCE
4 credits
Prerequisite: 620 or permission. Survey of psychological aspects of prenatal period, infancy and early experience. Emphasis on understanding the infant's perception of the environment and development.

726 CHILD PSYCHOLOGY
4 credits
Prerequisite: 620 or permission. Current research in child psychology covered with some emphasis on cognitive development. Topics include language, memory, intelligence, hyperactivity and selected aspects of social development.

737 PSYCHOLOGY OF ADULTHOOD AND AGING
4 credits
Prerequisite: 620 or permission. Aspects of development, aging with emphasis on life-span methodology and research including role-related changes in intelligence, personality and socialization and intervention approaches.

738 SOCIAL DEVELOPMENTAL PSYCHOLOGY
4 credits
Prerequisite: 620 or permission. Examination of selected theoretical and methodological issues in studies of social psychology from developmental perspective. Topics include attitude formation, sexual roles, moral development, aggression, attraction, attribution processes, nonverbal behavior and cultural effects.

739 THEORIES OF LEARNING
4 credits
Prerequisite: 620 or departmental permission. Comprehensive review of research on learning in language and memory. Process-oriented approach adopted with emphasis on developmental issues.

741 COGNITIVE DEVELOPMENT
4 credits
Prerequisite: 620 or permission. Theory and research concerning development of cognitive activities including concept formation, problem solving and thinking. Topics include major theories, research paradigms and methods of investigation and reviews of empirical findings.

733 DEVELOPMENTAL BIOLOGY/PSYCHOLOGY
4 credits
Prerequisites: 620, 640 and graduate standing in psychology or permission of instructor. Survey of behavioral changes across the life span with emphasis on physical, biological and psychological correlates of such change. Topics include central nervous system, neural and circulatory changes, metabolic and nutritional processes and endocrine mechanisms.

736 THE PSYCHOLOGY OF MENTAL RETARDATION
4 credits
Prerequisite: 620 or graduate standing in psychology or permission of instructor. Current knowledge about the cognitive and social development of retarded individuals is examined. The last half of the course is a broad survey emphasizing methodology and findings about the mentally retarded. The second half involves an in-depth exploration of selected applied and basic research topics such as reaction to failure, mainstreaming, sexuality, training, behavioral problems, knowledge and thinking.

737 THE PSYCHOLOGY OF LEARNING DISABILITIES
4 credits
Prerequisite: 620 or graduate standing in psychology or permission of instructor. Current knowledge about the cognitive and social development of retarded individuals is examined. The last half of the course is a broad survey emphasizing methodology and findings about the mentally retarded. The second half involves an in-depth exploration of selected applied and basic research topics such as reaction to failure, mainstreaming, sexuality, training, behavioral problems, knowledge and thinking.

749 INDUSTRIAL GERONTOLOGY
4 credits
Prerequisites: 610 and graduate standing in psychology or departmental permission. Survey of psychological aspects of aging for students who have completed 610 and 620. Study of age-related issues in work involving adult and older adult workers. Topics include personnel selection, training, motivation and appraising older employees, health and safety job design, vocational guidance, and retirement.

741 SURVEY OF COUNSELING METHODS
4 credits
Prerequisites: 620 and 630, graduate standing in psychology or permission of instructor. An experiential survey of treatment methods from a variety of theoretical approaches. Appraoches include, but are not limited to, behavioral, gestalt, cognitive and psychodynamic methods.

745 ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS
4 credits
Prerequisites: 610 and graduate standing in psychology or departmental permission to students who have completed 610. Analysis of test construction techniques and statistical analysis of test scores. Emphasis on guided study of published tests and measurement used in psychology. Study of psychometric theory and principles.

781 ORGANIZATIONAL PSYCHOLOGY
4 credits
Prerequisites: 610 and graduate standing in psychology or departmental permission for other students who have completed 610. Applies the general systems framework to the study of the relationship between organizational characteristics and human behavior in the internal processes of organizations, and the relationship between organizations and their environment.

752 PERSONNEL SELECTION AND PERFORMANCE EVALUATION
4 credits
Prerequisites: 610 and graduate standing in psychology or permission to students who have completed 610. Review of assessment, employment, testing, and the use of psychological testing in personnel selection, placement and promotion. Survey of objective and subjective criteria used in performance appraisal including test validation and training effectiveness.

753 TRAINING AND ORGANIZATIONAL DEVELOPMENT
4 credits
Prerequisites: 610 and graduate standing in psychology or permission to students who have completed 610. Review of methods and techniques in the field of learning theory, with consideration of techniques to evaluate training and organizational development programs.

754 RESEARCH METHODS IN PSYCHOLOGY
4 credits
Prerequisites: 610, 620, and graduate standing in psychology or permission to student. Scientific method and its specific application to psychology. Topics include data collection, validity, reliability, use of general linear model and its alternatives and power statistics.

755 COMPUTER APPLICATIONS IN PSYCHOLOGICAL RESEARCH
4 credits
Prerequisites: 610 and graduate standing in psychology or permission to students who have completed 610. Practicum in application of computers to psychological research including data collection, analysis and interpretation. Also covers computer simulation of decision making including use of different models.

786 ROLE OF ATTITUDES AND VALUES IN INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY
4 credits
Prerequisites: 610 and graduate standing in psychology or departmental permission to students who have completed 610. Consideration of the role of attitudes and values in the practice of industrial and organizational psychology, including attitude changes, measurement of attitudes, and the use of survey methodology.
SOCIOLGY

3850:

100 INTRODUCTION TO SOCIOLOGY
Basic terminology, concepts and approaches in sociology, including introduction to analysis of social groups and application of sociological concepts to understanding of societal systems. Required of majors. Lecture/Discussion.

104 SOCIAL PROBLEMS
Prerequisites: 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.

301 METHODS OF SOCIAL RESEARCH I
Prerequisites: 100 and 3452/111, 112, 113 or permission. Combination lecture and laboratory course requiring three to five laboratory hours per week. Research design, data gathering techniques and statistical procedures. Required of majors. Lecture/Laboratory.

302 METHODS OF SOCIAL RESEARCH II
Prerequisite: 301. Combination of 301. Required of majors. Lecture/Laboratory.

315 SOCIOLOGICAL PSYCHOLOGY
Prerequisite: 100. The reciprocal influence of individuals and groups. How interpersonal processes produce and affect group structure. How groups affect the development and behavior of the social person.

320 SOCIAL INEQUALITY
Prerequisite: 100 or permission. Study of why social rank is unequal in societies and how particular rank affects individuals in behavior, group relations and social structure. Lecture.

321 POPULATION
An introduction to world and national population trends, related demographic and social characteristics. Topics include fertility, mortality, morbidity, migration, abortion, birth control, population policy and role of societal problems. Lecture.

322 SOCIAL CHANGE
Prerequisite: 100 or permission. Introduction to theories and processes of social change, dimensions of change in contemporary, traditional and urban-industrial societies; population and prediction of selected trends and fluxes. Lecture.

324 SOCIAL MOVEMENTS
Prerequisite: 100 or permission. Social movements as distinguished from other forms of collective behavior; analysis of social situations which produce social movements; focus on development of social movements and their role in social change. Lecture.

330 CRIMINOLOGY
Prerequisite: 100. Major focus on interpersonal relationships and analysis of crimes, criminals, criminal justice systems and society. Lecture.

334 SOCIAL ORGANIZATION
Prerequisite: 100 or permission. Nature of social organization: social control, organizational typologies, theories of organizational structure, functions, analysis of complex organizations in a social system. Lecture.

335 SOCIAL BEHAVIOR IN ORGANIZATIONS
Prerequisite: 100 or permission. Analysis of the structure of such complex organizations as voluntary associations, business organizations and public bureaucracies, attention to issues including organizational effectiveness, organizational design and change, job satisfaction and quality of work experience. Lecture.

336 SOCIOLOGY OF WORK AND OCCUPATIONS
Prerequisite: 100 or permission. Survey of theory and empirical research on issues such as the structure of occupations and professions; occupational attainment, workforce characteristics, work values and orientations, the nature of work. Lecture.

340 THE FAMILY
Prerequisite: 100 or permission. Analysis of family as a social system; historical, comparative and contemporary sociological approaches examined in relation to family structure and function. Lecture.

411/511 SOCIAL INTERACTION
Prerequisite: 100 or permission. Advanced study of advanced theory and research in social psychology, particularly how social interaction and self-conception affect one another. Lecture.

412/512 SOCIALIZATION: CHILD TO ADULT
Prerequisite: 100 or permission. Theoretical and empirical analysis of process by which infant, child, adolescent and adult learn social and cultural requirements necessary to function in new roles, changing roles and society in general.

421/521 RACIAL AND ETHNIC RELATIONS
Prerequisite: 100 or permission. Analysis of structure and dynamics of race and ethnic relations from a variety of perspectives emphasizing both historical and contemporary issues. Lecture.

425/525 SOCIOLOGY OF URBAN LIFE
Prerequisite: 100 or permission. Emergence and development of urban society. Examination of urban social structure from neighborhood to metropolis, the problems and prospects. Emphasis on various life-styles of urban subcultures. Lecture/Discussion.

430/530 JUVENILE DELINQUENCY
Prerequisite: 100 or permission. Analysis of social structure and process from which delinquency de-emphasizes the role of current and past research. Lecture/Discussion.

431/531 CORRECTIONS
Prerequisites: 330 or 430. Theories, belief systems, correctional practices and effectiveness as related to offender groups. Lecture.

432/532 PROBATION AND PAROLE
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.

433/533 SOCIOLOGY OF DEVIANT BEHAVIOR
Prerequisites: 100 and at least six additional credits of sociology course or permission. Survey of theories of deviant behavior and relevant empirical research. Special emphasis given to interaction processes and social control. Lecture.

440/540 SOCIOLOGY OF RELIGION
Prerequisite: 100 or permission. Study of forms of religion and their social functions, with emphasis on religion in American society. Lecture.
441/541  SOCIOLOGY OF LAW
Prerequisite: 100 and at least six additional credits of sociology courses or permission. Social origins and consequences of law and legal processes. Emphasis on uses of law, social change and aspects of legal professions. Lecture. 3 credits

442/542  SOCIOLOGY OF EDUCATION
Prerequisite: 100 or permission. Analysis of education from an organizational and social psychological perspective. Topics include: desegregation; busing; neighborhood schools; impact of family, peers and teachers on learning; school organization. Lecture. 3 credits

443/543  INDUSTRIAL SOCIOLOGY
Prerequisite: six credits 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 to community and society. Lecture. 3 credits

444  ISSUES IN SOCIAL GERONTOLOGY
Prerequisite: 343 or permission. A look into the major issues and problems facing older persons. Special attention is given to the unmet needs of the elderly as well as an examination of current societal policy and programs to meet these needs. 3 credits

446/594  WORKSHOP IN SOCIOL OGY
(May be repeated to a maximum of six credits)
Group studies of special topics in sociology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only. 3 credits

456  RESEARCH INTERNSHIP
(May be repeated for credit)
Prerequisites: 301, 302 and permission of a faculty supervisor. Placement in selected community organization for supervised experience in all phases of a social research project. Student must receive permission from instructor during semester prior to enrollment. 4 credits

496  SENIOR HONORS PROJECT
(May be repeated for a total of six credits)
Prerequisite: enrollment in Honors Program and senior standing, and major in sociology and anthropology. Thesis or original creative work appropriate to student's area of interest. Requirements and evaluation of project determined by departmental honors preceptor and student's honors preceptor advisor. 3 credits

Graduate Courses

600  FUNDAMENTALS OF SOCIOL OGY
Accelerated introduction to sociology for the graduate student desirous in sociological background or from other disciplines who intends to take further graduate courses in sociology. Lecture. 3 credits

603  SOCIOLOGICAL RESEARCH METHODS
Advanced research methods, including advanced statistical techniques. (Same as KSU 72211) Lecture/Laboratory. 3 credits

604  SOCIAL RESEARCH DESIGN
Intensive analysis of problems in a research design. Those encountered in thesis preparation. (Same at KSU 72212) Seminar or dissertation. 3 credits

607  COMPUTER APPLICATIONS IN SOCIAL SCIENCES
Prerequisite: elementary statistics course of permission of instructor. Introduction in computers and their applications in social sciences. (Same as KSU 72214) Seminar. 3 credits

613  SOCIOLOGY OF PROGRAM EVALUATION AND PROG RM IMPROVEMENT
Prerequisite: permission. Program evaluation as it occurs in different social programs. Topics include history of evaluation, value assumptions, political dimensions, ethical issues, social change, use of experimentation and alternatives and the use for program development. (Same as KSU 62119) Seminar. 3 credits

615  EPIDEMIOLOGIC METHODS IN HEALTH RESEARCH
Prerequisite: permission. Designed to introduce the student to methods of developing and understanding information concerning the dissection of illnesses and injury in society and evaluations of interventions to the broader. 3 credits

617  SOCIOLOGICAL THEORY
Examination of the classical theoretical statements that form the foundation of sociological theory. Emphasis on classic sociological theory and its contributions to contemporary theory and research. (Same as KSU 72101) Seminar. 3 credits

620  GENERAL SYSTEMS THEORY
Analysis of general systems theory as basis for a model of society and as heuristic framework for theory and research. (Same as KSU 82101) Seminar. 3 credits

631  SOCIAL PSYCHOLOGY
Intensive examination of social psychological theory and research. Both classic and contemporary. Provides student with a background and working knowledge of social psychological aspects of social phenomena. (Same as KSU 72430) Seminar. 3 credits

632  SMALL GROUP THEORY
Prerequisite: permission. Theoretical and applied aspects of small group dynamics. Topics include: leadership- emergent leadership; effective group development; and functioning; power; norms and individual behavior; among others. (Same as KSU 72432) Seminar. 3 credits

634  PERSONALITY AND SOCIAL SYSTEMS
Examination of contemporary theory and research in the areas of personality and society. Some application to studies of modernization, social class and occupations and sex roles. (Same as KSU 72433) Seminar. 3 credits

635  SOCIOLOGY OF COMMUNICATION
Examination of communication media, content and audiences and impact within societal context. (Same as KSU 72434) Seminar. 3 credits

636  CRITIQUE OF MASS COMMUNICATIONS RESEARCH
Prerequisite: permission. Systematic evaluation of theoretical, methodological and empirical aspects of significant studies of mass communication. (Same as KSU 72876) Seminar. 3 credits

639  SOCIOLOGY OF SEX ROLES
Prerequisite: permission. Advanced study of sex roles and their consequences. Emphasis on recent empirical research on sex role patterns and processes in Western industrial societies. Seminar. 3 credits

645  SOCIAL ORGANIZATION
General survey of major theories, concepts and problems pertaining to creation, alteration and dissolution of social organization at various levels of size and complexity. (Same as KSU 72446) Seminar. 3 credits

646  SOCIAL STATIFICATION
Prerequisite: permission. Seminar dealing with social class and caste with special reference to American social structure. (Same as KSU 72546) Seminar. 3 credits

648  COMPLEX ORGANIZATIONS
Prerequisite: permission. Organizations as social systems; their effect on individuals. Problems of professionals in bureaucracies. (Same as KSU 72450) Seminar. 3 credits

649  SOCIOLOGY OF WORK
Examination of work as behavioral phenomenon in human societies; contrasts with work and leisure; significance of occupations, professions and work types in organization of work. (Same as KSU 72542) Seminar. 3 credits

651  SEMINAR IN RACE RELATIONS
Prerequisite: permission. Analysis of the structure and dynamics of race and ethnic relations with attention given to both historical and contemporary issues. (Same as KSU 72878) Seminar. 3 credits

652  CONFLICT
Prerequisite: permission. Current conceptions of human conflict. Discussion of social concepts and principles for understanding conflict phenomena. Power, values, ideology, riots, revolution and war. (Same as KSU 72871) Seminar. 3 credits

655  MEDICAL SOCIOLOGY
Prerequisite: permission of instructor. A general survey of the field of medical sociology with special emphasis on application of sociological concepts and methods to the analysis of health and healthcare in the contemporary urban United States. 3 credits

657  URBAN HEALTH CARE
Prerequisite: permission. Relationships between urban social structures and processes and organization and functioning of health care delivery systems in urbanized nations. Seminar. 3 credits

658  FIELD RESEARCH IN URBAN LIFESTYLES
Examination of different lifestyles in contemporary urban society. Exploration of theory and methodology in urban lifestyles research through evaluation of both classic and contemporary studies. Includes application of concepts and techniques in actual field research. Seminar. 3 credits

663  DEVIANCE AND DISORGANIZATION
Prerequisite: permission. Examination of nature and types of deviance. Problems and issues in theory and research. (Same as KSU 72763) Seminar. 3 credits

664  SOCIOLOGY OF CRIMINAL BEHAVIOR
Analysis of offenses of crime and delinquency to social structure and social processes. Responses by criminal justice agencies. (Same as KSU 72763) Seminar. 3 credits

665  JUVENILE DELINQUENCY: THEORY AND RESEARCH
Prerequisite: permission. Analysis of theories of delinquency; ecological, class structural, subcultural, etc. Review of relevant research also presented. (Same as KSU 72765) Seminar. 3 credits

666  SOCIOLOGY OF CORRECTIONS
Prerequisite: permission. Analysis of modern institutional and social system; its formal structure and informal dynamics. Analysis of present state of corrections research. (Same as KSU 72764) Seminar. 3 credits

677  FAMILY ANALYSIS
Analysis and evaluation of sociological theory and research in the family. Conception on techniques of theory construction and research design in sociological study of the family. (Same as KSU 72543) Seminar. 3 credits

678  SOCIAL GERONTOLOGY
Prerequisite: permission. Impact of aging upon individuals and society. Reactions of individuals and society to aging. (Same as KSU 72877) Seminar. 3 credits

679  POLITICAL SOCIOLOGY
Description, analysis and interpretation of political behavior through application of sociological concepts. (Same as KSU 72544) Seminar. 3 credits

680  SOCIOLOGY OF EDUCATION
Prerequisite: permission. Theoretical and applied aspects of small group dynamics. Topics include: leadership- emergent leadership; effective group development; and functioning; power; norms and individual behavior; among others. (Same as KSU 72432) Seminar. 3 credits

681  CROSS CULTURAL PERSPECTIVES IN AGING
Prerequisite: permission. A comparison of aging in various cultures and societies around the world. 3 credits
688 POPULATION
3 credits
Analysis of basic population theory and methods. Trends and differentials in fertility, mortality, migration and selected social demographic variables also considered. (Same as KSU 6266) Seminar.

687 SOCIAL CHANGE
3 credits
Advanced seminar in theories of social change. (Same as KSU 7230) Seminar.

686 HUMAN ECOLOGY
3 credits
Selected problems in analysis of social behavior in relation to physical environment. Overview of theory, methods, and applications of human ecology. (Same as KSU 7260) Seminar.

685 URBAN ECOLOGY
3 credits
Seminar in theory and measurement of social ecology of urban areas. Emphasis on trends and differentials in distinction of social and organizational behavior in urban America. Seminar.

684 READINGS IN CONTEMPORARY SOCIOLOGICAL LITERATURE
1-3 credits
Prerequisites: Seven credits of sociology and permission of instructor and head of department. Individual writing and evaluation of written material in student's chosen field of interest. Regular conferences with instructor.

683 DIRECTED RESEARCH
1-3 credits
May be repeated. Prerequisite: Permission. Empirical research to be conducted by the student under the supervision of a faculty member.

679 THESIS
2-6 credits
May be repeated for a total of six credits. Prerequisite: Permission. Supervised thesis writing.

706 COLLEGE TEACHING OF SOCIOLOGY
2 credits
Prerequisite: Teaching assistant or permission. Training and experience in college teaching of sociology. Not approved at credit toward a degree. Seminar.

705 THEORY AND MEASUREMENT OF SOCIAL ATTITUDES
3 credits
Prerequisites: 603 and/or 692 or permission. Seminar in theories of social attitudes and techniques for their measurement. (Same as KSU 7213) Seminar.

704 MULTIVARIATE TECHNIQUES IN SOCIOLOGY
3 credits
Prerequisites: 603 and/or 692 or permission. A sociological graduate student only. Methodological techniques for the descriptive analysis of sociological data. Topics include nonparametric causal analysis such as empirical and nonempirical path analysis. (Same as KSU 82120) Seminar.

703 MEASUREMENT IN SOCIOLOGY
3 credits
Prerequisites: 706 or permission. Theory and methods of measurement in social data. Topics include statistical methods of measurement reliability and validity in social data. Topics include estimation of reliability and validity, scale and item design, alternative measurement strategies, measurement errors. Seminar.

702 ADVANCED TECHNIQUES IN RESEARCH
1-3 credits
Prerequisite: Permission. Selected topics in advanced, multivariate statistical analysis and/or strategies of sociological research. Emphasis on current trends and innovations in research techniques. (Same as KSU 8219) Seminar.

701 ANALYSIS OF SOCIOLOGICAL DATA
3 credits
Prerequisite: 693 or permission. Seminar in the analysis of data with particular relevance to research problems in sociology. (Same as KSU 82121) Seminar.

700 SOCIAL SAMPLING
3 credits
Prerequisites: 603 or permission. Theory and methods of sampling in sociology. Topics include sample design, sampling efficiency, nonresponse, mortality, longevity, longitudinal designs, urban, organizational, and survey sampling, stratified and cluster sampling. Seminar.

701 SURVEY RESEARCH METHODS
3 credits
Prerequisites: 603 and/or 692 or permission. In-depth study of design and administration of social surveys. (Same as KSU 82123) Seminar.

712 EXPERIMENTAL AND QUASI-EXPERIMENTAL RESEARCH IN SOCIOLOGY
3 credits
Prerequisites: 603 or permission. Application of experimental and quasi-experimental methods in sociological research with special attention given to appropriate designs, statistical analysis and empirical literature. Seminar.

711 QUALITATIVE METHODOLOGY
3 credits
Prerequisites: 603 or permission. Seminar in the design and testing of the application of such techniques as participant-observation, open-ended interviewing, content analysis, ethnography (field notes, records from cho-ches, schools, and museums, and other interpretative sources). (Same as KSU 82125) Seminar.

710 THEORY CONSTRUCTION
3 credits
Seminar in the study of methods and methods for constructing scientific theory. Emphasis on writings of scientists and philosophers of science and application of these ideas to development of sociological theory. (Same as KSU 72107) Seminar.

719 SPECIAL TOPICS IN SOCIOLOGICAL THEORY
1-3 credits
Open course to cover content area not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 82109) Seminar.

718 EARLY SOCIOLOGICAL THOUGHT
3 credits
Prerequisite: Permission. Two to four major sociological thinkers prior to 1900 examined in depth. Specific persons considered will be chosen by the instructor but will be announced well in advance of beginning of course. (Same as KSU 82110) Seminar.

717 SOCIOLOGICAL THOUGHT
3 credits
May be repeated once for credit. Prerequisite: 617 or permission. Two distinct schools of sociological thought will be selected by the instructor for in-depth reading and comparative analysis. (Same as KSU 82115) Seminar.

716 SMALL GROUP RESEARCH TECHNIQUES
3 credits
Prerequisite: 632. Application and implications of research in small groups. Focus on both laboratory and field studies. (Same as KSU 82435) Seminar.

715 CONTEMPORARY TRENDS IN SOCIOLOGICAL LITERATURE
1-3 credits
Prerequisite: Permission. Selected topics in selected contemporary issues. Research and methodological developments in sociology. (Same as KSU 82430) Seminar.

714 ADVANCED READING IN CONTEMPORARY SOCIOLOGICAL LITERATURE
1-3 credits
Prerequisite: 631. Design and development of research project oriented to currently examining selected concepts in sociology. In testing selected propositions in sociological research. (Same as KSU 82430) Seminar.

713 URBAN SOCIOLOGY
3 credits
Topics in urban sociological research and theory. May be repeated for credit. Seminar.

712 RESEARCH IN COMMUNITY AND AREA PROBLEMS
3 credits
Prerequisite: Permission. Special investigation of community, area or regional problems and design and execution of small projects. (Same as KSU 82435) Seminar.

711 SPECIAL TOPICS IN SOCIAL ORGANIZATION
1-3 credits
Open course to cover content area not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 82439) Seminar.

710 ISSUES IN URBAN ANALYSIS
1-3 credits
Special topics seminar dealing with current and special topics in urban process and its analysis. (Same as KSU 82660) Seminar.

709 RESEARCH IN SOCIAL ORGANIZATION
1 credit
Prerequisite: 645. Design and development of a research project guided to empirically examining selected concepts in social organization or to testing selected propositions in social organization. (Same as KSU 72541) Seminar.

708 SEMINAR IN URBAN PROCESSES
1 credit
Prerequisite: 687 or permission. Seminar in selected topics in urban sociology or research and theory related to urban life: special emphasis on social change in urban environment. (Same as KSU 82660) Seminar.

707 SPECIAL TOPICS IN DEVIANCE AND DISORGANIZATION
1-3 credits
Designed to meet credits of student in selected topics in deviance and disorganization. (Same as KSU 82169) Seminar.

706 RESEARCH IN DEVIANCE AND DISORGANIZATION
1 credit
Prerequisite: 643. Provides for analysis of research problems in deviance and disorganization. Seminar. (Same as KSU 82660) Seminar.

705 CONTEMPORARY ISSUES IN SOCIAL CHANGE
1-3 credits
Prerequisite: 687 or permission. Seminar in selected topics in current research and theory focusing on current research and theory in social change. Seminar. (Same as KSU 82660) Seminar.

704 RESEARCH IN SOCIAL CHANGE
1 credit
Prerequisite: 647. Continuation of 647. Seminar on research during the year. (Same as KSU 82660) Seminar.

703 RESEARCH IN HUMAN ECOLOGY
1 credit
Prerequisite: 688. Seminar on selected aspects of human ecology by individual student. Seminar on research during the year. (Same as KSU 82660) Seminar.

702 INDIVIDUAL INVESTIGATION
1-3 credits
Prerequisite: Successful completion of graduation work. Seminar on research during the year. (Same as KSU 82660) Seminar.

899 DISSERTATION
1-10 credits
Multi-course. (Same as KSU 82660) Dissertation. (Same as KSU 82669)
POLYMER SCIENCE

3940:

301 INTRODUCTION TO ELASTOMERS
Prerequisite: One year of organic chemistry or permission. History and preparation of natural rubber. Methods utilized for production of synthetic rubbers outlined. Laboratory experiments include compounding, processing, vulcanization, and testing of rubber products.

302 INTRODUCTION TO PLASTICS
Prerequisite: 301 or permission. Plastics industry and its manufacturing methods discussed. Plastics compounding for both thermoplastic and thermostetting materials discussed with emphasis on processing and testing as illustrated by laboratory experiments.

303 SPECIAL PROJECTS IN POLYMER SCIENCE
Prerequisite: 300. Research projects on a limited scope for student designed experience with a professor working in a specific field. The course would be designed to give the student the processes involved in outlining projects, setting up equipment, collecting and recording research data in a scientific manner.

407 POLYMER SCIENCE
Prerequisite: 3160:911 or permission. Principles of polymerization processes and relationships between molecular structures and physical behavior of polymers. Molecular weight distributions of macromolecules discussed and methods of determining molecular weights utilized.

411/511 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS
Prerequisite: 391 or permission. Intermediate course involving the principles of chemistry and physics as applied to polymers. Study of polymer structures and physical properties of polymeric materials. 3 credits

412/512 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS
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, and free vibrations discussed. 2 credits

415 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS LABORATORY
Prerequisite: 413 or permission. Laboratory experiments involving the topics covered in the prerequisite course. 2 credits

416 EXTRUSION AND MOLDING
Prerequisite: 302 or permission. Introduction to extrusion and molding processes for plastics. Theory of extrusion and molding processes and their application to the technology of plastics. 3 credits

417 ADHESIVES AND COATING
Prerequisite: 302 or permission. Course will involve hands-on experimentation with adhesives and coatings. Emphasis will be placed on the fundamentals of adhesives and coatings technology. Course will involve laboratory experiments. 2 credits

418 COMPOSITES, CELLULAR MATERIALS AND TIRE TECHNOLOGY
Prerequisite: 302 or permission. Course will involve an in-depth study of the technology of tire manufacture. Laboratory experiments will be utilized to illustrate the principles involved. 4 credits

490/590 WORKSHOP IN POLYMER SCIENCE
(May be repeated) Group studies on selected topics involving polymers. May be used to meet undergraduate or graduate major requirements. May be used for elective credit only. 1-3 credits

Graduate Courses

501 SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS

601 INDIVIDUAL INVESTIGATION
Prerequisite: Permission of instructor. Head of department, in consultation with student's chosen field of interest. Regular conferences with instructor. Preparation of a research paper.

602 SYNTHESIS AND CHEMICAL BEHAVIOR OF POLYMERS
Prerequisite: 601 or permission. Introduction to fundamental concepts and practical aspects of polymer synthesis and reaction. Laboratory exercises will be directed toward teaching polymer general knowledge of laboratory and commercial methods for polymer preparation. 2 credits

604 SPECIAL PROJECTS IN POLYMER SCIENCE
Prerequisite: Permission. Research projects limited in nature to advanced research work in the field of polymer science. 1-3 credits

605 POLYMER CHEMISTRY LABORATORY
Prerequisite: 602 or permission. Basic knowledge of organic chemistry is required but 601 is equivalent. The preparation and identification of polymers to illustrate different methods of polymerization such as step reactions and chain reaction. 2 credits

607 POLYMER SCIENCE SEMINAR I, II, III
Prerequisite: 605 or permission. Limited to the first and second year graduate students. Topics presented will be chosen from recent advances in polymer science and presented by visiting polymer scientists.

610 INORGANIC POLYMERS
Prerequisite: 3150:472/572 or permission. Survey course designed to broaden background of typical graduate student beyond chemistry and physics of carbon chains. 2 credits

613 POLYMER SCIENCE LABORATORY
Prerequisite or co-requisites: 701, 3150:601 or permission of instructor. Laboratory experiments in synthesis, characterization, physics properties and processing and testing of polymers. 2 credits

631 PHYSICAL PROPERTIES OF POLYMERS
Prerequisite: Permission of instructor. Thermal and mechanical properties of rubber elastic behavior, time-dependent mechanical properties of polymeric materials. 2 credits
632 PHYSICAL PROPERTIES OF POLYMERS II 2 credits
Prerequisite: 631 or permission of instructor. Normal-coordinate theory; molecular motion and applications to time-dependent mechanical, electrical, and scattering properties of polymeric systems; time-temperature superposition; free volume; WLF relation; fracture; glass transition.

649 SYNTHESIS AND TECHNOLOGY OF ELASTOMERS 2 credits
Prerequisite: 3150:256 or equivalent permission of instructor. The preparation of both natural and synthetic elastomers. Emphasis on polymerization methods, polymer structure and methods of vulcanization. The modification of vulcanizates and their effects on physical characteristics of the elastomers described.

674 POLYMER STRUCTURE AND CHARACTERIZATION 2 credits
Prerequisites: 3150:213 and 314 or permission of instructor. Preparation of the theoretical description of polymer molecular properties including chain polymerization and degradation, characterization of conformation, molecular weight, local structure, crystal structures and ordering.

675 POLYMER THERMODYNAMICS 2 credits
Prerequisite: 674 or permission of instructor. Presentation of the theories and experiments concerning polymer solutions, polymer phase equilibrium, and polymer phase transitions and dilute solution steady-state transport.

676 POLYMER CHARACTERIZATION LABORATORY 2 credits
Prerequisite: 675 or permission of instructor. Laboratory analysis of polymers by fractionation, cosolvency, melting, X-ray diffraction, and thermal analysis. Spectroscopy and chromatography.

680 POLYMER PROCESSING 2 credits
Prerequisite: 674 or permission of instructor. Laboratory analysis of polymers by fractionation, cosolvency, melting, X-ray diffraction, and thermal analysis. Spectroscopy and chromatography.

681 DESIGN OF RUBBER COMPONENTS 2 credits
Prerequisite: 4600 or equivalent. Principles of design of elastomeric products, emphasizing analytical treatment of heat transfer, mass flow, mixing, shaping, and molding of polymeric materials.

490 MASTER'S RESEARCH 1-6 credits
Prerequisite: permission of properly qualified candidate for master's degree. Supervised original research in polymer science, under direction of faculty member, followed by submission of thesis.

701 POLYMER TECHNOLOGY I 2 credits
Principles of compounding and testing, processing principles and types of operation, design principles.

702 POLYMER TECHNOLOGY II 2 credits
Prerequisite: 701 or permission of instructor. Rubber industry, rubber compounding and processing, vulcanization methods, physical testing, plastics preparation and compounding, manufacturing processes. Lecture-Laboratory.

703 POLYMER TECHNOLOGY III 2 credits
Prerequisite: 702 or permission of instructor. Flow properties, evaporation, calendering and milling, mixing, compounding, engineering properties, rubber springs, viscoelastic analysis/design consideration. Lecture/Laboratory.

704 CONDENSATION POLYMERIZATION 2 credits
Prerequisite: 3150:453/563 or permission of instructor. Survey of the theory and practice of condensation polymerization. Numerous commercial examples are presented with special emphasis being placed on the properties and applications of polymers prepared by this technique. Structure-property relationships are highlighted for each major polymer class.

705 FREE RADICAL REACTIONS IN POLYMER SCIENCE 2 credits
Prerequisite: 3150:463/563 or permission of instructor. Covers the kinetics and mechanisms of free radical initiated reactions encountered in polymer science, including polymerization methods, detailed considerations of the initiation and termination steps in vinyl polymerizations and copolymerizations, preparation of block and graft copolymers by free radical initiated reactions, and the mechanisms of free radical induced polymer degradation reactions.

706 IONIC AND NONION INSERTION REACTIONS 2 credits
Prerequisite: 3150:463/563 or permission of instructor. Covers the scope, kinetics and mechanisms of polymerizations initiated by anions, carbocations and carbenium ions as well as polymerizations induced by coordination catalysts. Living polymerizations, molecular weights, molecular weight distributions, stereochemistry, solvent effects, counterion effects, temperature effects, Ziegler-Natta catalysis, olefin metathesis, functionalization of polymers, graft and block copolymer synthesis.

707 KINETICS OF POLYMERIC PROCESSES 2 credits
Prerequisites: 632 and 675 or permission of instructor. Kinetics of polymerization and polymerization kinetics, polymer adsorption, membrane transport, polymeric phase transformations, gelation and colloidal precipitation.

708 MACROMOLECULAR CHAIN STRUCTURE 3 credits
Prerequisites: 3150:463/563 or permission of instructor. Kinetics of polymer chain reactions and statistical mechanics developed to degree that their applications to polymeric problems can be discussed.

709 MACROMOLECULAR CHAIN STRUCTURE 3 credits
Prerequisite: 708 or permission. Continuation of topics in 708 including experimental techniques used in elucidation of chain structure.

711 SPECIAL TOPICS: POLYMER SCIENCE 2 credits
Prerequisite: permission. Study of topical subjects of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular substances and including laboratory work where applicable.

712 SPECIAL TOPICS: POLYMER SCIENCE 2 credits
Prerequisite: permission. Topics of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular science.

713 CHAIN STRUCTURE LABORATORY 2 credits
Prerequisite or concurrent. 708 or permission of instructor. Designed to apply principles discussed in 708 to laboratory determination of polymer structure.

699 DOCTORAL RESEARCH IN POLYMER SCIENCE 2-16 credits
Open to properly qualified student accepted as candidate for degree of Doctor of Philosophy in polymer science, depending on availability of staff and facilities.

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**URBAN STUDIES**

**3980:**

Graduate Courses

**590 WORKSHOP**
(May be repeated)
Off-campus study 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.

**599 BASIC ANALYTICAL RESEARCH**
Prerequisite permission. Examines basic framework of social science research methodologies and basic complementary statistical techniques, including probability and sampling cost in urban studies.

**601 ADVANCED RESEARCH AND STATISTICAL METHODS**
Prerequisite: 600. Extends study of social science to include more advanced research designs and multivariate statistical techniques.

**602 AMERICAN URBAN DEVELOPMENT**
Prerequisite: permission. Examines major literature on processes of urbanization in United States and selected facets of urban institutional development.

**619 URBAN POLITICS**
Prerequisite permission. Empirical analysis of urban political structure and major political problems.

**611 URBAN ADMINISTRATION**
Prerequisite: permission. Examines the field of intergovernmental relations as it applies to urban administration and management.

**614 ETHICS AND PUBLIC SERVICE**
Prerequisite permission. Examines the ethical problems and implications of decisions and policies made by those whose actions impact on the broad public. Current studies of decision making in both the public (government) and private (business and professions) spheres are studied in relation to classical literature in ethical theory.

**620 SOCIAL SERVICES PLANNING**
Prerequisite permission. In-depth analysis of total social services requirements and various ways in which social services planning function is carried out in urban communities.

**621 URBAN POLICY AND SERVICE SYSTEMS**
Prerequisite permission. Analysis of social bases of urban society; hierarchies, social problems, relationships to planning, public services.

**630 INTRODUCTION TO PLANNING PRACTICE AND THEORY**
Introduction to the history, theories and forms of urban planning.

**631 FACILITIES PLANNING**
Study of need, process and limitation of urban facilities planning.

**632 LAND USE CONTROL**
Prerequisite permission. Emphasis on problems related to land use control in the United States and on the political, economic, social and legal forces which have shaped existing land use legislation.

**636 PARKS AND RECREATION**
Prerequisite permission. Deals with theory, practice, evaluation of recreational administration, planning parks planning.

**637 FIELD METHODS IN URBAN AND REGIONAL PLANNING**
Prerequisite: 630. Taught jointly with 638 to provide students with extensive experience in applying the qualitative methods and analytic procedures of urban planning to actual public policy issues.
Courses of Instruction

638 FIELD METHODS IN URBAN AND REGIONAL PLANNING/LAB
Prerequisite: 630: This course is taught jointly with 637 to provide students with extensive experience in applying methods and analytic procedures to urban planning to actual public policy issues.
3 credits

640 FISCAL ANALYSIS
Prerequisite: permission. Study of revenue and expenditure patterns of the city's government.
3 credits

641 URBAN ECONOMIC GROWTH AND DEVELOPMENT
Prerequisite: permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.
4 credits

642 MUNICIPAL BUDGETING
Prerequisite: permission. Theories, premises, assumptions, methodologies upon which municipal budgeting are based.
3 credits

643 URBAN POLICY ANALYSIS
Prerequisite: permission. Development and application of conceptual, technical capabilities to the emphasis on public policy in American cities. Identification of major policy issues, measurement techniques and analytical models of public policy, analysis of policy formulation and choice-making processes, analysis of policy impact, the problems and processes of public implementation.
3 credits

650 COMPARATIVE URBAN SYSTEMS
Prerequisite: permission. Conceptual schemes and methodology for comparative urban analysis among a number of major cities selected from each continent.
3 credits

670 RESEARCH FOR FUTURES PLANNING
Prerequisites: 500 and 601 and completion of eight credits of core curriculum in urban studies. An overview of the techniques associated with the field of futures research and their application to long-term urban planning.
3 credits

671 PROGRAM EVALUATION IN URBAN STUDIES
Prerequisite: 600 or equivalent. Major considerations appropriate for conducting evaluations of a wide variety of human service programs and policies affecting urban and metropolitan areas.
3 credits

672 ALTERNATIVE URBAN FUTURES
Overview of topics and issues associated with alternative urban futures and their implications for planning and public policy in urban communities.
3 credits

680, 1 SELECTED TOPICS IN URBAN STUDIES
Prerequisite: permission. Selected topics in specific areas of urban planning, in 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.)
1-3 credits each

690 URBAN STUDIES SEMINAR
Prerequisite: 15 credits of urban studies core plus quantitative methods. Urban research methods applied to specific urban research area. Comprehensive paper required.
3 credits

695 INTERNSHIP
Prerequisite: permission. Faculty-supervised work experience in which student participated in policy planning, administrative operations in selected urban, state and federal governments and urban agencies.
1-3 credits

897 INDIVIDUAL STUDIES
(May be repeated for a total of four credits)
Directed individual readings or research on specific area or topic.
1-3 credits

700 ADVANCED RESEARCH METHODS I
Prerequisite: master's level satisfied or permission. Introduction to statistical techniques and methodologies in doctoral and postdoctoral research. Emphasis on conceptual and mathematical interrelationships.
3 credits

701 ADVANCED RESEARCH METHODS II
Prerequisite: 700 or equivalent. Continuation of 700. Emphasis placed upon conceptual and mathematical interrelationships of multivariate statistical techniques as well as application of these techniques through computer analysis of urban data sets.
3 credits

702 URBAN POLICY: THE HISTORICAL PERSPECTIVE
Prerequisite: permission. Critical examination of major ideas about the city from Aristotle to Twentieth Century and of impact of urbanization on society and public policy.
3 credits

703 SYSTEMS AND PROCESSES OF POLICY DEVELOPMENT
Analysis of administrative process within public organizations, federal, state and local, in United States; emphasis on urban community.
3 credits

704 BUREAUCRACY AND URBAN CONSTITUENCIES
Prerequisite: permission. Seminar designed to analyze public bureaucracy and public interest as central phenomena of contemporary public administration in urban America.
3 credits

705 ECONOMICS OF URBAN POLICY
Prerequisite: master's level knowledge of macroeconomics and microeconomics or special permission. Use of research tools of economic analysis in seminar format to examine options available to urban policy making in operation of public services and economic development of cities.
3 credits

706 PROGRAM EVALUATION
Prerequisite: permission. Provides concepts for student in evaluation of programs, both external and internal, to work settings.
3 credits

707 URBAN PLANNING & MANAGEMENT STRATEGIES
Prerequisite: permission. Analysis of urban planning policy issues and strategies for implementation in public policy formulation. Emphasis on use of planning process as integrative mechanism.
3 credits

708 URBAN TUTORIAL
Prerequisite: permission. Intensive study of a particular approved field or topical area of urban studies with a tutor. Student enrolls in a total of 12 hours of tutorial credit and more than 12 only if tutorial field is changed, as approved by Commissioner of Doctoral Studies. In no case will a student enroll in more than three credits per term.
3 credits

709 DISSERTATION RESEARCH
(May be repeated)
Open to properly qualified student accepted as candidate for Doctor of Philosophy degree.
Student must register for at least three credits each semester until dissertation is accepted. Minimum of 15 credits required.
3-15 credits
College of Engineering

GENERAL ENGINEERING

4100:

118 ENGINEERING DESIGN
Introduction to design. 1 credit

201 ENERGY AND ENVIRONMENT
Interactions between energy production, consumption and environment. 2 credits

202 ATMOSPHERIC POLLUTION
Causes of atmospheric pollution and economic and social problems. Technical solutions. Case studies. Not for engineering, chemistry or physics majors. 2 credits

206 FORTRAN (SC/ENG)
Prerequisites: 225 or 3450:221. Introduction to use of digital computers in scientific and engineering applications. For student majoring in engineering or physical sciences. No credit for person having completed 3460:201. 2 credits

300 COOPERATIVE EDUCATION WORK PERIOD
Elective for Cooperative Education Program student who has completed sophomore year. Practice in industry and comprehensive written reports of this experience. 0 credits

301 COOPERATIVE EDUCATION WORK PERIOD
Elective for Cooperative Education Program student only. Practice in industry and comprehensive written reports of this experience. Offered spring semester of third year. 0 credits

302 COOPERATIVE EDUCATION WORK PERIOD
Elective for Cooperative Education Program student only. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year. 0 credits

303 COOPERATIVE EDUCATION WORK PERIOD
Elective for Cooperative Education Program student only. Practice in industry and comprehensive written reports of this experience. Offered summer after fourth year. 0 credits

CHEMICAL ENGINEERING

4200:

120 ENGINEERING FUNDAMENTALS
Introduction to problem-solving and formal, computational exercise, dimensions, units physical measurements. 1 credit

200 MATERIAL AND ENERGY BALANCES
Prerequisites: 120, 2100.256, 3450:221 and 3150:124. Introduction to material, energy balance calculations applied to solution of chemical problems. 4 credits

225 EQUILIBRIUM THERMODYNAMICS
Prerequisites: 200 and 3450:222. Second law of thermodynamics, entropy, applications. 4 credits

305 MATERIALS SCIENCE
Prerequisites: 3150:133 and 3650:292 and junior standing. Structure, processing and properties of metals, ceramics and polymers. Special topics, such as composites, corrosion and wear. 2 credits

321 TRANSPORT PHENOMENA I
Prerequisites: 200 and 3450:222. Constitutive equations for momentum and energy transfer. Development of macroscopic and microscopic momentum and energy equations. Analysis and dimensions correlations. Problems and applications in and operations of chemical engineering. 3 credits

322 TRANSPORT PHENOMENA II
Prerequisite: 321. Constitutive equations for mass transfer. Development of macroscopic and microscopic momentum, energy and mass transfer equations for binary systems. Problems and applications in unit operations of chemical engineering. 3 credits

330 CHEMICAL REACTION ENGINEERING
Prerequisite: 225. Non equilibrium processes including chemical reaction mechanisms, new equations and ideal reactor design applied to homogeneous and heterogeneous systems. 3 credits

351 FLUID AND THERMAL OPERATIONS
Prerequisite: 321. Applications of fluid mechanics including piping, pumping, compression, metering, agitation and separation. Applications of heat transfer by conduction, convection and radiation to design of process equipment. 3 credits

352 TRANSPORT LABORATORY
Prerequisites: 322 and 361. Experiments in fluid heat and mass transfer. Data collection, analysis and reporting in various formats. Relationships to theory emphasized. 2 credits

353 MASS TRANSFER OPERATIONS
Prerequisites: 225, 351 and 322. Theory and design of staged operations including distillation, extraction, absorption, condensation and design of continuous mass transfer devices. 3 credits

408 POLYMERIC ENGINEERING
Prerequisites: permission or senior standing. Commercial polymerization, materials selection and property modification. Polymer processing, applied rheology and classification of polymer industry. 3 credits

439 PROCESS ANALYSIS AND CONTROL
Prerequisites: 330, 353. Response of simple and chemical processes and design of appropriate control systems. 3 credits

441 PROCESS ECONOMICS AND DESIGN
Prerequisites: 330, 351, 3. Economic evaluation of chemical plants including justification, site selection and plant layout. Culminates with a senior design or A.I.Ch.E. Student Contest Problem. 4 credits

454 OPERATIONS LABORATORY
Prerequisites: 441. Integration of process and equipment design for a total plant including justification, site selection and plant layout. Culminates with a senior design or A.I.Ch.E. Student Contest Problem. 1 credit

451/551 SOLID PROCESSING
Prerequisites: 321 and 353 or permission. Comprehensive problems in sedimentation, fluidization, drying and other operations involving particulate solids in liquid and gas continua. 3 credits

453/653 POLLUTION CONTROL
Prerequisites: 321 and permission. Air and water pollution sources and problems. Engineering aspects and methodology. 3 credits

456/656 DIGITIZED DATA AND SIMULATION
Prerequisite: permission. Data acquisition and analysis by digital devices. 3 credits

470/570 ELECTROCHEMICAL ENGINEERING
Prerequisites: 322 and 330. Chemical engineering principles as applied to study of electrode processes and to the design of electrochemical reactors. Topics include electrode thermodynamics, cell polarizations, Faraday’s laws, electrode kinetics, transport processes in electrochemical systems, current distributions, reactor design, experimental methods, commercial processes, and batteries and fuel cells. 7 credits

496 TOPICS IN CHEMICAL ENGINEERING
May be repeated for a total of six credits. Prerequisite: permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, osmotic and synthetic fuels processing, bioengineering, simultaneous heat and mass transfer phenomena and new separation techniques. 1-3 credits

497 HONORS PROJECT
May be repeated for a total of six credits. Prerequisite: special permission. Individual creative project pertinent to chemical engineering culminating in undergraduate thesis. Supervised by faculty member of the department. 1-3 credits

499 RESEARCH PROJECT
May be repeated for a total of six credits. Prerequisite: permission. Individual research project pertinent to chemical engineering under faculty supervision. Report required. 1-3 credits

Graduate Courses

600 TRANSPORT PHENOMENA
Prerequisite: 320 or permission. Systematic presentation of conservation of momentum, energy and mass at microscopic and macroscopic levels in conjunction with illustrative examples and analogies. 3 credits

605 CHEMICAL REACTION ENGINEERING
Prerequisite: 430 or permission. Kinetics of homogeneous and heterogeneous systems. Reactor design for ideal and nonideal flow systems. 3 credits

610 CLASSICAL THERMODYNAMICS
Prerequisite: 325. Discussion of laws of thermodynamics and their application: Production and correlation of thermodynamic data. Phase and reaction equilibria. 2 credits

630 CHEMICAL PROCESS DYNAMICS
Prerequisite: 600. Development and solutions of mathematical models for chemical processes including models based on transport phenomena principles, population balance methods and systems analysis. 3 credits
621 CHEMICAL ENGINEERING ANALYSIS 3 credits
Prerequisites: 322, 255, 330. Mathematical analysis of problems in transport processes, chemical kinetics and control systems. Solution techniques for these problems and their practical significances are stressed. Hueristic proofs will be given for necessary theory developments.

635 ADVANCED POLYMER ENGINEERING 3 credits
Prerequisite: 321 or 600 or permission. Reactors for polymerization, polymer characterization, polymer processing, polymer rheology.

660 ADVANCED PLANT DESIGN 3 credits
Prerequisite: permission. Topical treatment of process and equipment design. Scale-up, optimization, process synthesis, process economics. Case problems.

686 TOPICS IN CHEMICAL ENGINEERING 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, bioengineering, simultaneous heat and mass transfer phenomena and new separation techniques.

696 SPECIAL PROBLEMS 1-4 credits
(May be repeated for a total of four credits)
Prerequisite: permission of department head. For the qualified candidate for M.S.Ch.E. degree. Designed to expand an area of interest by consultation with a faculty member and independent study with a faculty beyond available course work. Credit dependent upon nature and extent of project as determined by faculty member and department head.

699 MASTER'S THESIS 1-6 credits
(May be repeated to a maximum of six credits)
For properly qualified candidates for master's degree. Supervised original research in specific area of chemical engineering selected on basis of availability of staff and facilities.

701 ADVANCED TRANSPORT PHENOMENA 3 credits
Prerequisite: 600. Advanced theory of transport phenomena such as applied tensor analysis, constitutive equations, multiphase reactive transport and multiphase transport. Illustrative practical examples presented.

702 MULTIPHASE TRANSPORT PHENOMENA 3 credits
Prerequisite: 602. General transport theorems, kinematics, Cauchy's lemma and the jump boundary conditions are developed followed by the theory of volume averaging. The single phase equations are then developed to obtain the multiphase equations of change. The technique for using these equations and their practical significance are also covered.

708 ADVANCED REACTION ENGINEERING 3 credits
Prerequisite: 605. Kinetics of heterogeneous systems, steady and unsteady state mathematical modeling of chemical reactors, fluidization, and additional topics drawn from current literature.

711 ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS 3 credits
Prerequisite: 610. Advanced topics in thermodynamics, including phase and reaction equilibria at high pressures and temperatures, equilibrium for phase systems, reaction equilibria in multiphase systems, thermodynamics of surfaces, thermodynamics of systems under stress, non-equilibrium thermodynamics and current topics from literature.

715 MOMENTUM TRANSPORT 3 credits
Prerequisite: 608. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids.

716 NON-NEWTONIAN FLUID MECHANICS 3 credits

720 ENERGY TRANSPORT 3 credits
Prerequisite: 602. Conduction, natural and forced convection, and radiation heat transfer starting with equations of continuity, momentum and energy.

721 TOPICS IN ENERGY TRANSPORT 3 credits
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat transfer problems found in chemical engineering.

725 MASS TRANSFER 3 credits
Prerequisite: 605. Theory of mass transfer with applications to absorption, adsorption, distillation, and heterogeneous catalysis.

731 PROCESS CONTROL 3 credits
Prerequisite: 632. Introduction to modern control theory of chemical processes including cascade control, multirate control and data sampled control.

736 POLYMERIC ENGINEERING TOPICS 3 credits
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase materials, multiphase flow, artificial fiber engineering, etc.

750 POLUTION CONTROL ENGINEERING 3 credits
Prerequisite: 600 or permission. Advanced waste treatment methods as applied to chemical process industries.

794 ADVANCED SEMINAR 1-4 credits
(May be repeated for a total of six credits)
Prerequisite: permission of department head. Advanced projects, readings, and seminars in various areas of chemical engineering intended for student seeking Ph.D. in chemical engineering.

800 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.
414/518 SOIL AND ROCK EXPLORATION 3 credits
Prerequisite: 314 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 measurement. Air photo interpretation.

423/523 WATER POLLUTION PRINCIPLES 4 credits
Prerequisite: 323. Principles of aquatic chemistry and microbiology, chemical reaction engineering fundamentals presented with emphasis on applying them to water waste treatment.

424 WATER-WASTEWATER LABORATORY 1 credit
Corequisites: 323 or permission. Analysis of water and wastewater.

425/526 ENVIRONMENTAL ENGINEERING DESIGN 3 credits
Prerequisite: 223. An introduction to the physical, chemical and biological processes utilized in the treatment of water and wastewater, with design parameters emphasized.

427/527 WATER QUALITY MODELING AND MANAGEMENT 3 credits
Prerequisite: 323. Analysis and simulation of the physical, chemical and biochemical processes affecting water quality. Development of management strategies based upon the application of water quality modeling techniques to environmental systems.

428/528 HAZARDOUS AND SOLID WASTES 3 credits
Prerequisite: senior standing or permission of instructor. Hazardous and solid waste quantities, properties and sources are presented. Handling, processing, storage and disposal methods are discussed with non-technical constraints outlined.

441 HYDRAULIC DESIGN 3 credits
Prerequisite: 341. Collection and critical evaluation of hydraulic data related to actual design problem selected by instructor. Development and analysis of design alternatives. Preparation of reports.

443/543 APPLIED HYDRAULICS 3 credits
Prerequisite: 341. Review of design principles: urban hydraulics, steam channel mechanics, sedimentation, coastal engineering.

446 HYDROLOGY 3 credits

448 HYDRAULICS LABORATORY 1 credit
Prerequisite: 341. Introduction to laboratory and field devices for hydraulic measurements. Reduction and presentation of hydraulic data. Individual assignments of model studies of hydraulic structures.

450 URBAN PLANNING 2 credits
Historical developments in urban planning; urban planning techniques and patterns; comprehensive master planning studies; planning equations, design problems, class projects; class project presentation.

451/551 MATRIX ANALYSIS OF STRUCTURES 3 credits

452 STRUCTURAL VIBRATIONS AND EARTHQUAKES 3 credits

453/553 OPTIMUM STRUCTURAL DESIGN 3 credits

453/563 TRANSPORTATION PLANNING 3 credits
Prerequisite: 361. Theory and techniques for development, analysis and evaluation of transportation systems. Emphasis on understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.

464 HIGHWAY DESIGN 3 credits
Prerequisite: 361. Step-by-step study of modern highway design techniques and construction practices.

465/565 PAVEMENT ENGINEERING 3 credits
Prerequisite: 361. Theories of elasticity, viscoelasticity, and of layered systems as applied to pavements. Pavement material characterization, pavement design, pavement restoration for rigid and flexible pavements.

466/566 TRAFFIC ENGINEERING 3 credits
Prerequisite: 361. Traffic and urban travel characteristics, traffic flow theory, traffic studies, accidents and safety, traffic signs and marking, traffic signal planning, traffic control and transportation administration.

471 CONSTRUCTION ADMINISTRATION 3 credits
Prerequisite: senior standing or permission. Organization for construction, construction contracts, estimating, bidding, bonds and insurance. Construction financial management and supervision of construction, including use of legal methods.

472 CONSTRUCTION ENGINEERING 3 credits
Prerequisite: senior standing or permission. Construction equipment selection and management. Techniques of various engineering construction operations including blasting, tunneling, concrete framework and dewatering.

473 CONSTRUCTION MATERIALS 2 credits
Prerequisites: 380, 470. 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.

474/574 UNDERGROUND CONSTRUCTION 2 credits
Prerequisite: 314. Description of principles and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.

481 CIVIL ENGINEERING SYSTEMS 2 credits

482 SPECIAL PROJECTS 1-3 credits
Prerequisites: senior standing and permission. Directed individual group research or study in student's field of interest. Topic subject to approval by advisor.

497 HONORS PROJECT 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program. Individual creative project or design relevant to civil engineering, supervised by faculty member of the department.

Graduate Courses

601 ADVANCED MECHANICS OF MATERIALS 3 credits

604 DYNAMICS OF STRUCTURES 3 credits

605 STRUCTURAL STABILITY 3 credits

606 ENERGY METHODS AND ELASTICITY 3 credits

607 PRESTRESSED CONCRETE 3 credits

608 MULTISTORY BUILDING DESIGN 3 credits

609 FINITE ELEMENT ANALYSIS I 3 credits
Prerequisite: 401. In-depth development of finite element method as applied to various problems from continuum mechanics. Body areas as plane, axisymmetric and 3-D stress analysis; conduction, fluid mechanics; transient problems and geometric and material nonlinearity.

610 INTRODUCTION TO COMPOSITE MATERIALS 3 credits
Prerequisite: 601 or equivalent. Fundamental concepts of composites, composite micro-mechanics, macromechanics and laminate theory are discussed from geometric relationship to laminate analysis for stiffness and strength. The geometric, mechanical, hydrothermal, and thermal behavior of composites will be described in terms of corresponding properties of the constituents. Emphasis is placed on the physics of composite behavior: design and analysis of fiber-composite laminates subjected to mechanical and environmental loading conditions.

611 FUNDAMENTALS OF SOIL BEHAVIOR 2 credits
Prerequisite: 314. In-depth examination of structure and fundamental physico-chemical and mechanical properties of engineering soils viewed as particulate matter.

612 ADVANCED SOIL MECHANICS 3 credits
Prerequisite: 314. Study of mechanics of behavior of soil as continuum. Principles of stress, strain, deformation, shear strength and pore water pressure as applied to mechanical behavior of soil masses.

613 ADVANCED GEOTECHNICAL TESTING 3 credits
Prerequisites: 518, 612. Theory and practice of static and dynamic in-situ and laboratory soil testing. Testing procedures, applicability, limitations. General evaluation of geotechnical parameters for novice and special site conditions. One lecture, two laboratories per week.

614 FOUNDATION ENGINEERING I 3 credits
Prerequisite: 311 or permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundation systems. Field driving and load test procedures and analysis. Theory and design of earth-retaining structures including retaining walls, levee drains and bulkheads.
615 FOUNDATION ENGINEERING II 3 credits
Prerequisite: 614 or permission. Soil-structure interaction theory and applications to underground structures. Design of foundations, piles, and slabs. Analytical and numerical solution techniques for foundation design.

618 ROCK MECHANICS 3 credits
Prerequisite: 601 or permission. Mechanical properties of rocks, rock mass classification, and rock mass behavior. Inelastic behavior of rocks, failure in rock masses, experimental characterization of rock properties, and the use of advanced methods for rock engineering problems.

620 SANITARY ENGINEERING PROBLEMS 2 credits
Prerequisite: 352. Application of both laboratory methods and theory to solution of sanitary engineering problems involving wastewater treatment, soil stabilization, and underpinning and cofferdams. Focus on design and implementation of sanitary systems.

621 WATER AND WASTEWATER LABORATORY 2 credits
Prerequisite: 246 or permission of instructor. Conduction of laboratory experiments related to the design and operation of water and wastewater treatment processes. Experimental design, data collection, analysis, and report preparation.

622 WATER TREATMENT PLANT DESIGN 3 credits
Prerequisite: permission. Design of water treatment plants for potable, industrial, and commercial uses. Development of water sources, treatment methods, and financing applicable to design and construction of water treatment plants.

623 WASTEWATER TREATMENT PLANT DESIGN 3 credits
Prerequisite: permission. Application of theory and fundamental concepts to the design of wastewater treatment plants. System design methods for biological and chemical stabilization of wastewater, including influent characteristics, design criteria, and operational analysis.

624 ENGINEERING MANAGEMENT OF WATER UTILITIES 2 credits
Prerequisite: permission. Comprehensive study of various functions and operational concepts related to water utilities. Business aspects, financial management, and regulatory issues.

625 WATER AND WASTEWATER PROCESSES 3 credits
Prerequisite: 423. Theory of a current research associated with physical and chemical processes, the impact on design: coagulation/flocculation, stabilization, filtration, and absorption processes. Emphasis on the design of water and wastewater treatment processes.

626 WATER AND WASTEWATER PROCESSES II 3 credits
Prerequisite: 423. Current research associated with biological processes, related physical and chemical processes, and the impact on design-activated sludge, fixed film processes, and gas transfer. General design guidelines for wastewater treatment processes.

627 ADVANCED FLUID MECHANICS 3 credits

628 OPEN CHANNEL HYDRAULICS 3 credits
Application of basic principles of fluid mechanics to flow in open channels. Criteria for analysis of uniform flow, gradually varied and rapidly varied flows. Study of movement and transportation of sediments. Design problems utilizing numerical techniques.

629 APPLIED HYDROLOGY 3 credits
Discussion of water cycles, such as precipitation, evaporation, streamflow, floods, infiltration, and groundwater. Methods of analysis and the application of data to water demand, storage, and groundwater modeling, including statistical modeling of urban runoffs and statistical hydrology.

630 COASTAL ENGINEERING 3 credits
Characteristics of coastal and nearshore wave theories, interaction of structures, waves, and sediment transport. Movement, transportation of sediments in nearshore areas.

631 ADVANCED ENGINEERING MATERIALS 3 credits
Selected topics on principles governing mechanical behavior of materials with respect to plasticity, creep, and fracture mechanics. Fatigue and fracture phenomena, failure analysis, and the prediction of engineering materials.

632 ELASTICITY 3 credits

633 PLASTICITY AND VISCOELASTICITY 3 credits

634 ADVANCED REINFORCED CONCRETE DESIGN 3 credits

635 ADVANCED STEEL DESIGN 3 credits

636 EXPERIMENTAL METHODS IN STRUCTURAL MECHANICS 3 credits

657 SPECIAL PROBLEMS 1-2 credits
Prerequisite: permission. Supervised research or directed individual study in student's major field. Subject to approval by advisor.

658 SPECIAL PROBLEMS 1-2 credits
Prerequisite: 657. Continuation of 657. Individual research project leading to formal report of publishable quality.

699 MASTER'S THESIS 1-6 credits
Prerequisite: permission. Research and thesis on some topic in civil engineering as approved by department. Defense of thesis is by final examination.

701 EARTHQUAKE ENGINEERING 3 credits

702 PLATES AND SHELLS 3 credits

703 APPLICATION IN PLASTICITY AND VISCOELASTICITY 3 credits
Prerequisite: 601. 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.

704 FINITE ELEMENT ANALYSIS II 3 credits
Prerequisites: 609 and 702 or permission. Curved plate, brick elements, and matrix formulations. 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.

710 ADVANCED COMPOSITE MECHANICS 3 credits

712 DYNAMIC PLASTICITY 3 credits

717 SOIL DYNAMICS 3 credits
Prerequisite: 614 or permission. Michell's propagation theory relating to soils. Soil structures and the dynamic behavior of soils. Design of foundations for dynamic loading, evaluation of seismic loads, and earthquake impact.

745 SEEPAGE 2 credits
Discussion of parameters determining permeability of various soils. Analytical, numerical, and experimental methods to determine two- and three-dimensional movement of groundwater. Unsteady flows.

794 ADVANCED SEMINAR IN CIVIL ENGINEERING 1-3 credits
May be repeated for a total of nine credits. Prerequisite: permission of department head. Advanced projects, reading, and other studies in various areas of civil engineering. Intended for student seeking Ph.D. in civil engineering.

898 PRELIMINARY RESEARCH 1-5 credits
May be repeated for a total of 15 credits. Prerequisite: approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

899 DOCTORAL DISSERTATION 1-15 credits
May be taken more than once. Prerequisite: completion of preliminary examination and approval of Advisory Committee. Oral defense and publication of dissertation.

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**ELECTRICAL ENGINEERING 4400:**

101 INTRODUCTION TO ELECTRICAL ENGINEERING 1 credit
Corequisites: 1100.1111 and 3450.149. Introduction of freshman engineering students to problem-solving techniques. Required of all entering electrical engineering freshmen.

231 CIRCUITS I 3 credits
Prerequisite: 3862.291. Fundamentals of circuit analysis involving loop and nodal methods, phase techniques, resonance, polyphase circuits, and magnetic coupling in circuits.

232 CIRCUITS II 3 credits
320 BASIC ELECTRICAL ENGINEERING 4 credits
Prerequisite: junior standing in engineering, corequisite: 3450:235. Covers fundamental aspects of electrical circuits, electronics and electrical machinery. Not open to an electrical engineering major.

333 CIRCUITS III 3 credits

334 ACTIVE CIRCUITS 3 credits
Prerequisite: 333. Applications of operational amplifiers including bjt and fets, transfer functions, scaling, cascade design, biquad circuit, lowpass, high pass, bandpass filters, Chebyshev response, sensitivity, delay filters, frequency transformations, ladder design, simulated element design, leapfrog simulation and switched capacitors.

343 ELECTRICAL MEASUREMENTS 3 credits

344 INSTRUMENTATION 3 credits
Prerequisites: 343, 362. Analysis and characteristics of transducers, indicating instruments and recorders used in electrical measurements.

353 ELECTROMAGNETIC FIELDS I 4 credits
Prerequisite: 3450:223. Static and dynamic fields treated on vector basis with Maxwell's equations in point and integral forms. Dynamic electromagnetic fields with applications including particle dynamics and propulsion equations.

359 TRANSMISSION LINES AND NETWORKS 3 credits
Prerequisites: 333, 362. Steady state and transient analysis of distributed parameter circuits. Low and high frequency applications. Networks for transmissions.

362 ELECTRONIC CIRCUITS 4 credits
Prerequisites: 333, 363. Equivalent circuits for electronic devices. Time and frequency domain analysis. Rectification, voltage and power amplification, feedback, oscillatory, linear IC's.

363 SWITCHING AND LOGIC 4 credits
Prerequisites: 322, 343. Analysis of computer circuits. Introduction to use of Boolean algebra and modeling techniques in analyzing switching circuits. Sequential circuits.

365 MICROPROCESSOR SYSTEM 3 credits
Prerequisite: 363. Consideration of microcomputer hardware and software components. Microprocessor and peripheral devices. Instructions set of selected microprocessor. Introduction to microcomputer software.

371 CONTROL SYSTEMS I 3 credits
Prerequisite: 333. Introduction to servomechanisms and feedback. Modeling and response of feedback control systems. Stability of linear systems. Experiments include analog simulation and basic servomechanism.

380 ILLUMINATION 2 credits
Fundamentals of illumination and principles underlying specifications and design for adequate electrical lighting.

383 APPLICATION OF MOTORS 3 credits
Prerequisite: 386. Apparatus and circuits for control of electric motors. Calculation of accelerating and decelerating time and duty cycles. Selection of motors for various applications.

384 ENERGY CONVERSION I 3 credits
Prerequisite: 321, 353. Required for all EE students. Magnetic circuits, transformers, electromagnetic forces and sources, electromechanical energy conversion, d.c. and a.c. machine characteristics applications.

385 ENERGY CONVERSION LABORATORY 1 credit
Prerequisite: 384. Required for all EE students. A laboratory course to follow 384. Electromagnetic forces and torques, electromechanical energy conversion, d.c. and a.c. machine characteristics applications.

386 ENERGY CONVERSION II 3 credits
Prerequisite: 384. A continuation of 384. Synchronous machines, single phase motors, motor and load characteristics, machine and transformer harmonics.

397 ADVANCED MACHINERY 3 credits

398 MODERN POWER SYSTEMS 3 credits

399 PROBLEMS 1-3 credits
(May be taken more than once)
Prerequisite: permission of department head. Select comprehensive problems, supervised discussions and evening project periods.

411/421 ENGINEERING ECONOMY 2-3 credits
Prerequisite: 3150/424 and senior standing in engineering. Presents engineering economics as distinguished from classical economic theory.

445 COMMUNICATION SYSTEMS 2 credits
Prerequisites: 333, 353, 362. Communications systems: equipment, noise, modulation, antennas, propagation, electronic communication circuits, frequency standards, generation, communication satellites.

446 ELECTRONIC SYSTEMS 3 credits
Prerequisite: 445. Study of specific state of the art electronic systems: primary and secondary radar telemetry systems, video systems, data communications, navigational systems.

447 RANDOM SIGNALS 3 credits
Prerequisite: 333. Applications of these, discrete and continuous random spaces; probability, random variables, distribution functions, density functions, stochastic processes, random signals, system function, power spectrum and correlation functions.

448 COMMUNICATION THEORY 3 credits
Prerequisite: 447. Spectral analysis and Fourier transforms; random variables and processes; amplitude, frequency and pulse modulation, representations of noise in modulation, threshold in frequency modulation, data transmission, communication system and noise calculations.

451 INTRODUCTION TO LASERS 3 credits
Prerequisites: 333, 353. Introduction to basic concepts of maser (laser) action; emission processes and their roles in laser action; types of lasers; presentation of generalized operating criteria.

454 ELECTROMAGNETIC FIELDS II 3 credits
Prerequisite: 353. Introduction to basic concepts of inductive unity, problems and nonlinear tests. Applications of Maxwell's equations. Antennas.

455/555 MICROWAVES 4 credits
Prerequisites: 353, 359. Dynamic fields, Maxwell's equations and wave equations. Field analysis of wave guides, microwave components, techniques and systems.

456 PHYSICS OF ELECTRONIC DEVICES 3 credits

456/457 PULSE ELECTRONICS 4 credits

463/563 COMPUTER CIRCUITS 4 credits
Prerequisite: 363. Electronic circuitry considerations in logic circuits, methods and sequential. Threshold logic analysis, synthetic development of computer arithmetic elements: memory, storage devices.

467/567 SOLID-STATE DEVICES 2 credits
Prerequisite: 362. Static and dynamic behavior of p-n junction and junction transistors. Theory of avalanche and Zener breakdown. FET prop diode and Gunn-effect oscillator.

468/480/580 INDUSTRIAL ELECTRONICS 3 credits
Prerequisite: 362, 386. Application of electronic devices at power levels intended for those specializing in power areas of electrical engineering rather than electronic areas.

470 MICROPROCESSOR INTERFACING 3 credits
Prerequisites: 362 and 363. Microprocessor structure. Bus Interface. Digital controller devices and their relationship to both the microcomputer and physical environment.

472/572 CONTROL SYSTEMS II 4 credits
Prerequisite: 371. State variable analysis, design of control systems. Discrete systems, analysis, digital computer control. Experiments include hybrid, AC control system, digital computer control.

480/580 SYMMETRICAL COMPONENTS 3 credits
Prerequisite: 386. Per unit method as applied to power system calculations. Fundamental principles of symmetrical components as applied to analysis of electrical circuits and machines.

481 ELECTRICAL POWER SYSTEMS I 3 credits
Prerequisite: 386. Introduction to electricity utility load flow, fault analysis, stability, surge protection and relaying.

482 ELECTRICAL POWER SYSTEMS II 3 credits
Prerequisite: 386. Introduction to industrial power systems. Local generation, power factor correction, conductor selection code requirements, coordination of protective devices.

497 HONORS PROJECT 1-3 credits
(May be repeated a total of six credits)
Prerequisite: senior standing in Honors Program. Individual creative project or design relevant to electrical engineering, supervised by faculty member of the department.

498/598 TOPICS IN ELECTRICAL ENGINEERING 1-2 credits
(May be taken more than once)
Prerequisite: permission of department head. Special topics in electrical engineering.

Graduate Courses

631 CIRCUIT ANALYSIS 3 credits
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.

641 RANDOM SIGNAL ANALYSIS 3 credits
Prerequisite: 447. Analysis, interpretation and smoothing of engineering data through application of statistical and probability methods.
899 DOCTORAL DISSERTATION
(May be repeated)
Prerequisites: completion of Candidacy Examination and approval of Student Advisory Committee. Original research by a Ph.D. candidate

ENGINEERING COMPUTER SCIENCE
4450:

410 COMPUTER METHODS
3 credits

120/520 SOFTWARE ENGINEERING
3 credits
Prerequisites: 3460:209 and instructor's permission. Software life cycle. Specification, design and implementation of teams projects.

432 SYSTEM SIMULATION
3 credits
Prerequisites: 410 Principles of modeling and simulation of discrete and continuous time systems. Use of FORTRAN and S/360 CSMP. Discrete event models and GPSS, SIMSCRIPT.

470/570 INTEGRATED SYSTEM DESIGN
3 credits
Prerequisites: 470. 465. Prerequisite for 570: 565. Introduction to computer systems, design methods and development tools for VLSI systems, NMOS devices and fabrication. Processing and design control. Layout methods and tools. Design systems.

497/597 SPECIAL TOPICS: COMPUTER SCIENCE
1-2 credits
(May be taken more than once)
Prerequisite: permission of department head. Special topics in computer engineering.

Graduate Courses

605 COMPUTER ARCHITECTURE
3 credits
Prerequisites: 4400:363 or equivalent. Historical development of computer architecture. Design methodologies. Processor organization and design of instruction sets. Parallel processing. Control section implementations. Memory organization. System configurations.

610 COMPUTER ALGORITHMS I
3 credits

611 COMPUTER ALGORITHMS II
3 credits
Prerequisite: 610 or permission. Data structures and algorithm design for minimum execution time and memory requirements.

592 SPECIAL PROBLEMS
1-3 credits
(May be taken more than once)
Prerequisite: permission of department head. For a qualified graduate student. Supervised research or investigation in student's major field. Credit dependent upon nature and extent of project.

784 ADVANCED SEMINAR
1-3 credits
(May be taken more than once)
Prerequisite: permission of department head. Advanced level coverage of various topics. Intended for student preparing Ph.D. in engineering.

MECHANICAL ENGINEERING
4600:

125 ENGINEERING GRAPHICS
2 credits
Freethand drawing techniques. Orthographic projection and pictorial representation of typical machine elements.

160 ENGINEERING DESIGN; MECHANICAL ENGINEERING
1 credit
Introduction to engineering profession. Engineering curriculum and programs of study. Introduction to the use of the digital computer.

202 DYNAMICS
3 credits
Prerequisites: 4300:201. Kinematics and kinetics of particles and rigid bodies. Principles of work, energy, momentum and impulse.

300 THERMODYNAMICS I
4 credits
Prerequisites: 3450:227 and 3650:291. Basic concepts of thermodynamics. The pure substances, the system and first and second laws of thermodynamics. Entropy, availability, power cycles.
301 THERMODYNAMICS I 3 credits

305 THERMAL SCIENCE 2 credits
Prerequisites: 3450:222 and 3650:29. Credit not allowed for both 300 and 366. Introduction to first and second laws of thermodynamics, perfect gas relationships, applications of cyclic systems. Analysis of machinery: introduction to heat transfer.

310 FLUID MECHANICS 3 credits

315 HEAT TRANSFER 3 credits
Prerequisites: 360, 330, 310 or 410.206. Fundamentals of heat transfer by conduction, convection and radiation.

321 KINETICS OF MACHINES 3 credits
Prerequisite: 125.203. Displacements, velocities, accelerations and introduction to force in planar mechanisms. Introduction to design of gears, gear trains and cams.

336 ANALYSIS OF MECHANICAL COMPONENTS 3 credits

337 DESIGN OF MECHANICAL COMPONENTS 3 credits
Prerequisite: 336. Application of stress analysis to design of systems, welds, springs, bolted connections and gears. Introduction to thermal bearings and vibration. Complex design projects.

360 ENGINEERING ANALYSIS 3 credits

394 MECHANICAL METALLURGY 2 credits
Prerequisite: 336. Structures of common metallic materials and study of their macroscopic mechanical behavior. Phase changes and heat treatment. Theories of failure.

393 INTERNAL COMBUSTION ENGINES LABORATORY 1 credit
Prerequisite: 301. Study of application and performance in reciprocating and rotary engines.

396 COMPUTER METHODS LABORATORY 1 credit
Prerequisites: 160, 3450:235. or 410.206. Application of digital computer to solution of a variety of problems in heat transfer. Fluid dynamics, machine design, kinematics, testing of materials, elasticity and vibrations and dynamics.

400/500 THERMAL SYSTEM COMPONENTS 3 credits
Prerequisites: 301, 310, 315. Performance analysis and design of complex systems used in heating, ventilation, air conditioning and refrigeration. Analytical and numerical methods of solution of mechanical engineering problems.

401 DESIGN OF ENERGY SYSTEMS 2 credits
Prerequisites: 400, 440. Analysis and design of systems for energy exchange. Performance of energy systems and their integration into complex practical systems. Design project required.

410/510 HEATING AND AIR CONDITIONING 3 credits
Prerequisites: 301, 310. Thermodynamics of gas mixtures. Design and selection of air conditioning equipment. Control of gas mixtures, heating, cooling and humidity.

411/511 COMPRRESSIBLE 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.

412/512 FUNDAMENTALS OF FLIGHT 3 credits
Prerequisite: 310 or equivalent or permission of instructor. Introduction to basic aerodynamics, airplane performance, stability and control. Aeronautics and propulsion. Design considerations are emphasized.

419/515 ENERGY CONVERSION 3 credits
Prerequisites: 301, 315. Topics: from fields of internal combustion engines, cycle analysis, modern conversion devices.

418/518 HEAT TRANSFER PROCESSES 3 credits
Prerequisite: 315. Analysis, design and construction of extended surfaces. Convection, combined modes of heat transfer and heat transfer with a change of phase. Heat transfer in magnetic hydrodynamic systems.

420 INTRODUCTION TO FINITE ELEMENT METHOD 2 credits
Prerequisite: 336. Introduction to matrix and finite element methods in mechanical engineering. Stiffness and flexibility formulations for both solid and thin-walled structural and thermomechanical basic. Finite element methods and its implementation. Application of NASTRAN program. Pre- and post-processing using interactive computer graphics.

422/522 EXPERIMENTAL STRESS ANALYSIS I 3 credits
Prerequisite: 336 or 4300:202. Experimental methods of determining stress and strain fields of critical areas. Strain gauge, photoelasticity.

445/545 INDUSTRIAL NOISE CONTROL 3 credits
Prerequisite: 401. or permission. Theory of propagation, transmission and reflection of plane waves. Psychological acoustics. Noise control regulations and criteria. Techniques of identification, instrumentation and control of noise sources.

430/530 MACHINE DYNAMICS 3 credits

431/531 MECHANICAL VIBRATIONS I 3 credits
Prerequisites: 203 and 4300:235. Unbalanced and forced vibrations of systems having one or two degrees of freedom.

432/532 VEHICLE DYNAMICS 3 credits

440/540 SYSTEM DYNAMICS AND CONTROL 4 credits

452 INDUSTRIAL AUTOMATIC CONTROL 3 credits
Prerequisite: 440 or equivalent. Operation of basic control mechanisms. Study of mechanical, hydraulic, pneumatic, fluid control systems, including application areas. Tuning of control devices for optimum performance of system. Case studies on control applications from industry, e.g. boilers, furnaces, process controllers.

453/543 OPTIMIZATION METHODS IN MECHANICAL ENGINEERING 3 credits
Prerequisite: 360. Development and method of solution of optimization problems in mechanical engineering. Use of dynamic programming and operational research methods for optimization including computer utilization and applications.

460 CONCEPTS OF DESIGN 3 credits

461 DESIGN OF MECHANICAL SYSTEMS 3 credits
Prerequisites: 321, 431, 460. Detailed mechanical design project and case studies.

462/542 PRESSURE VESSEL DESIGN 3 credits
Prerequisite: 336 or 4300:202. Introduction to modern pressure vessel technology. Topics include basic structural considerations, materials and their environment and design-construction features.

483 MECHANICAL ENGINEERING MEASUREMENTS LABORATORY 2 credits
Prerequisites: 203, 300, 310. Development of methods to measure temperature, pressure, flow rate, viscosity and motion. Includes both lecture and laboratory experience and emphasizes calibration and accuracy of appropriate instrumentation.

484 EXPERIMENTAL MECHANICAL ENGINEERING 2 credits
Prerequisite: 483. Coursework: 315 and 431. Laboratory experiments in areas of dynamics, vibrations, thermodynamics, fluids, heat transfer and vehicles.

485 MECHANICAL ENGINEERING PROBLEMS 1-2 credits
Prerequisite: permission. Investigation of a project by individual or small student groups. Detailed formal report required.

486 SPECIAL TOPICS 1-3 credits
Prerequisite: permission. Brief description of current content to be announced in schedule of classes.

497 HONORS PROJECT 1-2 credits
Prerequisite: senior standing in Honors Program. Individual creative project in mechanical engineering with student supervisor. Faculty member of the department.

498 EXPERIMENTAL INVESTIGATION IN MECHANICAL ENGINEERING 1-2 credits
Prerequisite: permission. Individual independent laboratory investigations in areas related to mechanical engineering. Student suggests a project and makes appropriate arrangements with faculty for supervision.

Graduate Courses

609 GAS DYNAMICS 3 credits

608 THERMODYNAMICS 3 credits
Prerequisite: 301 or equivalent. Extension and generalization of basic laws of thermodynamics with application to a variety of physical and biological systems. Introduction to newly developed thermodynamics, the third law and statistical thermodynamics.

610 DYNAMICS OF VISCOUS FLOW 3 credits
Prerequisite: 301, 310 or equivalent. Determination and solution of equations governing laminar viscous flow. Applications include unsteady flows, flow viscous flows, parallel flows, lubrication theory and similarity boundary layers.
611 Computational Fluid Mechanics 3 credits
Prerequisite: 610 or permission of instructor. Study of numerical methods in fluids; numerical errors and stability, finite differencing, nonlinear iteration schemes, Poisson equations, boundary conditions, turbulence, turbulence and finite element techniques.

615 Conduction Heat Transfer 3 credits
Prerequisite: 315 or equivalent. Study of one-, two- and three-dimensional heat conduction. Development of analytical techniques for analysis and design.

616 Convective Heat Transfer 3 credits
Prerequisite: 315 or equivalent. Heat transfer from laminar, turbulent external, internal flows. Convective heat transfer at high velocities. Heat transfer to liquid metals; high Prandtl number fluids.

617 Radiation Heat Transfer 3 credits
Prerequisite: 315 or equivalent. Study of longwave radiation, black and real systems. Geometric factors, gray enclosures, non-gray systems, gaseous radiation, radiation equipment.

618 Boiling Heat Transfer and Two-Phase Flow 3 credits
Prerequisites: 301, 315 or equivalent. Current techniques to determine heat transfer and pressure drop. Condensation, nucleate, film boiling, boiling mechanisms, slip ratio, critical heat flux and instabilities in boiling flow systems.

620 Experimental Stress Analysis II 2 credits
Prerequisite: 422/522. Dynamic strain gauge methods, transducer design. Main bridge techniques and topics in photoelasticity.

621 Introduction to Tire Mechanics 3 credits
Prerequisite: permission. Topics include tire as vehicle component, tire traction and wear, nail/wheel structures, tire stress and strains and advanced tire models.

622 Continuum Mechanics 3 credits
Prerequisite: 336 or permission. Analysis of stress and deformation at a point. Derivation of fundamental field equations of fluid and solid mechanics by applying basic laws of dynamics, conservation of mass and energy. Development of constitutive laws.

623 Applied Stress Analysis I 3 credits
Prerequisite: 622. Continuation of 622 with specific application to solid mechanics. Development of energy theorems due to Reissner, Washizu and others. Continuation of 622 with specific application to solid mechanics. Derivation of equations of motion and their solutions using various methods.

624 Fundamental of Fracture Mechanics 3 credits

625 Analysis of Mechanical Components 3 credits
Prerequisite: 337 or equivalent. Theories of failure and plastic flow. Fatigue, creep analysis and introduction to fracture mechanics.

629 Nonlinear Engineering Problems 3 credits

630 Mechanical Vibrations II 3 credits
Prerequisite: 431-531 or equivalent. Study of vibrations of multidegree of freedom systems including free and forced vibrations, linear and transient responses, normal mode vibrations and matrix iteration techniques. Application to seismic design and shock design.

631 Kinematic Design 3 credits

632 Reliability in Design 3 credits
Prerequisites: 327 or equivalent and 3470.617 or equivalent. The reliability determination of mechanical components and systems and its use in design. Distribution, reliability determination, normal and log-normal theories, Weibull theory, life spectrum analysis, renewal theory and confidence limits.

633 Model Analysis in Vibration 2 credits
Prerequisite: 630 or equivalent. Modal analysis theory and measurement techniques, digital signal processing concepts, structural dynamics theory, modal parameter estimation with "hands on" experience in the application of modal measurement methods in vibration analyses.

635 Stress Waves in Solids and Fluids 3 credits

642 System Analysis and Control Design 3 credits
Prerequisite: 440 or equivalent. Uniform methods of modeling and response analysis, controllability and observability, state space theory and analysis of linear and nonlinear engineering processes. Design of feedback controls for optimum performance for multivariable real-time control application.

645 Process Identification and Computer Control 3 credits
Prerequisite: 440 or equivalent. Obtaining mathematical models of processes from noisy observations. Methods of digital control design. Case studies on computer control of selected processes.

650 Tribology 3 credits
Fundamentals of friction lubrication and wear theory; includes basic theory, advanced topics, applications to bearings, seals, gears, cams. Specific topics include adhesive and abrasive friction, wear, boundary lubrication, fluid film lubrication and bearings, rolling element bearings, bearing dynamics.

660 Engineering Analysis 3 credits
Prerequisite: 65 in Engineering. Study of analysis techniques as applied to specific engineering problems. Applications include beam deflections, acoustics, heat conduction and hydrodynamic stability.

697 Special Topics 1-4 credits
Prerequisite: permission. For qualified candidate 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 advisor and department head.

699 Master's Thesis 1-4 credits
Prerequisite: permission of advisor. Supervised research in a specific area of mechanical engineering.

704 Finite Element Analysis II 3 credits

705 Finite Element Analysis III 3 credits

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. Transition process.

716 Advanced Heat Transfer 3 credits
Prerequisites: 615.6. 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.

723 Applied Stress Analysis II 3 credits
Prerequisite: 623. Continuation of 623. Development of approximate solution techniques including finite elements, method of weighted residuals (Rayleigh-Ritz, Galerkin, Trefftz, collocation, finite elements) etc. and finite differences.

726 Nonlinear Continuum Mechanics 3 credits
Prerequisite: 622. Finite deformation and strain, stress, constitutive equations, strain energy functions. Solution of finite deformation problems in hypoelasticity, coupled thermoviscoelasticity and plasticity, electrorheological and micropolar theories.

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.

733 Random Vibrations 3 credits
Prerequisite: 630 or equivalent. 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.

740 Optimization Theory and Applications 2 credits
Prerequisite: permission. Theory of optimization in engineering systems, development and methods of solution optimization problems for physical processes, large systems. Use of dynamic programming, operational research methods for system optimization, control.

783 Advanced Methods in Engineering Analysis 3 credits
Prerequisite: 3450.535 or equivalent. Applications of finite difference and finite element methods, variational methods, integral methods and similarity transforms to engineering problems in heat transfer, fluid mechanics and vibrations.

796 Advanced Seminar in Mechanical Engineering 1-4 credits
(2 credits is a typical 1-4 credit requirement.) Prerequisite: permission of department head. Advanced projects and studies in various areas of mechanical engineering. Intended for student seeking Ph.D. in engineering degree.

898 Preliminary Research 1-15 credits
Prerequisite: approval of Graduate Committee. Preliminary investigation of Ph.D. dissertation subject.

899 Doctoral Dissertation 1-15 credits
May be taken more than once. Prerequisite: approval of Advisory Committee. Original research by Ph.D. candidate.

POLYMER ENGINEERING 4700:

450 Mechanical Engineering Properties and Processing of Polymers 3 credits
Prerequisites: 4600.315, 336 and 380 or permission. Introductory course to engineering properties and processing of polymers. Analysis of mechanical tests of polymers in the glassy, rubbery, and fluid states. Product design Concepts of rheology, rheometry and polymer processing.
# Graduate Courses

## 601 POLYMER ENGINEERING SEMINAR
1 credit
Presentations of recent research on topics in polymer engineering by internal and external speakers.

## 611 STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTROMAGNETIC RADIATION
2 credits
Characterization of orientation, morphology, superstructure in polymers using x-ray, light scattering, birefringence, dicroism, Crystallography, unit cell determination.

## 621 RHEOLOGY AND POLYMER PROCESSING
3 credits

## 622 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS I
3 credits
Prerequisite: 621. Mathematical modeling and engineering design analysis of polymer processing operations including extruder screws, injection molds, dies, fibers, film formation.

## 622 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS II
3 credits
Prerequisite: permission of instructor. Basic studies of non-isothermal phenomena in polymer engineering emphasizing crystallization, vitrification, frozen-in orientation and residual stresses, applications, including fiber spinning and fiber extension.

## 631 ENGINEERING PROPERTIES OF SOLID POLYMERS
2 credits
Transitions as a function of polymer structure. Optical characteristics, mechanical behavior, ultimate properties, viscoelastic behavior of elastomers and plastics. Large strain behavior - emphasis on experimental methods.

## 641 POLYMERIC MATERIALS ENGINEERING SCIENCES
2 credits
Physico-chemical properties of amorphous and crystalline polymers. Glass transitions, crystallization, molecular orientation and morphology of important commercial polymers, fabricated products and composite materials.

## 642 ENGINEERING ASPECTS OF POLYMER COLLOIDS
2 credits
Thermodynamic properties of polymer colloids, solution rheology, transformation of polymer solutions. gels, suspensions and emulsions, phase separation, applications to paints and plastics technology.

## 651 POLYMER ENGINEERING LABORATORY
2 credits
Laboratory experiments on the rheological characterization of polymer melts lubrication of engineering products. structural investigation of polymeric parts.

## 651 POLYMERIZATION REACTOR ENGINEERING
3 credits
Polymerization kinetics, classical reactor design, comparison of polymerization in batch and continuous stirred tank reactors. flow patterns around agitators, tubular reactors, reactor stability.

## 699 MASTER'S THESIS
1-6 credits
(May be repeated)
Supervised original research in specific area of polymer engineering.

## 711 ADVANCED ELECTROMAGNETIC AND OPTICAL PROPERTIES AND INVESTIGATIONS OF POLYMERS
2 credits
Maxwell's equations with application to anisotropic dielectrics, birefringence and dichroism and representation of orientation, optical instruments, photoelasticity, scattering and defraction of x-rays and light. Ray tracing applications.

## 712 RHEO-OPTICS OF POLYMERS
2 credits
Applications of rheo-optical methods as means of determining stress fields in polymeric glasses and fluids during deformation, rheo-optical properties of polymers in glassy, rubbery and fluid states. Theory of dynamic birefringence and its application to mechanical relaxations of amorphous and semi-crystalline polymers, and recent experimental results.

## 713 RADIATION SCATTERING AND DIFFRACTION OF POLYMERIC MATERIALS
2 credits
Principles of scattering and diffraction theory as applied to polymer crystals, glasses and multiphase systems. Wide angle and small angle x-ray, light and neutron scattering, analysis and reformation of crystal structures. mathematical description of orientation distribution in polymeric and determination of orientation factors by WAXD and other methods.

## 715 NON-NEWTONIAN FLOW
2 credits

## 721 RHEOLOGY AND PROCESSING TWO-PHASE POLYMER SYSTEMS
2 credits
Prerequisite: 622 or equivalent. Particle-particle interactions, mixing devices and design, theoretical hydrodynamics of suspensions of rigid particles. Theoretical studies of rheological behavior, experimental studies of suspension behavior, suppression of droplets to form an emulsion, phase morphology development and rheological properties of blends.

## 722 ADVANCED MODELLING OF POLYMER PROCESSING
2 credits
Prerequisite: permission of instructor. Modelling of processing operations including extrusion molding, fiber and film processing, polymer solidification.

## 741 PHASE TRANSFORMATIONS IN POLYMERIC SCIENCE
2 credits
Prerequisite: permission of instructor. Thermodynamics, nucleation and kinetics of growth of new phases, spinodal decomposition and related mechanisms, crystallization, crystal-crystal transformation, stress induced crystallization.

## 745 LIQUID CRYSTALS
2 credits
Prerequisite: permission of instructor. Structure of low molecular weight and polymeric liquid crystals, characterization, physical properties including optical properties, phase transitions, structure-property relationships, processing of polymeric species.

## BIOMEDICAL ENGINEERING

### 409 INTRODUCTION TO BIOMEDICAL ENGINEERING RESEARCH
3 credits
Application of engineering principles to local area medical research. Includes biomaterials, orthopedics, artificial organs, biostereometrics, biometrics, biological signal and image analysis, biomechanics, and computers in medicine.

### BIOMEDICAL ENGINEERING 4800:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>530</td>
<td>BIOMEDICAL INSTRUMENTATION I</td>
<td>3 credits</td>
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<tr>
<td>611</td>
<td>BICOMPUTER ENGINEERING</td>
<td>3 credits</td>
</tr>
<tr>
<td>623</td>
<td>MECHANICS IN PHYSIOLOGY AND MEDICINE</td>
<td>2 credits</td>
</tr>
<tr>
<td>532</td>
<td>BIOLOGICAL SIGNAL AND IMAGE PROCESSING</td>
<td>3 credits</td>
</tr>
<tr>
<td>643</td>
<td>BIOMEDICAL COMPUTING</td>
<td>3 credits</td>
</tr>
<tr>
<td>653</td>
<td>TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE</td>
<td>3 credits</td>
</tr>
<tr>
<td>697</td>
<td>SPECIAL TOPICS</td>
<td>1-4 credits</td>
</tr>
<tr>
<td>699</td>
<td>MASTER'S THESIS</td>
<td>1-6 credits</td>
</tr>
<tr>
<td>899</td>
<td>PRELIMINARY RESEARCH</td>
<td>1-15 credits</td>
</tr>
<tr>
<td>899</td>
<td>DOCTORAL DISSERTATION</td>
<td>1-15 credits</td>
</tr>
</tbody>
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**Graduate Courses**

**530 BIOMEDICAL INSTRUMENTATION I**
Prerequisites: 3100:561, 3100:562, 3100:563, and 3100:564. Clinical instrumentation to measure and display physiologic and anatomic parameters. Basic concepts of instrumentation including design criteria and operational analyses. Practical experience gained through the use of instrumented mammalian models.

**611 BICOMPUTER ENGINEERING**
Statistics and experimental design topics for the biomedical and biomedical engineering disciplines including distributions, hypothesis testing and estimation, ANOVA, and non-parametric statistics.

**613 BIOMATERIALS AND LABORATORY**
Corequisite: Biocomposites Laboratory. Material uses in biological applications. Effect of physiological environment and sterilization on materials. Controlled and uncontrolled degradation. Effect of materials on soft tissue, hard tissue and blood. Laboratory experiments using materials designed for biomedical use and demonstrations of biological materials interactions.

**623 MECHANICS IN PHYSIOLOGY AND MEDICINE**
Prerequisites: 4600:310, 4600:320, or equivalent. Blood rheology, mechanics of microcirculation, finite deformation theory, soft tissue mechanics, mechanics of blood and lymph circulation, kinetics and kinematics of orthopedic joints. Clinical applications.

**532 BIOLOGICAL SIGNAL AND IMAGE PROCESSING**
Prerequisites: 4600:310, 4600:320, or equivalent. Blood rheology, mechanics of microcirculation, finite deformation theory, soft tissue mechanics, mechanics of blood and lymph circulation, kinetics and kinematics of orthopedic joints. Clinical applications.

**533 BIOLOGICAL INSTRUMENTATION**
Prerequisites: 4600:310, 4600:320, or equivalent. Blood rheology, mechanics of microcirculation, finite deformation theory, soft tissue mechanics, mechanics of blood and lymph circulation, kinetics and kinematics of orthopedic joints. Clinical applications.

**643 BIOMEDICAL COMPUTING**
Prerequisites: 4600:310 or equivalent. Computer applications in health care, clinical laboratories, biomedical, medical records, direct order entry, A-D, and D-A conversion, patient monitoring, peripherals and interfaces, diagnostic algorithms, automated EEG, ECG systems.

**653 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE**
Prerequisites: 4600:321, 4600:322, or equivalent. Basic definitions, cardiovascular mass and momentum transport, compartment modeling, mass transfer in physiological systems and artificial kidney and lung devices. Design optimization. Analysis of human thermal systems.

**697 SPECIAL TOPICS**
Prerequisite: permission of instructor. Current topics or supervised study in the area of Biomedical Engineering. Credit hours depend upon the nature and extent of the course or project.

**699 MASTER'S THESIS**
Prerequisite: permission of advisor. Supervised research in the specific area of Biomedical Engineering.

**899 PRELIMINARY RESEARCH**
Prerequisite: approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

**899 DOCTORAL DISSERTATION**
Prerequisite: approval of Advisory Committee. Original research by a Ph.D. candidate.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Prerequisites Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>4980:51</td>
<td>Construction Quality Control</td>
<td>2</td>
<td>Prerequisites</td>
<td>2980:237.8 or permission. Designed for owners, contractors or consultant personnel directly concerned with quality corea in construction industry.</td>
</tr>
<tr>
<td>4980:352</td>
<td>Field Management</td>
<td>2</td>
<td>Prerequisites</td>
<td>2980:222, 245 or permission. Planning, scheduling and controlling of field work within time and cost constraints.</td>
</tr>
<tr>
<td>4980:354</td>
<td>Foundation Construction Methods</td>
<td>3</td>
<td>Prerequisite</td>
<td>2980:234. Soil mechanics and soils exploration as related to construction. Focuses on foundation construction methods and practice in the interest of safety and suitable economy.</td>
</tr>
<tr>
<td>4980:355</td>
<td>Computer Applications in Construction</td>
<td>3</td>
<td>Prerequisite</td>
<td>Admission into the BCT program or permission of instructor. Focuses on real-time and batch programming of construction oriented problems.</td>
</tr>
<tr>
<td>4980:356</td>
<td>Safety in Construction</td>
<td>2</td>
<td></td>
<td>The purpose of this course is to explain what creates hazards and why, and to suggest where to anticipate trouble in each phase of the work as it progresses.</td>
</tr>
<tr>
<td>4980:361</td>
<td>Construction Formwork</td>
<td>3</td>
<td>Prerequisite</td>
<td>2980:234 or permission. Introduction to design and construction of field structures. Emphasis on design and construction of formwork and temporary wood structures.</td>
</tr>
<tr>
<td>4980:453</td>
<td>Legal Aspects of Construction</td>
<td>2</td>
<td></td>
<td>Study of business of contracting and sub-contracting and legal problems therein such as breach, partial performance, payment, and insolvency.</td>
</tr>
<tr>
<td>4980:463</td>
<td>Mechanical Service Systems</td>
<td>3</td>
<td></td>
<td>Introduction to materials and equipment used in mechanical heating, ventilating, air-conditioning, water and waste systems.</td>
</tr>
<tr>
<td>4980:465</td>
<td>Electrical Service Systems</td>
<td>3</td>
<td></td>
<td>Introduction to materials and equipment in electrical and acoustical systems of buildings, including illumination, electrical sources, materials and distribution, acoustical problems and materials.</td>
</tr>
<tr>
<td>4980:465</td>
<td>Heavy Construction Methods</td>
<td>3</td>
<td>Prerequisite</td>
<td>2980:222 or 4300:472. Management techniques in planning, estimating and directing heavy construction operations.</td>
</tr>
<tr>
<td>4980:466</td>
<td>Hydraulics</td>
<td>3</td>
<td>Prerequisite</td>
<td>2020:233. Introduction to hydrology. Flow in closed conduits and open channels. Distribution systems, storage requirements and basic concepts of hydraulic structures. Basic concepts of seepage and working knowledge of pumps.</td>
</tr>
<tr>
<td>4980:467</td>
<td>Special Projects</td>
<td>1-3</td>
<td>Prerequisites</td>
<td>Senior standing and permission of instructor. Directed individual or group research or study in student’s field of interest. Topic subject to approval by adviser.</td>
</tr>
</tbody>
</table>
### Graduated Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>490, 1/2/590, 1/2</td>
<td>WORKSHOP</td>
<td>1-3 credits each</td>
</tr>
<tr>
<td></td>
<td>Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.</td>
<td></td>
</tr>
<tr>
<td>496/596 EDUCATIONAL INSTITUTES</td>
<td>Special course designed as in-service upgrading programs, frequently provided with the support of national foundations.</td>
<td>1-4 credits</td>
</tr>
<tr>
<td>497 INDEPENDENT STUDY</td>
<td>Specific area of study determined in accordance with program and professional goals.</td>
<td>1-3 credits</td>
</tr>
<tr>
<td></td>
<td>(May be repeated for a total of six credits).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prerequisites: permission of department head and instructor.</td>
<td></td>
</tr>
</tbody>
</table>

### Educational Foundations

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 INTRODUCTION TO PROFESSIONAL EDUCATION</td>
<td>Nature and purpose of education in United States. Emphasis on social, historical and philosophical foundations of public education and on roles of professional educator.</td>
<td>3 credits (4 clinical hours, 12 field hours)</td>
</tr>
<tr>
<td>250 HUMAN DEVELOPMENT AND LEARNING</td>
<td>Prerequisite: sophomore standing. Study of principles underlying intellectual, emotional, social and physical growth and development of human organisms and of learning processes with implications for instructional procedures.</td>
<td>3 credits (15 clinical hours)</td>
</tr>
<tr>
<td></td>
<td>Prerequisites: 250 and 3750 or equivalent and permission of instructor. Study of student-centered group leadership skills for faculty-led classroom cognitive learning. Student exposed to basic literature related to student-centered. style, trained in appropriate observational techniques and provided practice in leading small instructional groups.</td>
<td></td>
</tr>
<tr>
<td>310 EDUCATIONAL MEDIA AND TECHNOLOGY</td>
<td>Examines media technology including video, motion pictures, still pictures, audio materials and computers in instructional settings with emphasis on selection, evaluation, utilization and preparation.</td>
<td>3 credits</td>
</tr>
<tr>
<td>320 LEARNING AND INDIVIDUALIZED INSTRUCTION</td>
<td>Prerequisite: 250. Behavioral approach to learning and the management of students. Emphasizes design of instructional sequences using behavioral analysis of objectives in both cognitive and psychomotor domains.</td>
<td>2 credits</td>
</tr>
<tr>
<td>350 EDUCATIONAL MEASUREMENT AND EVALUATION</td>
<td>Prequisite: junior standing. Methods of measurement and evaluation applied to learning and instruction. Emphasis on development and coordination of instructional objectives and measurement techniques with instructional procedures.</td>
<td>2 credits (8 clinical, 6 field hours)</td>
</tr>
<tr>
<td>412/512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS</td>
<td>Covers design, adaptation and preparation of instructional materials. Importance of audiovisual instruction in teaching, classroom management and motivation.</td>
<td>3 credits</td>
</tr>
<tr>
<td>414/514 ORGANIZING AND SUPERVISING EDUCATIONAL MEDIA PROGRAMS</td>
<td>Prerequisite: 310 or permission of the instructor. Procedures for planning, organizing and evaluating educational media programs including media facilities and services.</td>
<td>3 credits</td>
</tr>
<tr>
<td>420/520 INTRODUCTION TO COMPUTER BASED EDUCATION</td>
<td>Prerequisite: graduate or sophomore standing. Techniques for developing, implementing and evaluating computer based education.</td>
<td>3 credits</td>
</tr>
<tr>
<td>430 SENIOR HONORS PROJECT: FOUNDATIONS</td>
<td>Prerequisite: senior standing in Honors Program and permission of student's preceptor. Carefully directed individual study demonstrating originality and sustained inquiry.</td>
<td>1-6 credits (May be repeated for a total of six credits)</td>
</tr>
<tr>
<td>450 PROBLEMS IN EDUCATION</td>
<td>Prerequisite: senior status. Includes student in analytical and critical approach to problems of education in social, political and economic setting.</td>
<td>2 credits (12 field hours)</td>
</tr>
<tr>
<td>480 SPECIAL TOPICS: EDUCATIONAL FOUNDATIONS</td>
<td>Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.</td>
<td>1-4 credits (May be repeated with a change in topic)</td>
</tr>
</tbody>
</table>

### Cooperative Education

**Graduate Courses**

- **600 PHILOSOPHIES OF EDUCATION**
  - Examination of basic philosophical problems underlying broad educational questions that confront society. Provides foundation for understanding of questions of modern society and education. 3 credits

- **602 COMPARATIVE AND INTERNATIONAL EDUCATION**
  - Comparative study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated. 3 credits

- **604 TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION**
  - (May be repeated for a total of six credits) Issues and subjects related to study of educational institutions, theories and/or skills. Different topics will be offered from section to section. 3 credits

- **616 ADULT EDUCATION**
  - Survey course for teachers and administrators. Historical background including influences and their relation to developments in field. Emphasis on background and social value of current programs. 2 credits

- **650 BEHAVIORAL BASES OF EDUCATION**
  - Prerequisite: 250 or equivalent. Introduction to scientific study of learning and development. Student required to study current theories, research in areas of learning, development, motivation, instruction. 3 credits

- **634 SEMINAR: EDUCATIONAL PSYCHOLOGY**
  - (May be repeated for a total of six credits) Prerequisite: 250 or equivalent. In-depth study of research in selected areas of learning, development, evaluation and motivation. 3 credits

- **650 TOPICAL SEMINAR IN COMPUTER BASED EDUCATION**
  - (May be repeated for a total of six credits) Prerequisite: 420/520. Advanced topics related to development, implementation, research and evaluation in CBE. In-depth study emphasized, required knowledge of programming language. 3 credits

- **663 SEMINAR: EDUCATIONAL TECHNOLOGY**
  - Practices and trends in educational communications and technology including centers, learning stations, programmed learning, educational television and computer-assisted instruction. 3 credits

- **640 TECHNIQUES OF RESEARCH**
  - Research methods and techniques commonly used in education and behavioral sciences; preparation of research reports. Involves library, historical, survey and experimental research and data analysis. 3 credits

- **642 TOPICAL SEMINAR IN MEASUREMENT AND EVALUATION**
  - (May be repeated for a total of six credits) Prerequisite: 3750 or equivalent. Topics of current interest and need will be emphasized. 3 credits

- **695 FIELD EXPERIENCE: MASTER'S**
  - Prerequisites: permission of department head and instructor. Area determined in accordance with student program and professional goals. 1-3 credits

- **687 INDEPENDENT STUDY**
  - Prerequisites: permission of department head and instructor. Specific area of study determined in accordance with student's program and professional goals. 1-3 credits

- **688 MASTER'S PROBLEM**
  - Prerequisites: permission of advisor. In-depth study of a research problem in education. Must be able to demonstrate critical and analytical skills in dealing with problems in educational foundations. 2-4 credits

- **699 THESIS RESEARCH**
  - Prerequisites: permission of department head and instructor. In-depth study of research problem within humanistic and behavior foundation. 4-6 credits

- **701 HISTORY OF EDUCATION IN AMERICAN SOCIETY**
  - Historical development of education in American social order, with special emphasis on social, political and economic setting. 3 credits

**For Cooperative Education students only. Work experience concerned in professional education.**

**Prerequisites:**
- Permission of Instructor.
- Group study of special topics of critical, contemporary concern in professional education.
ELEMENTARY EDUCATION

5200:

100 STUDENT PARTICIPATION: OBSERVATION
1 credit (30 field hours) (credit/noncredit)
Planned field experience emphasizing tutorial settings in reading and other curricular areas.

141 HANDICRAFTS IN THE ELEMENTARY SCHOOL
2 credits (15 clinical hours)
Prerequisite: 7100:13. Bread range of experiences through manipulation of various craft mediums which enriches curriculum.

200 STUDENT PARTICIPATION
1 credit (30 field hours) (credit/noncredit)
Prerequisite: 100. Planned field experience emphasizing field settings where student works with small groups in classroom.

286 CHILDREN'S LITERATURE
3 credits (15 clinical hours)
Survey of materials for children in prose, poetry, and illustrations from early historical periods to modern types; criteria of selection and methods of presentation critically examined.

300 STUDENT PARTICIPATION
1 credit (30 field hours) (credit/noncredit)
Prerequisite: 200. Planned field experience where student works in both small and large group settings in elementary school.

310 INTRODUCTION TO EARLY CHILDHOOD EDUCATION
2 credits
Prerequisite: 1410:265. Core course for early childhood education. Provides background information, defines roles and goals within field of early childhood education.

311 CURRICULUM FOR PRESCHOOL LEARNING CENTERS
2 credits
Prerequisite: 310. Curricular and instructional techniques in mathematics, science, language arts, social studies, and music examined with emphasis on early learning as foundation for later growth.

312 INTRODUCTION TO EARLY CHILDHOOD EDUCATION — LABORATORY
1 credit
Corequisite: 310. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

313 CURRICULUM FOR PRESCHOOL LEARNING CENTERS — LABORATORY
1 credit
Corequisite: 311. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

321 ART FOR THE GRADES
2 credits (15 clinical hours)
Prerequisite: 141. Art requirements in elementary grades; laboratory work to give teachers knowledge of materials and mediums and skills in handling them.

330 EARLY ELEMENTARY EDUCATION I
3 credits
Prerequisite: 5100:250. First of two courses designed to introduce student specifically to primary-aged child and his learning style.

331 EARLY ELEMENTARY EDUCATION II
3 credits
Prerequisite: 330. Curriculum needs of primary-aged child.

332 SCIENCE FOR THE ELEMENTARY GRADES
3 credits
Prerequisite: 5100:250. For a prospective elementary school science teacher. Development of a point of view toward science teaching and study of methods of presenting science material.

334 TEACHING ART IN THE ELEMENTARY SCHOOL
2 credits
Prerequisite: 141 and 281. Art education major;Junior standing; elementary education majors. Visual arts in elementary schools. Art education concepts with studio orientation including history of art education, developmental stages, curriculum and organization, methods, evaluation and research and practical participation.

335 TEACHING THE LANGUAGE ARTS
2 credits
Prerequisite: 286 and 5100:250. Course for elementary teacher stressing methods and materials for skills development, and trends in various language arts.

336 TEACHING OF ELEMENTARY SCHOOL MATHEMATICS
3 credits
Prerequisite: 5100:250. Techniques and methods for developing materials for use by learner.

337 TEACHING OF READING
3 credits
Prerequisite: 335 and 5100:250. Elementary reading program, together with modern methods of teaching reading at various levels.

338 THE TEACHING OF SOCIAL STUDIES
3 credits
Prerequisite: 5100:250. Social studies in elementary school and varied means of implementing program.

339 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING
3 credits
Prerequisite: 337. Nature of reading problems in classroom setting. Methods and materials employed in corrective reading program by classroom teacher.

340 EARLY ELEMENTARY EDUCATION I — LABORATORY
1 credit
Corequisite: 330. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

341 EARLY ELEMENTARY EDUCATION II — LABORATORY
1 credit
Corequisite: 331. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

342 SCIENCE FOR THE ELEMENTARY GRADES — LABORATORY
1 credit (30 clinical/field hours)
Prerequisite: 332. Art requirements in elementary grades; laboratory work to give teachers knowledge of materials and mediums and skills in handling them.

344 TEACHING ART IN THE ELEMENTARY SCHOOL — LABORATORY
1 credit (30 clinical/field hours)
Corequisite: 334. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

346 TEACHING ELEMENTARY SCHOOL MATHEMATICS — LABORATORY
1 credit (30 clinical/field hours)
Corequisite: 336. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

347 TEACHING OF READING — LABORATORY
1 credit (30 clinical/field hours)
Corequisite: 337. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

348 TEACHING OF SOCIAL STUDIES — LABORATORY
1 credit (30 clinical/field hours)
Corequisite: 338. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

349 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING — LABORATORY
1 credit (30 clinical/field hours)
Prerequisite: 337 and 347. Corequisite: 339. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field, learner on campus, or to develop materials for use by learner.

350 MULTICULTURAL EDUCATION: CONCEPTS, PROGRAMS AND PRACTICES
3 credits (15 clinical hours)
Designed to provide teacher education student with knowledge, skills and attitudes which will enable them to model behavior and implement curricular programs consistent with the concept of cultural pluralism.

350 NURSERY SCHOOL LABORATORY
3 credits
Prerequisite: 7400:265. Concentrated study and experience in nursery school programming under direction of supervising teachers.
365 COMPREHENSIVE MUSICIANSHIP FOR THE ELEMENTARY CLASSROOM TEACHER 3 credits (25 clinical hours) Designed to afford a prospective classroom teacher the opportunity to develop individual musical skills in creativity, performance and listening as means of enhancing teaching through use of music.

395 FIELD EXPERIENCE 1-3 credits Prerequisites: permission of adviser and department head; independent field work in an area selected by student's adviser, based on student's needs.

403 STUDENT TEACHING SEMINAR 1 credit (15 clinical hours) Prerequisite: senior standing in conjunction with Student Teaching. Synthesis of contemporary problems encountered during student teaching experience. Exchange of ideas regarding role of new teacher entering profession.

411/511 CREATIVE TECHNIQUES FOR EXPLORING CHILDREN'S LITERATURE 2 credits Prerequisite: 288. Examination of techniques for interpretation of children's literature including storytelling, creative drama, reader's theatre and choral speaking.

430 SENIORS HONORS PROJECT: ELEMENTARY 1-6 credits Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

435/535 ACTIVITIES TO INDIVIDUALIZE SOCIAL STUDIES 2 credits Prerequisite: 338. Development of materials and activities (learning games, simulations, learning stations, programmed field trips and map activities) to provide teacher with variety of techniques in order to develop an individualized, student-involved social studies program.

436/536 GEOMETRY AND MEASUREMENT IN ELEMENTARY SCHOOL MATHEMATICS 3 credits Prerequisite: 336. Trends in geometry and measurement instruction in elementary school. Procedures for development of important geometric concepts and measurement skills.

437/537 STRUCTURE OF THE NUMBER SYSTEM IN ELEMENTARY SCHOOL MATHEMATICS 3 credits Prerequisite: 336. Applied and advanced topics in mathematics education in elementary school. Thorough investigation of number system presently being taught in elementary school.

438/538 MATERIALS AND LABORATORY TECHNIQUES IN ELEMENTARY SCHOOL MATHEMATICS 3 credits Prerequisite: 336. Applied mathematics. Construction and application of mathematical models. Procedures for development of important mathematical concepts through the laboratory approach.

439/539 PROPERTIES OF NUMBERS IN ELEMENTARY SCHOOL MATHEMATICS 3 credits Prerequisite: 336. Investigation of those number properties that help explain how laws of arithmetic work. Procedures for development of important arithmetic concepts and computational skills.

440/540 CONTEMPORARY ELEMENTARY SCHOOL SCIENCE PROGRAMS 2 credits Prerequisite: 333. Contemporary elementary science programs critically analyzed and their procedure developed and implemented in university classroom.

451 ELEMENTARY EDUCATION 3 credits Evaluation of recent trends and practices in elementary education. Required for those converting from other certificates.

480 SPECIAL TOPICS: ELEMENTARY EDUCATION 1-4 credits (May be repeated with a change in topic) Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

490, 495, 590, 591, 592 WORKSHOPS 1-3 credits each Effective workshop for elementary education major who would pursue further refinement of teaching skills. Emphasizes demonstrations of teaching techniques and development of suitable teaching devices.

494/594 EDUCATIONAL INSTITUTES 1-4 credits Special courses designed as in-service upgrading programs. Frequently provided with the support of national foundations.

495 STUDENT TEACHING 4-8 credits (32 field hours) Prerequisites: senior standing and 300. Planned teaching experience in (elementary school) selected and supervised by Office of Educational Field Experience.

496 STUDENT TEACHING 1-6 credits The capstone field experience for elementary education majors. Students will have two classroom experiences—one primary level and one intermediate level.

497 INDEPENDENT STUDY 1-3 credits Prerequisites: permission of adviser and department head. Specific area of curriculum investigation pertinent to elementary education as determined by student's academic needs.

620 LITERATURE FOR YOUNG CHILDREN 2 credits Literature for children ages two through six examined in depth in terms of value and purpose; methods and techniques for presenting it to children; variety and quality of books available.

630 ELEMENTARY SCHOOL CURRICULUM AND INSTRUCTION 2 credits Application of findings of recent research to curriculum building and procedures in teaching.

631 TRENDS IN ELEMENTARY EDUCATION 2 credits Prerequisites: graduate standing and 530. Investigation of innovative programs, organizational patterns and new curricula currently operational in elementary schools including analysis of use of these innovations in relation to teaching/learning process.

640 THEORY AND PRACTICE IN ELEMENTARY SCHOOL MATHEMATICS 2 credits Comparative analysis and evaluation of purposes and procedures of mathematics programs for elementary schools with application of findings to instructional methods and materials.

641 DIAGNOSIS AND TREATMENT OF PERFORMANCE DIFFICULTIES IN ELEMENTARY SCHOOL MATHEMATICS 2 credits Examination of implications of contemporary mathematics learning theory on diagnostic-remedial process.

645 PROBLEMS IN ELEMENTARY SCIENCE EDUCATION 2 credits Examination of influence of new curricular designs in elementary science. Emphasis on inquiry, investigation and discovery and their impact on total elementary school curriculum.

650 EDUCATION AND THE YOUNG CHILD 2 credits Content centered on educational settings of young children from birth through five years.

688 INDIVIDUALIZED INSTRUCTION: LEARNING STYLE IDENTIFICATION AND RESOURCE PRESCRIPTION 3 credits Prerequisites: permission of instructor and 630. Individual learning style characteristics, practical approaches in individualization of instruction, multisensory resource development and prescription.

695/6 Field Experience: Master's 1-2 credits each

695, 6 Field Experience: Master's 1-2 credits each

691 INDEPENDENT STUDY 1-3 credits Prerequisites: permission of adviser and department head. Selected areas of independent investigation as determined by adviser and related to student's academic needs.

698 MASTER'S PROBLEM 2-4 credits Prerequisite: permission of adviser. 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 elementary education.

699 THESIS RESEARCH 4-6 credits Prerequisites: 5/0/540 and permission of adviser and department head. In-depth research. Student must be able to demonstrate necessary competencies to deal with research problems in elementary education.

732 SUPERVISION OF INSTRUCTION IN THE ELEMENTARY SCHOOL 2 credits Supervisory role of elementary principal and other supervisory personnel.

780 SEMINAR IN ELEMENTARY EDUCATION 2 credits (May be repeated) In-depth examination of following areas of elementary school instruction: children's literature, curriculum development, language arts, mathematics, reading, science, social studies, early childhood, critical analysis of children's literature, art, human sexuality, computers and middle school.

781 RESIDENCY SEMINAR 2 credits One-hour weekly meeting for elementary doctoral student in residence.

799 RESEARCH PROJECTS IN ELEMENTARY EDUCATION 1-2 credits Prerequisites: permission of adviser and department head. In-depth investigation of specific problem pertinent to elementary education.

805, 7 FIELD EXPERIENCE FOR ELEMENTARY DOCTORAL STUDENT 1-2 credits each Prerequisites: permission of adviser and department head. Designed to help student prepare to teach a methods course at college level.

806 INDEPENDENT STUDY 1-3 credits (May be repeated for a total of six credits) Prerequisites: permission of adviser and department head. Selected areas of independent investigation as determined by adviser and related to student's academic needs.

809 DISSERTATION 1-20 credits Prerequisites: permission of adviser, department head. Study and indepth analysis of a research problem in elementary education.

READING 5250:

341 LABORATORY PRACTICUM IN READING 3 credits Prerequisite: 5260/339. Laboratory experience with classroom, small groups and individual situations. A student diagnoses, implements procedures and follows prescribed reading improvement practices.
411/511 MATERIALS AND ORGANIZATIONS FOR READING INSTRUCTION
Prerequisite: 5203:339. Professional problems of selection and evaluation of reading materials and classroom organizations explored. 3 credits

440/540 DEVELOPMENTAL READING IN THE CONTENT AREAS - ELEMENTARY
Prerequisite: 5200:337 or permission of instructor. Nature of reading skills relating to content subjects. Methods and materials needed to promote reading achievement in content subjects by the elementary classroom teacher. 3 credits

441/541 LANGUAGE AND ITS RELATIONSHIP TO READING IN THE ELEMENTARY SCHOOL
Prerequisite: 5200:337 or permission of the instructor. An overview of the linguistic field in the teaching of reading in the elementary school. A discussion of major linguistic principles for classroom application in grades K-6. 3 credits

442/542 TEACHING READING TO CULTURALLY SPECIAL TOPICS: ELEMENTARY READING INSTRUCTION
Prerequisite: 5200:337 or permission of the instructor. The course is designed to provide a student with knowledge, skills, and attitudes which will enable employment of effective methods of teaching reading to culturally different learners, and/or learners whose language patterns are non-standard. 1-4 credits (May be repeated with a change in topic)

480 SPECIAL TOPICS: ELEMENTARY READING INSTRUCTION
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education. 3 credits

Graduate Courses

680 TRENDS IN READING INSTRUCTION
Prerequisite: 5200:335 or 5300:425. Survey course designed to update reading background of student who has not had a recent course in reading. 2 credits

681 DIAGNOSIS AND CORRECTION OF READING PROBLEMS
Prerequisite: 680. Relational growth to reading development and reasons for retardation. Implementation of diagnostic and corrective techniques by developing case studies in supervised setting. 5 credits

682 CLINICAL PRACTICES IN READING
Prerequisite: 681. Nature and etiology of reading difficulties experienced by selected children. Supervised practices and independent work with children in conjunction with staff from other disciplines. 5 credits

683 READING DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS AND SUPPORT PERSONNEL
Prerequisite: 5200:630 or permission of instructor. This course will survey developmental reading and its relationship to reading difficulties. Formal and informal procedures for diagnosing disabled readers and a discussion of prescriptive strategies will be included. 3 credits

692 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION
Survey of research comparison and evaluation of programs, design and development of projects in reading through group individual study. 3 credits

693 SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION
Prerequisite: 5100:250. Corequisite: 257. Designed to familiarize the pre-service teacher with the nature of secondary education and teaching in secondary schools. Field teaching laboratory participation is required. 2 credits

210 PRINCIPLES OF TEACHING IN THE SECONDARY SCHOOL
Prerequisite: 5100:250. Corequisite: 275. Designed to familiarize the pre-service teacher with the nature of secondary education and teaching in secondary schools. Field teaching laboratory participation is required. 3 credits (30 clinical hours)

275 EXPLORATORY EXPERIENCES IN SECONDARY EDUCATION (SOPHOMORE)
Corequisite: 210. Field work with secondary school pupils, teachers and other professional personnel. 1-2 credits

306 EXPLORATORY EXPERIENCE IN SECONDARY SCHOOLS/MAINSTREAMING
Field work for the special education major. 4 credits (30 clinical hours, 20 field hours)

311 INSTRUCTIONAL TECHNIQUES IN SECONDARY EDUCATION
Prerequisite: 210, 275. Prerequisites: 5100:550. Open to student who has completed certification requirements in all content fields. Techniques of planning, instruction and evaluation in various secondary teaching fields. 4 credits (30 clinical hours, 20 field hours)

316 METHODS IN TEACHING ART
Prerequisite: completion of required course for art teachers and grade point average of 2.00 in the field. Study of trends in teaching and supervision of art in the home, school and community; observation in selected schools required. 2 credits

321 JUNIOR HIGH AND MIDDLE SCHOOL EDUCATION
Designed to provide student with knowledge and understanding of junior high and middle school education with ability to interpret it to other educators, parents and pupils. 2 credits

325 CONTENT READING IN SECONDARY SCHOOLS
Prerequisites: 375:355. Instructional principles and practices for teaching secondary school subject areas. Designed to help students prepare a syllabus, and design and develop lesson plans for teaching in various content areas. 3 credits (30 clinical hours)

330 TEACHING OF ADULT LITERATURE
Prerequisites: permission of instructor. Student develops skills for selection of literature that is well suited for secondary student. Student develops, uses and experiences methods for teaching adult literature in secondary schools. 3 credits

374 PRINCIPLES OF SHORTHAND INSTRUCTION
Prerequisites: 2540:172 and grade point average of 2.00 in the field. Methods of presentation in shorthand and transcription. Demonstration and observations required. Theory text in the field must be passed before credit given for course. 2 credits

375 EXPLORATORY EXPERIENCE IN SECONDARY EDUCATION
Prerequisite: 210. Corequisite: 325. Field work with secondary school pupils, teachers and other school personnel. 1 credit (6 clinical hours, 30 field hours)

395 FIELD EXPERIENCE
Prerequisite: upper college standing. Supervised work with youngsters, individually and in groups in school and/or community setting. 1-3 credits

445/525 ADVANCED MICROCOMPUTER APPLICATIONS IN THE SECONDARY SCHOOLS
Prerequisite: knowledge of BASIC programming is required. Advanced programming techniques reviewed, applied in program development appropriate for the secondary schools. Hardware, software, computer potential and limitations, languages, program types will be evaluated according to research findings and criteria applicable to secondary schools. 3 credits (30 clinical hours)

450 SENIOR HONORS PROJECT: SECONDARY
Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry. 1-6 credits (May be repeated for a total of six credits)

455/555 CONCEPTS AND CURRICULUM DESIGNS IN ECONOMIC EDUCATION
Economic education concepts appropriate for grade levels K-12 and adult education courses. Economic education materials developed to teach the concepts utilized. 3 credits

456 MINICOMPUTER APPLICATIONS IN SECONDARY CLASSROOMS
Prerequisite: 213 and 219. Provides an orientation to applications of minicomputer in secondary classrooms. A knowledge of BASIC programming is recommended. 1 credit (10 clinical hours)

457 MICROCOMPUTER LITERACY FOR SECONDARY TEACHERS
Prerequisites: 213 and senior status. Provides an orientation to applications of various modes in instruction, word processor, color graphics and printer in BASIC programs appropriate for secondary classrooms. 2 credits (30 clinical hours)

495 CAREER OPTIONS IN SECONDARY EDUCATION
Prerequisite: 210 and senior status. Helps prospective teacher prepare for searching for employment in education and to find alternative careers for which an education degree would be a suitable background. 1 credit (8 clinical hours, 2 field hours)

475/575 VOCATIONAL COOPERATIVE OFFICE EDUCATION
Prerequisites of program construction, organization, implementation, evaluation, improvement and development of program guides in cooperative office education. 2 credits

477/577 INTENSIVE VOCATIONAL OFFICE EDUCATION
Principles of program construction, organization, implementation, evaluation and development of program guides. 2 credits

480 SPECIAL TOPICS: SECONDARY EDUCATION
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education. 1-4 credits (May be repeated with a change in topic)

485 CLASSROOM DYNAMICS
Prerequisite: 495. Study of social and behavioral patterns pertinent to successful teaching human relations and classroom management technique. 2 credits (10 clinical/diagnostic, 15 field hours)

490, 1,2,3,950,1,2,3 WORKSHOP
Corequisite: 495. Study of issues and behavioral patterns pertinent to successful teaching human relations and classroom management technique. 1-3 credits each

494/594 EDUCATIONAL INSTITUTES
Prerequisites: 411 or equivalent and permission of adviser. Corequisite: 403. Directed teaching under supervision of directing teacher and University supervisor. 1-4 credits Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

495 STUDENT TEACHING
Prerequisites: 375:355 and approval of the school principal. 4 credits (32 clinical hours)

497 INDEPENDENT STUDY
Prerequisites: permission of adviser and supervisor of independent study. Area of study determined by student's needs. 1-3 credits

SECONDARY EDUCATION

5300:

210 PRINCIPLES OF TEACHING IN THE SECONDARY SCHOOL
3 credits (30 clinical hours)

275 EXPLORATORY EXPERIENCES IN SECONDARY EDUCATION (SOPHOMORE)
1 credit (6 clinical hours, 30 field hours)

306 EXPLORATORY EXPERIENCE IN SECONDARY SCHOOLS/MAINSTREAMING
Field work for the special education major. 2 credits

311 INSTRUCTIONAL TECHNIQUES IN SECONDARY EDUCATION
4 credits (30 clinical hours, 20 field hours)

316 METHODS IN TEACHING ART
2 credits

321 JUNIOR HIGH AND MIDDLE SCHOOL EDUCATION
2 credits

325 CONTENT READING IN SECONDARY SCHOOLS
3 credits (30 clinical hours)

330 TEACHING OF ADULT LITERATURE
3 credits

374 PRINCIPLES OF SHORTHAND INSTRUCTION
2 credits

375 EXPLORATORY EXPERIENCE IN SECONDARY EDUCATION
1 credit (6 clinical hours, 30 field hours)

395 FIELD EXPERIENCE
1-3 credits

445/525 ADVANCED MICROCOMPUTER APPLICATIONS IN THE SECONDARY SCHOOLS
3 credits (30 clinical hours)

450 SENIOR HONORS PROJECT: SECONDARY
1-6 credits (May be repeated for a total of six credits)

455/555 CONCEPTS AND CURRICULUM DESIGNS IN ECONOMIC EDUCATION
3 credits

456 MINICOMPUTER APPLICATIONS IN SECONDARY CLASSROOMS
1 credit (10 clinical hours)

457 MICROCOMPUTER LITERACY FOR SECONDARY TEACHERS
2 credits (30 clinical hours)

495 CAREER OPTIONS IN SECONDARY EDUCATION
1 credit (8 clinical hours, 2 field hours)

475/575 VOCATIONAL COOPERATIVE OFFICE EDUCATION
2 credits

477/577 INTENSIVE VOCATIONAL OFFICE EDUCATION
2 credits

480 SPECIAL TOPICS: SECONDARY EDUCATION
1-4 credits (May be repeated with a change in topic)

485 CLASSROOM DYNAMICS
2 credits (10 clinical/diagnostic, 15 field hours)

490, 1,2,3,950,1,2,3 WORKSHOP
1-3 credits each

494/594 EDUCATIONAL INSTITUTES
1-4 credits Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

495 STUDENT TEACHING
4 credits (32 clinical hours)

497 INDEPENDENT STUDY
1-3 credits

Courses of Instruction 239
Graduate Courses

619 SECONDARY SCHOOL CURRICULUM AND INSTRUCTION (2 credits)
- Application of findings of recent research to curriculum building and procedures in teaching.

625 READING PROGRAMS IN SECONDARY SCHOOLS (3 credits)
- For all subject teachers both with and without previous study in the teaching of reading.
- Materials, class organization and procedures for developing reading improvement programs for all secondary school and college students.

632 ADVANCED INSTRUCTIONAL TECHNIQUES IN TYPEWRITING AND TYPEWRITING-RELATED SUBJECTS (3 credits)
- Intensive examination of teaching-learning strategies for improvement of instruction.
- Emphasis on teacher coordination of methods, preplanned objectives, and evaluation to insure maximum student competency in subject knowledge and skill.

695 FIELD EXPERIENCE: MASTER'S (1-6 credits)
- Prerequisite: permission of adviser and supervisor of field experience. On-the-job experience related to student's program of studies.

697 INDEPENDENT STUDY (1-3 credits)
- Prerequisite: permission of adviser and supervisor of independent study. Area of study determined by student's needs.

698 MASTER'S PROJECT (2-4 credits)
- Prerequisite: permission of adviser. 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.

721 SUPERVISION OF INSTRUCTION IN THE SECONDARY SCHOOL (2 credits)
- Definition of supervisory leadership role in improving instruction at secondary school level and development of practical theory of secondary school supervision.

780 SEMINAR IN SECONDARY EDUCATION (2 credits)
- Intensive examination of a particular area of secondary education.

781 RESIDENCY SEMINAR (1 credit)
- One-hour weekly meeting for secondary education doctoral student in residence.

782 RESIDENCY SEMINAR (1 credit)
- One-hour weekly meeting for secondary education doctoral student in residence.

895 FIELD EXPERIENCE: DOCTORAL (1-6 credits)
- Prerequisites: permission of adviser and director of field experience. Intensive job-related experience pertinent to student's needs. Student must be able to demonstrate skills and leadership abilities in an on-the-job situation.

897 INDEPENDENT STUDY (1-3 credits)
- Prerequisites: permission of adviser and director of independent study. Area of study determined by student's needs.

986 RESEARCH PROJECT IN SPECIAL AREAS (1-2 credits)
- Prerequisite: permission of adviser. Critical and in-depth study of specific problem in secondary education.

988 DISSERTATION (1-20 credits)
- Prerequisite: permission of adviser. Specific research problem that requires student to apply research skills and techniques pertinent to problem being studied.

351 CONSUMER HOMEMAKING METHODS (4 credits)
- Prerequisite: senior standing, enrolled in student teaching. Organization of home economics in secondary schools, emphasis on methodology, techniques, development of vocational concepts, utilization of audio-visual materials, evaluation procedures.

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.

403 TECHNICAL EDUCATION PRACTICUM SEMINAR (2 credits)
- Corequisite 495.

405/505 VOCATIONAL EDUCATION FOR YOUTH AND ADULTS (3 credits)
- History and operations of current vocational education for youth and adults. Includes study of social, economic and political influences that stimulate growth and expansion of vocational education.

410/510 THE TWO-YEAR COLLEGE (3 credits)
- Designed to introduce student to nature, purpose and philosophy of the two-year college. Includes examination of types of institutions offering two-year programs.

415/515 VOCATIONAL AND TECHNICAL TRAINING IN BUSINESS AND INDUSTRY (3 credits)
- Examines the role and mission of the training function in the modern industrial setting. Provides a foundation for a student planning to become an industrial trainer or training supervisor of technicians and other occupational skill development levels.

421/521 INSTRUCTIONAL TECHNIQUES IN TECHNICAL EDUCATION (4 credits)
- Selected topics in instructional techniques appropriate to post-secondary technical education. Emphasis on instructional methods, techniques in classroom, laboratory including tests, measurements.

430/530 COURSE CONSTRUCTION IN TECHNICAL EDUCATION (2 credits)
- Procedure of breaking down an occupation to determine curriculum for laboratory and classroom, developing this content into an organized sequence of instructional units.

440 LIFE-SPAN AND COMMUNITY EDUCATION (2 credits)
- Designed for a person engaged in providing educational services in the community. Includes examination of community education concepts and roles of various personnel and agencies.

441/541 EDUCATIONAL GERONTOLOGY SEMINAR (3 credits)
- Designed for person practicing in field of gerontology or preparing for a specialization in educational gerontology, including person responsible for development and implementation of courses, seminars, occupational training programs and workshops for older people.

451/551 HOME ECONOMICS JOB TRAINING (3 credits)
- Prerequisite: senior standing or permission of instructor. Concept development in vocational home economics. Job training, program development, operational procedures, skill and knowledge identification, job profiles, job description and analysis. Individualized study guides. In-school and on-the-job observations.

480 SPECIAL TOPICS: VOCATIONAL EDUCATION (1-4 credits)
- Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

481 SPECIAL TOPICS: TECHNICAL EDUCATION (1-4 credits)
- Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

500/2/900, 1, 2 WORKSHOP (1-3 credits each)
- Individual who works under staff guidance on curriculum problems, utilization of community resources, planning of curricular units.

584/484 EDUCATIONAL INSTITUTES (1-4 credits)
- Special courses designed as in-service upgrading programs, frequently provide the support of national organizations.

495 TECHNICAL EDUCATION PRACTICUM (1-4 credits)
- Prerequisites: 410, 421, 430 or equivalent and permission of adviser. Corequisite 403 Directed teaching under supervision of director of teaching and University supervisor.

497 INDEPENDENT STUDY (1-3 credits)
- Prerequisites: permission of adviser and supervisor of independent study. Area of study determined by student's need.

Graduate Courses

5400:

501 OCCUPATIONAL EMPLOYMENT EXPERIENCE AND SEMINAR (1-4 credits)
- Provides student with knowledge of current industrial or business practice at level minimally commensurate with that associated with employment expectations of graduates of technical programs.
241  Courses of Instruction

692 INTERNSHIP: POST-SECONDARY EDUCATION 2 credits each
Teaching under supervision from the University and the educational institution. Includes a seminar each week.

695 FIELD EXPERIENCE: MASTER'S 1-6 credits
Prerequisites: permission of advisor and supervisor of field experience. On-the-job experience related to student's program of studies.

807 INDEPENDENT STUDY 1-3 credits
May be repeated for a total of six credits. Prerequisites: permission of advisor and supervisor of field experience. On-the-job experience related to student's program of studies.

808 MASTER'S PROBLEM 2-4 credits
Prerequisites: permission of advisor. In-depth study of a research problem in education. Students must be able to demonstrate critical and analytical skills in dealing with a problem in technical and vocational education.

899 THESIS RESEARCH 4-6 credits
Prerequisites: permission of advisor. In-depth study of research problem in education. Students must be able to demonstrate critical and analytical skills in dealing with a problem in vocational education.

PHYSICAL EDUCATION 5550:

101 FUNDAMENTALS OF ARCHERY/BOWLING 1 credit
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.

102 FUNDAMENTALS OF BADMINTON/VOLLEYBALL 1 credit
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.

103 FUNDAMENTALS OF SOCCER/FIELD HOCKEY 1 credit
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.

104 FUNDAMENTALS OF TRACK AND FIELD 1 credit
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.

105 RECREATIONAL ACTIVITIES 1 credit
Acquisition of skills and knowledge of rules for participation in, and organization of, common indoor and outdoor recreational activities. For the physical education and outdoor education student.

106 RECREATIONAL ACTIVITIES FOR THE HANDICAPPED 1 credit
Acquisition of skills and knowledge of rules for participation in, and organization of, recreational activities for handicapped includes ways of adapting common activities for participation by handicapped.

115 FUNDAMENTALS OF WRESTLING/RUGBY 1 credit
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)

120 FUNDAMENTALS OF BASKETBALL 1 credit
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.

130 PHYSICAL EDUCATION ACTIVITIES FOR ELEMENTARY 2 credits
SCHOOL CHILDREN
For a physical education major only. Participation in play activities commonly used in elementary physical education programs. One lecture and two laboratory periods per week.

140 PHYSICAL EDUCATION ACTIVITIES I 3 credits
Acquisition of performance skills and knowledge of techniques and improvement in gymnastics and tumbling, team sports and conditioning activities. Six class periods per week.

141 PHYSICAL EDUCATION ACTIVITIES II 3 credits
Acquisition of performance skills and knowledge of techniques and improvement in dance activities, swimming and individual lifetime sports. Six class periods per week.

150 CONCEPTS IN HEALTH AND FITNESS 3 credits
Introduction to basic health and fitness concepts and related topics. Attention will be given to individual fitness programs emphasizing such topics as aerobic and anaerobic exercises, nutrition, diet, stress, and assessment methods and procedures.

155 ORGANIZATION AND ADMINISTRATION OF RECREATION 2 credits
General administrative procedures common. Analysis, discussion and visitations of various types of recreational programs.

159 METHODS OF TEACHING PHYSICAL EDUCATION 2 credits
Investigations and applications 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.

194 SPORTS OFFICIALING 2 credits
Knowledge of rules for interscholastic and officiating techniques. Successful completion of course permits taking of state examination for officiating. Two lectures and one laboratory per week.

201 KINESIOLOGY 2 credits
Prerequisite: 310/206.7 Application of principles of anatomy to movement of human body.

202 PHYSIOLOGY OF EXERCISE 3 credits
Prerequisites: 310/206.7 Study of physiological effects of exercise relative to physical education activities and athletics. Two hours lecture, two hours laboratory.

211 FIRST AID 2 credits
Standard American Red Cross given instruction and practice in immediate and temporary care of injuries and sudden illnesses. In addition to standard course, CPR is covered.

235 CONCEPTS OF MOTOR DEVELOPMENT AND LEARNING 2 credits
Analysis of concepts fundamental to learning motor activities.

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.

246 INSTRUCTIONAL TECHNIQUES IN SECONDARY PHYSICAL EDUCATION 2 credits
Prerequisites: 140, 193 and at least one credit of 101 through 120. Supervised teaching of secondary physical education activities to peer. Four class periods per week.

300 PHYSIOLOGY OF EXERCISE FOR THE ADULT AND ELDERLY 2 credits
Analysis of physiological effects of exercise on elderly. Exercise programs adaptable for use by persons working with elderly.

310 THEORY AND TECHNIQUES OF SOCCER 1 credit
Theory, techniques and organizational procedures for coaching of soccer. Two class periods per week.

311 THEORY AND TECHNIQUES OF TRACK AND FIELD 1 credit
Theory, techniques and organizational procedures for coaching of track and field. Two class periods per week.

312 THEORY AND TECHNIQUES OF BASKETBALL 1 credit
Theory, techniques and organizational procedures for coaching of basketball. Two class periods per week.

313 THEORY AND TECHNIQUES OF BASEBALL/SOFTBALL 1 credit
Theory, techniques and organizational procedures for coaching of baseball and softball. Two class periods per week.

314 THEORY AND TECHNIQUES OF SWIMMING 2 credits
Theory, techniques and organizational procedures for coaching of swimming. One hour lecture, two hours laboratory.

315 THEORY AND TECHNIQUES OF TUMBLING AND GYMNASTICS 1 credit
Theory, techniques and organizational procedures for coaching of tumbling and gymnastics. Two class periods per week.

320 THEORY AND TECHNIQUES OF VOLLEYBALL 1 credit
Theory, techniques and organizational procedures for coaching of volleyball. Two class periods per week.

325 THEORY AND TECHNIQUES OF FOOTBALL 1 credit
Theory, techniques and organizational procedures for coaching of football. Two class periods per week.

326 THEORY AND TECHNIQUES OF WRESTLING 1 credit
Theory, techniques and organizational procedures for coaching of wrestling. Two class periods per week.

334 GAMES AND RHYTHM: ELEMENTARY GRADES 2 credits
(20 practical hours)
Not open to a physical education major. Physical education activities which may be used by classroom teachers. Theory of motor development. One hour lecture, two hours laboratory.

335 MOVEMENT EXPERIENCES FOR THE ELEMENTARY GRADES 2 credits
Analysis, theory, practical application of basic movement experiences for children. One lecture, two hours laboratory.

336 PHYSICAL EDUCATION ACTIVITIES FOR PRESCHOOL CHILDREN 2 credits
Investigation of play activities for positive growth and development of preschool child. Organization of motor activities in nursery school and kindergarten curriculum. One hour lecture, two hours laboratory.

340 CARE AND PREVENTION OF ATHLETIC INJURIES 3 credits
Discussion of prevention, immediate care and rehabilitation of common athletic injuries. Practice application of wrapping and taping procedures for injury prevention and post-injury support.

345 ADAPTED PHYSICAL EDUCATION 2 credits
Prerequisites: 310/206.7. Current theories and practices relating to needs of physically handicapped children. Emphasis given to underlying philosophies, purposes and administration.

350 ORGANIZATION AND ADMINISTRATION OF HEALTH AND PHYSICAL EDUCATION 3 credits
Investigation of necessary procedures for conduct of health education and physical education programs in schools. Includes organizational considerations, curricular patterns and equipment and supplies.
351 ORGANIZATION AND ADMINISTRATION OF INTRAMURALS AND ATHLETICS
Organizational patterns unique to conduct of intramurals, sport clubs and interscholastic athletics. Includes considerations of tournament designs, supplies and equipment and administration. Two hours lecture, two hours laboratory. 3 credits

385 FIELD EXPERIENCE
Prerequisite: permission of adviser. Practical experience in an area related to physical education under supervision of faculty member. Student works with current physical education programs in schools. 1-3 credits

402 STUDENT TEACHING SEMINAR
Prerequisite: senior status. In conjunction with Student Teaching. Synthesis of contemporary problems encountered during the student teaching experience. Exchange of ideas regarding role of new teacher entering profession. 1 credit

420 ADVANCED SPECIAL TOPICS: PHYSICAL EDUCATION
(May be repeated for a total of six credits.) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry. 1-6 credits

436/456 ADAPTED PHYSICAL EDUCATION TASKS FOR THE LEARNING DISABLED CHILD
Teaching methods and materials necessary to structure curricular tasks for learning disabled children designed for a person preparing to teach elementary school physical education and special education. 2 credits

441/451 ADVANCED ATHLETIC INJURY MANAGEMENT
Prerequisites: 3100/326, 327; suggested sequence: 5550/501, 202, 340. Advanced athletic training techniques for the student desiring to become a certified athletic trainer according to the regulations of the National Athletic Trainers Association. 4 credits (30 clinical hours)

442/443 THERAPEUTIC MODALITIES AND EQUIPMENT IN SPORTS MEDICINE
Purpose is to develop techniques and skills among sports medicine personnel in the selection and implementation of therapeutic modalities and equipment used in the rehabilitation of injuries to athletes. 3 credits (30 clinical hours)

460 PRACTICUM IN PHYSICAL EDUCATION
Prerequisites: senior standing and permission of adviser. Practical work experience with certified personnel in a discipline or profession related to physical education. The experience will be a cooperative effort of the student's adviser, the student and agency personnel directly involved with the practicum. 3-6 credits

475 SEMINAR IN HEALTH AND PHYSICAL EDUCATION
Prerequisite: senior status. In conjunction with Seminar. Corequisite: 436/456. Study of professional standards in health and physical education with experiential learning. 3 credits (25 clinical hours)

480 SPECIAL TOPICS: PHYSICAL EDUCATION
(May be repeated with a change in topic.) Prerequisites: permission of instructor. Group study of special topics of critical, contemporary concern in physical education. 1-4 credits

490.1, 2, 3, 550, 551, 552, 1.2.3 WORSHOP
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in physical education. 1-3 credits each

494/594 EDUCATIONAL INSTITUTIONS AND FOUNDATIONS
Practical experience with current research or curricular practices involving expert resource person in physical education, and usually financed by private or public funding. 1-4 credits

495 STUDENT TEACHING
Prerequisites: senior status, all major courses completed, 2.50 grade point average in major. Supervised teaching experience in a public school for 16 weeks. 4-8 credits

497 INDEPENDENT STUDY
Prerequisite: permission of adviser. Analysis of specific topic related to a current problem in physical education. May include investigative procedures, research, or concentrated practical experience. 1-2 credits

601 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, ATHLETICS AND RECREATION
Techniques of organization, administration and evaluation of health, physical education and recreation programs. Administrative policies of athletic programs at elementary, secondary and collegiate levels. 3 credits

603 CURRICULUM PLANNING IN HEALTH AND PHYSICAL EDUCATION
Principles and methods of planning, organizing, and evaluating health and physical education programs. Focus includes adult education and program evaluation. 2 credits

605 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE
Principles of the physiology of muscular activity and exercise. Functions of body systems and physiological effects of exercise. Laboratory experiences, lectures, discussions. 2 credits

606 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION
Critical analysis of existing testing procedures and discussion and study of measurement and evaluation in terms of program needs. 3 credits

608 SUPERVISION OF PHYSICAL EDUCATION
Principles involved in supervision of physical education service programs. Procedures and techniques of supervision of service classes at elementary, junior high and senior high school levels. 2 credits

609 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY
Analysis of factors influencing motivation of motor performance with emphasis on competition, audience effects, aggression, fear of failure, self-confidence. 3 credits

680 SPECIAL TOPICS IN HEALTH AND PHYSICAL EDUCATION
(May be repeated.) Prerequisites: permission of instructor. Group study of special topics in health and physical education and sports medicine. 2-4 credits

695 FIELD EXPERIENCE: MASTER'S
Prerequisite: permission of instructor. Participation in a work experience related to physical education. The experience may not be part of current position. Documentation of project required. 1-6 credits

697 INDEPENDENT STUDY
Prerequisite: permission of adviser. In-depth analysis of current practices or problems related to physical education. Documentation of the study required. 1-3 credits

698 MASTER'S PROBLEM
Prerequisite: permission of adviser. 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 physical education. 2-4 credits

699 THESIS RESEARCH
Prerequisite: permission of adviser. In-depth research investigation. Student must be able to demonstrate necessary competencies to deal with a research problem in physical education. 4-6 credits

OUTDOOR EDUCATION
5560:

440 SENIOR HONORS PROJECT: OUTDOOR EDUCATION
(May be repeated for a total of six credits.) Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry. 1-6 credits

450/550 APPLICATION OF OUTDOOR EDUCATION TO THE SCHOOL CURRICULUM
Provides knowledge, skills and techniques useful in application of outdoor education to school curriculum. 4 credits

452/552 METHODS, MATERIALS AND RESOURCES FOR TEACHING OUTDOOR EDUCATION
Methodologies unique to outdoor education which incorporate a multisensory approach to learning. Instructional materials and resources which permit expansion of curriculum beyond the school building. 3 credits

460 OUTDOOR EDUCATION PRACTICUM
Prerequisites: 452, 550. Practicum supervised in an established outdoor education program. 4 credits

460 OUTDOOR EDUCATION PRACTICUM
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in physical education. 1-4 credits

460 RESIDENT OUTDOOR EDUCATION
Prerequisites: 452, 550. Practicum supervised in an established outdoor education program. 2 credits

466/566 OUTDOOR PURSUITS
Investigation and participation in practical experiences in outdoor pursuits. 4 credits

494/594 EDUCATIONAL INSTITUTES: OUTDOOR EDUCATION
Practical experience with current research or curricular practices involving expert resource persons in outdoor education. 1-4 credits

497 INDEPENDENT STUDY
Prerequisites: permission of adviser and student's preceptor.Provides opportunities for a student to gain first-hand knowledge and experience with existing outdoor education programs. 1-3 credits

560 OUTDOOR EDUCATION: RURAL INFLUENCES
Prerequisites: 550 or 552. Utilization of resources of rural area as a learning/teaching environment. Content and methodology appropriate for teaching school-age children in rural settings. 3 credits

565 OUTDOOR EDUCATION: SPECIAL TOPICS
Prerequisites: permission of instructor. Group study of special topics of contemporary concern in outdoor education. 2-4 credits

Graduate Courses

600 OUTDOOR EDUCATION: RURAL INFLUENCES
Prerequisite: 550 or 552. Utilization of resources of rural area as a learning/teaching environment. Content and methodology appropriate for teaching school-age children in rural settings. 3 credits

605 OUTDOOR EDUCATION: SPECIAL TOPICS
Prerequisites: permission of instructor. Group study of special topics of contemporary concern in outdoor education. 2-4 credits
### Health Education

#### 5570: PERSONAL HEALTH

101 Application of current principles and facts pertaining to healthful, effective living. Personal health problems and needs of a student. 2 credits (10 clinical hours)

200 CURRICULUM TOPICS IN HEALTH EDUCATION

3 credits Designed to give the teacher of health education the knowledge base necessary to deal factually and comfortably with selected topics in school and community health.

201 CONSUMER HEALTH, WEIGHT CONTROL AND EXERCISE

3 credits Student will investigate current consumer health problems as they relate to making decisions about the purchase and use of health products and health services available today's society. Understanding of the maintenance of body weight and how it is affected by a person's knowledge of nutrition and exercise will be included.

202 STRESS, LIFESTYLE, AND YOUR HEALTH

3 credits Overview of the behavior associated with wellness and disease.

320 COMMUNITY HYGIENE

2 credits Study of current major public health problems. Organization and administration of local and voluntary agencies and their role in solution of community health problems.

321 ORGANIZATION AND ADMINISTRATION OF SCHOOL HEALTH AND SCHOOL HEALTH SERVICES

4 credits Methods and techniques utilized in organization and administration of school health program. The role of school and community personnel in detecting and managing health problems of the student explored. Procedures and programs designed to protect and promote the health of school-age youth.

322 METHODS AND MATERIALS OF ELEMENTARY SCHOOL HEALTH EDUCATION

2 credits Prerequisite: 101. Emphasizes the planning and organization of subject matter for implementation in elementary school health curriculum. Emphasis will be on creative activities and teaching methods.

323 METHODS AND MATERIALS OF SECONDARY SCHOOL HEALTH EDUCATION

2 credits Prerequisite: 101. Planning and organization of subject matter for secondary school health instruction will be major emphasis. Attention will be given to development of teaching techniques, utilization of instructional media and evaluation procedures in health education.

395 FIELD EXPERIENCE IN HEALTH EDUCATION

1-3 credits Prerequisite: permission of advisor. On-site field experience will be conducted in an area related to health education under the supervision of a faculty member. The student will work with current health education programs.

400 ENVIRONMENTAL ASPECTS OF HEALTH EDUCATION

3 credits Prerequisite: major or minor in health education or instructor's permission. Investigates many aspects of the environment and their influence upon quality of human life. Major emphasis will be upon man's health problems paradoxically resulting from his environment.

430 SENIOR HONORS PROJECT: HEALTH EDUCATION

1-6 credits (May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program and permission of student's supervisor. Carefully defined individual study demonstrating originality and sustained inquiry.

460 PRACTICUM IN HEALTH EDUCATION

2 credits Prerequisite: permission of the advisor. On-site participation in community health agencies, organizations, agencies or resources.

466 INDEPENDENT STUDY IN HEALTH EDUCATION

1-2 credits Prerequisite: permission of the advisor. Analysis of a specific topic related to current problem in health education. May include investigative procedure, research or concentrated practical experience.

### Educational Guidance and Counseling

#### 5600:

110 CAREER PLANNING

2 credits Skills necessary to make effective educational and career decisions. Emphasis upon self-understanding, career exploration, career planning, decision making.

410 PERSONNEL SERVICES IN SCHOOLS

2 credits Prerequisite: senior standing. Introduction to background, role and function, techniques, community agencies and issues in personnel field. For student considering pupil personnel fields, social work.

420/520 CAREER EDUCATION

2 credits Prerequisite: junior or senior standing. Examination of current career education models and programs with emphasis on inclusion of career education activities into elementary and secondary curriculum.

430 HELPING SKILLS FOR RESIDENT ASSISTANTS

2 credits (Credit/Noncredit) Prerequisite: open to resident assistants in University housing. A course designed to help student personnel workers become more effective in professional role.

450/550 COUNSELING PROBLEMS RELATED TO LIFE—THREATENING ILLNESS AND DEATH

7 credits Prerequisite: permission. Consideration of the global issues, current research, coping behavior, support systems and other issues in regard to life-threatening situations.

460 SPECIAL TOPICS: EDUCATIONAL GUIDANCE AND COUNSELING

1-4 credits (May be repeated with a change in topic) Prerequisite: permission-explorer group study of special topics of critical, contemporary concern in professional education.

460, 1-2/560, 1-2 WORKSHOP

1-3 credits each Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

493/593 WORKSHOP

1-4 credits Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

494/594 COUNSELING INSTITUTE

1-4 credits In-service programs for counselors and other helping professionals.

### Graduate Courses

500 SEMINAR IN COUNSELING

1 credit Prerequisite: 630 or 633 or 635 or permission. The study and practice of selected counseling techniques that can be applied by teachers in working with students, parents, and colleagues.

602 INTRODUCTION TO COUNSELING

2 credits Understanding guidance and counseling principles including organization, operation and evaluation of guidance programs (designed for noncounseling majors).

610 COUNSELING SKILLS FOR TEACHERS

3 credits Prerequisite: 631 or 633 or 635 or permission. The study and practice of selected counseling techniques that can be applied by teachers in working with students, parents, and colleagues.

620 TOPICAL SEMINAR

1-4 credits Prerequisite: permission of instructor. Seminar on topic of current interest in the profession. Staffed by department faculty and other professionals in counseling and related fields; a maximum of eight credits may be applied to a degree.

631 ELEMENTARY SCHOOL GUIDANCE

3 credits Introductory course: examines guidance and counseling practices.

632 SECONDARY SCHOOL GUIDANCE

3 credits Introductory course: examines guidance and counseling practices.

650 COMMUNITY COUNSELING

3 credits Introductory course: examines guidance and counseling practices.

643 COUNSELING: THEORY AND PHILOSOPHY

3 credits Examination of major counseling systems including client-centered, behavioral and existential theories. Philosophical and theoretical dimension stressed.

645 GROUP TESTING IN COUNSELING

2 credits Study of evaluation and measurement procedures in counseling including instrument development, selection and use of aptitude tests, inventories and rating scales.

647 CAREER COUNSELING: THEORY AND PRACTICE

2 credits Prerequisite: 631 or 633 or 635 or permission. Study of career development, career decision making, career options and career counseling program development.
PRACTICUM IN COUNSELING I
Prerequisite: 631 or 633 or permission. Development of a comprehensive articulated counseling program.

SPECIAL EDUCATION 5610:

201 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/LEARNING DISABILITIES
Prerequisites: Sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and learning disabled children for one-half semester each. This experience is prerequisite to student teaching in each area.

202 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/ORTHOPEDICALLY HANDICAPPED
Prerequisites: Sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and orthopedically handicapped children for one-half semester each. This experience is prerequisite to student teaching in each area.

203 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/TRAİNABLE MENTALLY RETARDED
Prerequisites: Sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and trainable mentally retarded children for one-half semester each. This experience is prerequisite to student teaching in each area.

205 FIELD EXPERIENCE: SPECIAL EDUCATION
Prerequisite: upper college standing. Supervised work with youngsters, individually and in groups, in school and/or community settings.

403 STUDENT TEACHING SEMINAR: SPECIAL EDUCA TION
Consecutive. 495. Support seminar for student teaching experience.

430 SENIOR HONORS PROJECT: SPECIAL EDUCATION
May be repeated for a total of six credits. Prerequisites: senior standing in Honors Program and permission of student's major advisor. Carefully defined individual study demonstrating originality and sustained inquiry.

440/540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS
Prerequisites: 3750:100 and 5100:250. Study, diagnosis, classification, development characteristics of the atypical individual.

441/541 DEVELOPMENTAL CHARACTERISTICS OF MENTALLY RETARDED INDIVIDUALS
Prerequisite: 440/540. Study of etiology, diagnosis, classification and developmental characteristics of educable mentally retarded trainable mentally retarded and profoundly retarded individuals.

443/543 DEVELOPMENTAL CHARACTERISTICS OF LEARNING DISABLED INDIVIDUALS
Prerequisite: 440/540. Study of etiology, diagnosis, classification and developmental characteristics of learning disabled individuals.

444/544 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS
Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of intellectually gifted individuals.
Graduate Courses

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>600</td>
<td>Seminar: Special Education</td>
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<tr>
<td>601</td>
<td>Seminar: Special Education Curriculum Planning</td>
<td>3</td>
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<tr>
<td>602</td>
<td>Supervision of Instruction</td>
<td>3</td>
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<td>603</td>
<td>Assessment and Educational Programming</td>
<td>3</td>
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<tr>
<td>604</td>
<td>Education and Management Strategies for Parents</td>
<td>3</td>
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<td>605</td>
<td>Program Development and Service Delivery Systems</td>
<td>3</td>
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<tr>
<td>606</td>
<td>Field Experience: Master's</td>
<td>3</td>
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<tr>
<td>697</td>
<td>Independent Study</td>
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<tr>
<td>698</td>
<td>Master's Problem</td>
<td>2-4</td>
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<tr>
<td>699</td>
<td>Thesis Research</td>
<td>4-6</td>
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<tr>
<td>799</td>
<td>Research Project in Special Education</td>
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SCHOOL PSYCHOLOGY

Graduate Courses

5620:

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<tr>
<td>490/590</td>
<td>Workshop</td>
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<tr>
<td>491/591,2</td>
<td>Workshop</td>
<td>1-3</td>
</tr>
<tr>
<td>494/594</td>
<td>School Psychology Institutes</td>
<td>1-4</td>
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</table>

Graduate Courses

560         | Seminar: Role and Function of the School Psychologist | 3       |
| 600         | Cognitive Function Models for Prescriptive Educational Planning | 7       |
| 602         | Behavioral Assessment                            | 3       |
246  The University of Akron

503 CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY 3 credits
Prerequisite: permission of instructor. A consideration of consultant roles in the practice of school psychology as related to consultant process and with school and agency personnel, parents, and children.

610 EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS 4 credits
Prerequisite: permission of instructor. Clinical study and application of current assessment approaches applicable to assessment of children’s learning problems.

611 PRACTICUM IN SCHOOL PSYCHOLOGY 4 credits
Prerequisite: permission of instructor. Laboratory experience in psycho-educational study of individual children who have learning problems in school.

636.1 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/SPRING 3 credits each
Prerequisite: permission of instructor. Fall semester paid work assignment under supervision of a qualified school psychologist for an academic year structured according to provisions of State Department of Education. Additional readings required.

640 FIELD SEMINAR I: ISSUES AND ASSESSMENTS (FALL) 2 credits each
Prerequisite: permission of instructor. Consideration of pertinent topics in practice of school psychology with emphasis on field-based problems and issues of a practicing school psychologist.

644 RESEARCH PROJECT IN SPECIAL AREAS 1-3 credits
Prerequisite: permission of adviser. Study, analysis and reporting of school psychology problem.

685 FIELD EXPERIENCE: MASTER’S 1-3 credits
Prerequisite: permission of instructor. Practical school psychology-related experience in school setting.

686 FIELD EXPERIENCE: MASTER’S 1-3 credits
Prerequisite: permission of instructor. Practical school psychology-related experience in appropriate setting other than a school.

697 INDEPENDENT STUDY 1-4 credits
Prerequisite: permission of advisor and supervisor of the independent study. Documentation of specific area of investigation. Nature of the inquiry to be determined by student-supervisor agreement.

698 MASTER’S PROBLEM 2-4 credits
Prerequisite: permission of advisor. 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 school psychology.

699 THESIS RESEARCH 4-5 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 specific topic.

MULTICULTURAL EDUCATION

5630:

480 SPECIAL TOPICS: MULTICULTURAL EDUCATION 1-4 credits
(May be repeated with a change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

481/581 MULTICULTURAL EDUCATION IN UNITED STATES 3 credits
Inquiry into multicultural dimensions of American education. Comparisons of urban, suburban, and rural educational settings with reference to socioeconomic differences.

482/582 CHARACTERISTICS OF CULTURALLY DIFFERENT YOUTH 3 credits
Study of characteristics of culturally different youth with focus on youth in low-income areas. Emphasis on cultural, social, economic and educational considerations and their implications.

483/583 PREPARATION FOR TEACHING CULTURALLY DIFFERENT YOUTH 3 credits
Designed to help prepare trainees to teach culturally different youth from low-income backgrounds. Through use of multimedia and classroom materials, trainees gain knowledge of background and culture of culturally different learners, determine roles of teacher, explore techniques of discipline and classroom management, survey motivational and instructional techniques and examine, develop, and adapt variety of instructional materials for individual, small group, and large group instruction.

484/584 PRINCIPLES OF BILINGUAL/MULTICULTURAL EDUCATION 3 credits
An introduction to the theoretical, cultural, sociolinguistic bases of bilingual/multicultural education. Legislation, court decisions, program implementation included.

485/585 TEACHING READING AND LANGUAGE ARTS TO BILINGUAL STUDENTS 4 credits
Prerequisite: permission of instructor. Course applies methodologies for teaching reading, language arts in the bilingual/multicultural classroom. The bilingual student’s native language, culture stresses.

486/586 TEACHING MATHEMATICS, SOCIAL STUDIES AND SCIENCE TO BILINGUAL STUDENTS 3 credits
Prerequisites: elementary education majors, 5200:333, 6:4; for secondary education majors, 5300:311 (science, social studies or mathematics). Course applies methodologies for teaching mathematics, science, social studies in the bilingual/multicultural classroom. The bilingual student’s native language stressed.

487/587 TECHNIQUES FOR TEACHING ENGLISH AS A SECOND LANGUAGE IN THE BILINGUAL CLASSROOM 4 credits
Prerequisite: permission of instructor. Course includes teaching language skills to Limited English Proficient students in grades K-12. Administration of language assessment tests, selection and evaluation of materials.

490/590 WORKSHOP: BILINGUAL/MULTICULTURAL 1-3 credits
Emphasizes development of teaching devices and/or curriculum units, demonstration of teaching techniques, utilization of community resources.

Graduate Course

688 SEMINAR: EDUCATION OF THE CULTURALLY DIFFERENT 2 credits
Survey of educational considerations for schools populated by low-income culturally different youth. Field experience in form of visits to agencies serving low-income families required.

EDUCATIONAL ADMINISTRATION

5700:

480 SPECIAL TOPICS: EDUCATIONAL ADMINISTRATION 1-4 credits
(May be repeated with a change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

490, 1, 2, 3/590, 1, 2, 3 WORKSHOP 1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

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

501 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.

602 SCHOOL BUSINESS ADMINISTRATION 2 credits
School business administration as part of total administrative pattern, and as creative planning process designed to facilitate instruction.

603 ADMINISTRATION OF EDUCATIONAL PERSONNEL 2 credits
Guidelines, techniques and procedures for helping administration become democratic leader. Duties and responsibilities of staff as participants in administrative activity.

604 SCHOOL-COMMUNITY RELATIONS 3 credits
Prerequisite: graduate standing. An analysis of the principles, practices, and materials that facilitate the adjustment and interpretation of schools to their internal and external publics.

606 EVALUATION IN EDUCATIONAL ORGANIZATIONS 3 credits
Theories and practices involved in processes of determining, obtaining and providing information for decision making.

607 SCHOOL LAW 2 credits
Legal principles underlying education in United States as reflected in statutory provisions, court decisions and administrative orders presented. Ohio school statutes included in depth.

608 SCHOOL FINANCE AND ECONOMICS 3 credits
Prerequisite: 601. A study of financial operations of school systems, including taxes, other sources of revenues, expenditures, budgeting and the effects of economic factors.

609 PRINCIPLES OF CURRICULUM DEVELOPMENT 3 credits
Overview of instructional programs of a school in terms of basic purposes, functions and structures necessary to study and interpret these instructional programs.

616 PRINCIPLES OF EDUCATIONAL SUPERVISION 3 credits
Study of principles, organizations and techniques of supervision with view to improvement of instruction.

611 SUPERVISION OF STUDENT TEACHING 2 credits
Prereq: for supervising teachers in guidance of student teachers. Topics include readiness for student teaching, directing teacher and college supervisor relationships, use of the conference, demonstration and observation.
612 ADMINISTRATION OF EDUCATIONAL FACILITIES 2 credits
Theories and practices involved in planning school facilities discussed. Includes field explorations of exemplary school buildings.

613 ADMINISTRATION OF PUPIL SERVICES 2 credits
Prerequisite: Graduate standing. Overview of pupil personnel services and special education, including analysis of the nature and development of each component service program.

615 COMPUTER APPLICATIONS IN EDUCATIONAL ADMINISTRATION 2 credits
For graduate education students majoring in administration. Includes concepts of modern systems and their educational applications.

620 SECONDARY SCHOOL ADMINISTRATION 3 credits
Prerequisite: 601. Designed to help student gain knowledge and develop skills needed to successfully deal with problems, procedures of organization and administration of secondary schools.

631 ELEMENTARY SCHOOL ADMINISTRATION 3 credits
Prerequisite: Graduate standing. Examination of the elementary school principal's role as it relates to the development and maintenance of a school climate most conducive to learning.

684 FIELD EXPERIENCE I: ELEMENTARY ADMINISTRATION 2 credits
Entails supervised, on-the-job administration experience in administrative tasks areas of staff, personnel, pupil, personnel, curriculum, community relations, finance and physical facilities.

686 FIELD EXPERIENCE II: SECONDARY ADMINISTRATION 2 credits
Prerequisite: Graduate standing. Introduction to the preparatory program for secondary school principals. Students observe a practicing principal in a public school setting.

694 FIELD EXPERIENCE II: ELEMENTARY ADMINISTRATION 3 credits
Prerequisites: 684 and permission of instructor. Culmination of the preparatory program for elementary school principals in which students perform administrative tasks supervised by experienced principals.

695 FIELD EXPERIENCE FOR SUPERVISORS 2 credits
Prerequisite: Completion of all course work except research problem. Designed to help student test and develop understandings and skills in supervision. Student participates in self-paced task areas which reflect supervisory responsibilities.

696 FIELD EXPERIENCE II: SECONDARY ADMINISTRATION 3 credits
Prerequisite: Completion or present enrollment in all course work for the master's degree for the secondary school principal. Provides student with on-the-job experience in secondary school administration.

697 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: Permission of adviser and supervisor of the independent study. Area of study determined by student's needs.

698 MASTER'S PROBLEM 2-4 credits
Prerequisite: Permission of advisor. In-depth study of a research problem in education. Students must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

699 THESIS RESEARCH 4-6 credits
Prerequisite: Permission of adviser. In-depth study of a research problem in education. Students must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

704 THEORY, RESEARCH, AND PRACTICE IN EDUCATIONAL ADMINISTRATION 2 credits
Study of organizations, strengths and weaknesses of bureaucratic model in administering them. Practical means by which weaknesses of bureaucracies are offset or lessened in educational institutions.

705 DECISION-MAKING IN EDUCATIONAL ADMINISTRATION 3 credits
Theories underlying process of decision making in philosophy, sociology, economics and politics of education. Alternative decisions and theory respective consequences. Fundamentals of PPBS and other decision-making aids.

706 COLLECTIVE BARGAINING AND EMPLOYEE RELATIONS 2 credits
An overview of collective bargaining in education and a basic knowledge of the mechanics and issues involved in the bargaining process and contract administration.

707 THE SUPERINTENDENCY 3 credits
An orientation to the superintendent's role and a basic understanding of the strategies for dealing with the major relational and functional aspects of the superintendency.

720 TOPICAL SEMINAR: EDUCATIONAL ADMINISTRATION 1-3 credits
(May be repeated)
Prerequisite: Permission of instructor. Topical studies in selected areas of concern to students, practicing administrators in public, private, educational institutions, organizations.

730 SEMINAR IN SCHOOL ADMINISTRATION 3 credits
Prerequisite: 601. Focus on recent research in administration and educational administration theory.

731 SEMINAR: PROBLEMS OF THE SCHOOL ADMINISTRATOR 2 credits
Current administrative problems in educational institutions as perceived by student and practicing school executives. Emphasis on problem management, mediation or solution. Field visits or resource persons invited to classroom.

732 ORGANIZATIONAL COMMUNICATIONS AND THE SCHOOL ADMINISTRATOR 3 credits
Fundamentals of interpersonal communications. Application of these principles to roles of educational administrators. Skill development in written and spoken communications, with attention to nonverbal communications: simulation and role-playing.

733 THE EDUCATIONAL ADMINISTRATOR AND PLANNED CHANGE 2 credits
Prerequisites: 601 and 704. Relationship between technological and social change and needed change in education; theories, principles and mechanics in planned educational change.

740 THEORIES OF EDUCATIONAL SUPERVISION 3 credits
Prerequisites: 610, 5200 732 or 5300 721. Examination of supervision: sample models which implement existing theories.

745 PRACTICUM IN EDUCATIONAL ADMINISTRATION: URBAN SETTING 2 credits
Prerequisite: completion of three-fourths of doctoral program courses. Analysis of uniqueness of urban setting, e.g., multicultural and pluralistic urban populations. Stress on administrator's human relation skills.

746 POLITICS, POWER AND THE SCHOOL ADMINISTRATOR 3 credits
Impacts of formal and informal community power structures and influential persons on educational planning and decision making. Administrator as an influence on the power structure for educational benefit.

747 PRACTICUM: COMPETING AND COMPLEMENTARY SOCIAL SYSTEMS 3 credits
Designed to bring educational administrator into direct contact with individuals responsible for other community service delivery systems, e.g., city government. Methods of interagency cooperation to provide client services.

795.0 INTERNSHIP IN EDUCATIONAL ADMINISTRATION 2 credits each
(May be repeated for a total of six credits)
Work under a practicing administrator involving experience in optimum number of administrative tasks. Includes seminars and written work.

895 FIELD EXPERIENCE: THE SUPERINTENDENCY 2 credits
Prerequisite: Permission of instructor. Cooperative, field-based experience in central office of a school district in which student performs assignments in administrative task areas.

896 FIELD EXPERIENCE IN SCHOOL PLANT PLANNING 2 credits
Prerequisite: Permission of instructor. Selective field experiences. Emphasis on analysis of school enrollments, evaluation of school plants and financial aspects of plant planning.

897 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: Permission of adviser. 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.

898 RESEARCH PROJECT IN SPECIAL AREAS 1-2 credits
Prerequisite: Permission of adviser. Critical and in-depth study of special problem in educational administration.

899 DISSERTATION 1-20 credits
Prerequisite: Permission of adviser. Specific research problem that required student to apply research skills and techniques to the problem being studied.

SPECIAL EDUCATIONAL PROGRAMS

5800:

490/550 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

491/591 WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

492/592 WORKSHOP IN READING 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

493/593 WORKSHOP ON EXCEPTIONAL CHILDREN 1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

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.
## EDUCATIONAL TECHNOLOGY

### 5850

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<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>106</td>
<td>INTRODUCTION: PUPIL PERSONNEL WORK</td>
<td>2</td>
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<tr>
<td></td>
<td>Purposes, needs, scope, character of pupil personnel services.</td>
<td></td>
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<tr>
<td>201</td>
<td>INFORMATIONAL SERVICES IN GUIDANCE AND SPECIAL EDUCATION</td>
<td>2</td>
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<tr>
<td></td>
<td>Emphasis on organization and status of informational services as related to activities of educational technologist.</td>
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<tr>
<td>204</td>
<td>HUMAN RELATIONS IN EDUCATION</td>
<td>3</td>
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<tr>
<td></td>
<td>Study of individual and group relationships in educational setting including development of basic interpersonal skills.</td>
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<td>207</td>
<td>MECHANICS OF STUDENT APPRAISAL</td>
<td>3</td>
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<tr>
<td></td>
<td>Introduction to group appraisal with major emphasis on assisting certiﬁed personnel in group test administration, scoring, organizing and recording test results.</td>
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<td>213</td>
<td>ORIENTATION OF THE EDUCATIONAL TECHNICIANS TO THE SECONDARY SCHOOL</td>
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<td></td>
<td>Designed to provide student preparing for role of educational technician with framework for understanding secondary education.</td>
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<tr>
<td>260</td>
<td>SPECIAL EDUCATION TECHNOLOGY</td>
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<td>Survey of selected procedures and materials employed in classrooms especially designed and operated for exceptional children.</td>
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<td>265</td>
<td>EDUCATION TECHNICIAN FIELD EXPERIENCE</td>
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<td></td>
<td>(May be repeated once)</td>
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<tr>
<td></td>
<td>Supervised field experience in school setting designed for educational technician enrollees only.</td>
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## HIGHER EDUCATION ADMINISTRATION

### 5900

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<td>700</td>
<td>INTRODUCTORY ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION</td>
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<tr>
<td></td>
<td>Introductory examination of issues, trends, topics and activities in institutions of higher education.</td>
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<tr>
<td>715</td>
<td>SEMINAR IN HIGHER EDUCATION: ADMINISTRATION IN HIGHER EDUCATION</td>
<td>3</td>
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<td></td>
<td>Prerequisite: 5700/704 or permission. In-depth study of problems, procedures and principles of administration in institutions of higher education. Emphasis is placed on the administrative process and major administrative task areas.</td>
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<tr>
<td>725</td>
<td>SEMINAR IN HIGHER EDUCATION: STUDENT SERVICES</td>
<td>3</td>
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<tr>
<td></td>
<td>Prerequisite: permission. Topics of concern to student specializing in student personnel services in higher education. Topics may differ each semester depending upon specific student needs and interests.</td>
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<tr>
<td>730</td>
<td>HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING</td>
<td>3</td>
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<tr>
<td></td>
<td>Study of strategies for implementing and monitoring the curricular change process. Broad aspects of higher education program planning shall be examined.</td>
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<tr>
<td>735</td>
<td>INSTRUCTIONAL STRATEGIES AND TECHNIQUES FOR THE COLLEGE INSTRUCTOR</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Selected topics in instructional theory, techniques and strategies which are appropriate to instructional planning and development of college level courses. Criterion-reference formatting is emphasized, including student achievement testing and evaluation.</td>
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<tr>
<td>745</td>
<td>INDEPENDENT STUDY IN HIGHER EDUCATION</td>
<td>1-3</td>
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<tr>
<td></td>
<td>Prerequisite: permission. Selected area of independent investigation in an area of higher education as determined by adviser and student in relation to student's academic needs and career goals.</td>
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<tr>
<td>800</td>
<td>ADVANCED ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Prerequisite: permission. Examination of selected perspectives and topics which pose concerns to participating students.</td>
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<tr>
<td>801</td>
<td>INTERNSHIP IN HIGHER EDUCATION</td>
<td>1-3</td>
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<td>(May be repeated for a total of six credits)</td>
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<tr>
<td></td>
<td>Prerequisite: permission. Corequisite: 802. Intensive work experience in operations of an institution of higher education, related to student's own program of studies and professional goals.</td>
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<tr>
<td>802</td>
<td>INTERNSHIP IN HIGHER EDUCATION SEMINAR</td>
<td>1</td>
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<td>(May be repeated for a total of three credits)</td>
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<tr>
<td></td>
<td>Pre-requisite: permission. Corequisite: 801. To be taken in conjunction with internship for synthesis of problems encountered in internship experience and to provide the opportunity to share ideas and experiences from various areas of higher education internship placement.</td>
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</tbody>
</table>
COOPERATIVE EDUCATION

6000:

301 COOPERATIVE EDUCATION

(0 credits)

For Cooperative Education Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

ACCOUNTING

6200:

201 ACCOUNTING I

(4 credits)

Introduction to accounting, the language of business. Emphasis on basic principles, concepts and terminology of accounting for assets, liabilities and proprietorship.

202 ACCOUNTING II

(4 credits)

Prerequisite: 201. Study of accounting informational needs of management. Emphasis on planning and control, including financial statement analysis, funds flow, budgets, cost-volume-profit analysis and decision-making costs.

301 COST ACCOUNTING

(3 credits)

Prerequisites: 3250/202, and grades of not less than "C" in 201,2. Introduction to product costing, emphasizing analysis of materials, labor and factory overhead. Cost control achieved through use of flexible budgets, standard costs and variance analysis.

317 INTERMEDIATE ACCOUNTING I

(4 credits)

Prerequisite: grades of not less than "C" in 201,2. Accounting theory and problems of statement presentation, in-depth study of cash, temporary investments, receivables, inventories, tangible fixed assets, intangibles and current liabilities.

318 INTERMEDIATE ACCOUNTING II

(4 credits)

Prerequisite: 317. Study of long-term liabilities and investments, capital stock, retained earnings, accounting changes, funds statement, pensions, leases, statement analysis and price level accounting.

355 ACCOUNTING INFORMATION PROCESSING

(3 credits)

Prerequisite: 202. Introduction to automatic data processing systems in an accounting and management environment. Fundamentals of computer programming presented to student.

360 BUDGETING

(3 credits)

Prerequisite: 301. Study of principles and policies of budgeting. Emphasis on managerial control of expenses, capital expenditures and related activities.

401 ACCOUNTING SURVEY

(3 credits)

Prerequisite: permission of instructor. Introductory course for student with no previous accounting background. Essential accounting concepts, techniques and terminology for business organizations.

402 ADVANCED COST ACCOUNTING

(3 credits)

Prerequisite: 301. Study of use of standard cost procedures, job-order costing procedures and advanced problems in area of cost accounting.

410 TAXATION FOR THE NONACCOUNTANT

(3 credits)

Provides nonaccountant basic knowledge of federal tax law as applied to individuals and businesses. Not open to accounting major.

420/520 ADVANCED ACCOUNTING

(3 credits)

Prerequisite: 318. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, nonprofit entities, and consolidated statements.

425 CURRENT DEVELOPMENTS IN ACCOUNTING

(3 credits)


430/530 TAXATION I

(4 credits)

Prerequisite: 317. Application of current federal tax law to individuals and proprietorships. Types of income, deductions and structure of tax return covered.

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 discussed.

440/540 AUDITING

(3 credits)

Prerequisites: 301, 318, 355 and 6500:322 must be taken prior to or concurrently, or permission of instructor. Examines auditing standards and procedures used by independent auditor in determining whether a firm has fairly represented its financial position.

454 INFORMATION SYSTEMS

(3 credits)

Prerequisites: 301, 355 and permission of instructor. Focus on development of accounting methods and procedures, installation and improvement of accounting systems and evaluation of automated data processing systems. This course cannot be taken in lieu of 6500:324 Data Management for Information Systems.

460 CONTROLLERSHIP PROBLEMS

(3 credits)

Prerequisites: 301, 318. Examination of quantitative accounting methods of planning, control and decision making. Standard costing, variable costing and contribution approach to decision making emphasized.

470/570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING

(3 credits)

Prerequisites: 201 or 501, and other senior or graduate level standing. Theory and procedures involved in application of fund accounting, budgetary control, appropriations and various accounting systems to governmental units, educational, medical and other non-profit institutions.

480/580 ACCOUNTING PROBLEMS

(3 credits)

Prerequisite: 318. Independent research on advanced accounting problem in student's specific area of interest.

485 CPA PROBLEMS: COMMERCIAL LAW

(2 credits)

Prerequisite: permission of instructor. Deals with those general principles of commercial law which appear on CPA examination.

486 CPA PROBLEMS: ACCOUNTING PRACTICE

(3 credits)

Prerequisite: permission of instructor. Study of methods for solving various types of problems which appear on accounting practice section of CPA examination.

487 CPA PROBLEMS: TAXATION

(1 credit)

Prerequisite: permission of instructor. Application of current developments in federal income tax law to CPA examination.

488/588 CPA PROBLEMS: AUDITING

(2 credits)

Prerequisite: 440/540 and permission of instructor. Preparation for auditing section of CPA examination, focusing on auditing principles, standards and ethics and situations encountered by independent auditor.

489/589 CPA PROBLEMS: THEORY

(2 credits)

Prerequisite: permission of instructor. Preparation for theory section of CPA examination, focusing on current developments and use of basic accounting theory to solve advanced auditing problems.

491/591 WORKSHOP IN ACCOUNTING

(1-3 credits)

Prerequisite: permission of instructor. May be repeated.

492 WORKSHOP IN TAXATION

(1-3 credits)

Prerequisite: permission of instructor. May be repeated.

497 HONORS PROJECT

(1-3 credits)

Prerequisite: senior standing in Honors Program. Individual Seniors Honors Thesis or creative project relevant to accounting approved and supervised by member of the department faculty.

498 INDEPENDENT STUDY IN ACCOUNTING

(1-3 credits)

Prerequisite: permission.

Graduate Courses

601 FINANCIAL ACCOUNTING

(3 credits)

Introduction course for student with no accounting background. Examines accounting principles as applied to financial problems of firm.

610 ACCOUNTING MANAGEMENT AND CONTROL

(3 credits)

Prerequisite: 501 or equivalent. Investigation of role of accounting as management tool in areas of production, marketing, internal control and capital budgeting with focus on management planning.

630 TAX RESEARCH AND POLICY

(3 credits)

Prerequisite: 431 or equivalent. Designed to develop research competence in solving complex tax problems involving federal income, estate and gift tax laws.

631 CORPORATE TAXATION I

(3 credits)

Prerequisite: 431. Detailed examination of tax problems of corporations and their shareholders. Formation, distribution, redemption, liquidation and penalty taxes covered.
632 TAXATION OF TRANSACTIONS IN PROPERTY 3 credits
Prerequisite: 631. Explores federal tax implications of gains and losses derived from sales, exchanges and other dispositions of property.

633 ESTATE AND GIFT TAXATION 3 credits
Prerequisite: 631. Analyzes provisions of federal estate and gift tax laws and tax consequences of testamentary and lifetime transfers.

637 ADVANCED ACCOUNTING THEORY 3 credits
Prerequisite: 318. Examination of accounting concepts and standards through critical analysis of articles on current trends in profession discussion and outside research literature.

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.

641 TAXATION OF PARTNERSHIPS AND S CORPORATIONS 3 credits
Prerequisite: 632. Examines intensively provisions of subchapters K and S of Internal Revenue Code and uses of partnerships and subchapter S corporations for tax planning.

642 CORPORATE TAXATION II 3 credits
Prerequisite: 631. Continuation of 631. Concludes study of subchapter C of Internal Revenue Code with major focus on corporate reorganization.

643 TAX ACCOUNTING 2 credits
Prerequisite: 431. Attention focused on timing of income and expenses for individuals and businesses and its relation to tax planning.

644 INCOME TAXATION OF DECEASSED, ESTATES AND TRUSTS 2 credits
Prerequisite: 633. An in-depth examination of the decedent's last income tax return along with the analysis of income taxation of trusts and estates and their creators, fiduciaries and beneficiaries.

645 ADVANCED INDIVIDUAL TAXATION 3 credits
Prerequisite: 430. In-depth study of some of the more involved areas of individual income taxation.

646 CONSOLIDATED TAX RETURNS 2 credits
Prerequisite: 431. Intensive study of tax provisions concerning use of consolidated tax returns.

647 DEFERRED COMPENSATION 3 credits
Prerequisite: 431. Nature, purpose and operation of various forms of deferred compensation examined with much emphasis on pension and profit-sharing plans.

648 TAX PRACTICE AND PROCEDURE 2 credits
Prerequisite: 431. In-depth study of administration and procedures of Internal Revenue Service and responsibilities of tax practitioner.

649 STATE AND LOCAL TAXATION 2 credits
Prerequisite: 631. Examines common types of taxes imposed by state and local governments and includes taxation of multistate businesses.

650 ESTATE PLANNING 2 credits
Prerequisite: 633. Considers entire process of planning the estate with due regard for disposition of property, tax minimization, liquidity requirements and administrative costs.

651 UNITED STATES TAXATION AND TRANSNATIONAL OPERATIONS 2 credits
Prerequisite: 631. Examines United States taxation of foreign income of domestic corporations, citizens and residents, as well as United States income of nonresident aliens and foreign corporations.

652 TAX-EXEMPT ORGANIZATIONS 2 credits
Prerequisite: 431. Analysis of tax aspect of tax-exempt organizations, including nature and limitations of their exemption.

653 BUSINESS PLANNING 2 credits
Prerequisite: 631. Uses cases depicting complex problems to permit student to integrate knowledge of taxation.

654 INDEPENDENT STUDY IN TAXATION 1-3 credits
Prerequisite: Permission of instructor. Intensive study of particular topic or limited number of topics not otherwise offered in curriculum.

655 ADVANCED INFORMATION SYSTEMS 3 credits
Prerequisites: 355 and 610. Advanced study of accounting information system theory, elements, principles, design and implementation. Practical data processing and networking to control flow of information.

670 COST CONCEPTS AND CONTROL 3 credits
Prerequisite: 610. Focus on analysis and control of costs and their use in decision making. Determination of cost data and efficiency of decision emphasized.

680 INTERNATIONAL ACCOUNTING 3 credits
Prerequisite: 610. Examination of accounting theory and practice from international perspective with emphasis on multinational investment, business and auditing activities and reporting problems.

697 INDEPENDENT STUDY IN ACCOUNTING 1-3 credits
(May be repeated for a total of three credits)
Prerequisite: 610. Focus on special topics of student's choice, research in accounting on an independent basis.

699 SEMINAR IN ACCOUNTING 3 credits
(May be repeated for a total of six credits)
Prerequisite: permission of instructor. Program of independent research in account area of student's choice, requiring submission of a finished report within a year.

FINANCE

6400:

318 RISK MANAGEMENT AND INSURANCE 3 credits
Prerequisite: 371 or permission of instructor. Concept of risk and risk management and principle of insurance are developed in business. Life and health insurance related to employee benefit problems.

320 THE LEGAL ENVIRONMENT OF BUSINESS 4 credits
Gives student an understanding of legal reasoning and analysis. Discussions include court and procedures, business organizations, commercial transactions and legal aspects of government regulation of business.

321 BUSINESS LAW I 3 credits
Discussions designed to develop legal reasoning within substantive areas of contractual obligation, agency relationships, partnerships, corporations, accountant's legal responsibility, federal securities regulation and antitrust law.

322 BUSINESS LAW II 3 credits
Applications of Uniform Commercial Code in sales, commercial paper and secured transactions. Additional discussions include property, wills, estates, trusts, bailments, inheritance, suretyship, bankruptcy and labor law.

323 INTERNATIONAL BUSINESS LAW 3 credits
The law and international commercial transactions. Among the subjects covered are sovereign immunity, agreements, arbitral practices, property rights, international arbitration.

338 FINANCIAL INTERMEDIARIES 3 credits
Prerequisite: 371 or permission of instructor. Studies the flows of funds. Analyzes major financial intermediaries. Money and capital markets. Reviewed with emphasis on interest rates and their impact upon administration of specific financial intermediaries.

343 INVESTMENTS 3 credits
Prerequisite: 371 or permission of instructor. Range of security investment media explored. Alternative investment programs considered and role of securities markets through which goals can be achieved studied.

351 FINANCIAL DECISION MAKING 3 credits
Prerequisite: 371 or permission of instructor. A study of the tools and techniques used to describe, analyze and determine impact on the firm of problems facing the firm so as to achieve short- and long-term goals.

371 BUSINESS FINANCE 3 credits
Prerequisites: 6200, 2011, 2550, 2012, and completion of collegiate mathematics requirement. Study of problems of business firm from financial manager's viewpoint. Topics include planning, sources and uses of funds, capital budgeting and optimum financial structure.

373 FINANCIAL STATEMENT ANALYSIS 3 credits
Prerequisite: 371 or permission of instructor. Analysis and interpretation of the financial position and performance of the business firm from the perspective of the credit and financial analyst. Emphasizes mechanics and art of financial analysis.

400 REAL ESTATE PRINCIPLES: A VALUE APPROACH 3 credits
Prerequisite: 371 or permission of instructor. A study of real estate. The profession and the product. Emphasis is on real estate as a product and the valuation process. The measurement of value requires tool abilities in accounting, statistics and finance.

401 REAL ESTATE INVESTMENT 3 credits
Prerequisites: 371 and 400, or permission of instructor. Advanced course in real estate investment which covers investing in all types of real estate including single-family mortgages and creative investment techniques for income properties.

402 INCOME PROPERTY APPRAISAL 3 credits
Prerequisites: 371 and 400, or permission of instructor. Advanced course in real property appraisal and valuation. Techniques and concepts will be covered along with the theory underlying such techniques.

403 REAL ESTATE FINANCE 3 credits
Prerequisites: 371 and 400 or permission of instructor. Advanced course in real estate covering the financing of real property. Included are methods, institutions, instruments, valuation, appraisal and policy in real estate finance.

410 PERSONAL FINANCIAL MANAGEMENT 3 credits
Covers the many personal financing decisions made by individuals. Areas of study include money management, credit acquisition, insurance program development, investment analysis and pension evaluation.

417 LIFE AND HEALTH INSURANCE 3 credits
Prerequisite: 318. Detailed study of life and health insurance contracts, insurance companies, industry regulations.

419 PROPERTY AND LIABILITY INSURANCE 3 credits
Prerequisite: 318. A study of property and casualty insurance contracts, insurance companies, industry regulation.

424 LEGAL CONCEPTS OF REAL ESTATE: A MANAGERIAL APPROACH 3 credits
Prerequisite: 371 or permission of instructor. Study of concepts of law governing the many interests in real estate including acquisition, encumbrance, transfer, rights and obligations of parties, and the various state and federal regulations. The legal concepts of the business of real estate are likewise examined. Emphasis is on a managerial approach utilizing the case method.

425 BUSINESS AND SOCIETY 3 credits
432 PERSONAL FINANCIAL PLANNING 3 credits
Prerequisite: 371 or permission of instructor. Capstone financial services course emphasizing theory and case study applications of the comprehensive personal and professional planning process.

436 COMMERCIAL BANK MANAGEMENT 3 credits
Prerequisite: 338 or permission of instructor. Study of administrative policy determination and decision making within the commercial bank. Analysis of policymaking in areas of liquidity, loan and security investment and sources of funds.

447 SECURITY ANALYSIS 3 credits
Prerequisite: 343 or permission of instructor. Application of quantitative and qualitative techniques of analysis to limited income and equity securities. Timing changes in portfolio composition.

475 COMMERCIAL AND CONSUMER CREDIT MANAGEMENT 3 credits
Prerequisite: 371 or permission of instructor. An examination of the role of credit, the application, investigation, authorization, economic, collection and legal processes primarily from the point of view of the business manager.

479 ADVANCED BUSINESS FINANCE 3 credits
Prerequisite: 371 or permission of instructor. Case method utilized, emphasizing application of analytical techniques from texts and journal readings to solution of complex problems in financial management.

481 INTERNATIONAL BUSINESS FINANCE 3 credits
Prerequisite: 371 or permission of instructor. Theory and practice of financial wealth maximization in the international business enterprise.

491/591 WORKSHOP IN FINANCE 1-3 credits
(May be repeated)
Group studies of special topics. 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.

495 INTERNSHIP IN FINANCE 1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and term papers required as appropriate.

497 HONORS PROJECT 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program. Individual Senior Honors Thesis or creative project relevant to finance approved and supervised by member of the department faculty.

499 INDEPENDENT STUDY: FINANCE 1-3 credits
Prerequisite: permission of department head. Provides means for individualized in-depth study of finance problem or problems from which student can derive significant benefit.

Graduate Courses

602 MANAGERIAL FINANCE 3 credits
Prerequisites: 6200:201.2 (or 601) and 3290:201.2 (or 600). Emphasis on financial decision making related to goal of firm, specifically, the investment decision, the financing decision and the dividend decision.

623 LEGAL ASPECTS OF BUSINESS TRANSACTIONS 3 credits
(Not open to students with six credits of undergraduate business law)
Study of the fundamental legal concepts that apply to business transactions, and the administration of a business.

633 MANAGEMENT OF DEPOSITORY FINANCIAL INSTITUTIONS 3 credits
Prerequisite: 620. Policy determination, administrative decision making in banks, savings and loans using computer simulation games.

635 MANAGEMENT OF NON-DEPOSITORY FINANCIAL INSTITUTIONS 3 credits
Prerequisite: 620. Study of policy determination, funds management in non-depository financial institutions such as pension funds, insurance, investment companies.

645 INVESTMENT ANALYSIS 3 credits
Prerequisite: 620 or permission of instructor. Study of the economic and market forces that influence security prices. Techniques of analysis used in evaluating limited income and equity securities.

651 PORTFOLIO MANAGEMENT 3 credits
Prerequisite: 645 or permission of instructor. Advanced techniques used by sophisticated individuals, professional managers of large portfolios.

656 ADMINISTERING COSTS AND PRICES 3 credits
Prerequisite: 3250:600 or equivalent. Provides an understanding of managerial economics. Short- and long-run decisions of firm analyzed. Analysis includes impact of costs and prices on business profitability.

655 GOVERNMENT AND BUSINESS 3 credits
Prerequisites: 3790:600 and 6500:600. Public policy with regard to business institutions and issues are considered from an economic, legal, ethical, political framework.

656 COMPARATIVE INDUSTRIAL RATIONALE 3 credits
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 considered.

674 FINANCIAL MANAGEMENT AND POLICY 3 credits
Prerequisite: 692 or equivalent. Working capital management, controlling inventory investments, administering costs and funds, managing investment in plant and equipment, administering business income and forecasting for financial management.

676 MANAGEMENT OF FINANCIAL STRUCTURE 3 credits
Prerequisite: 674. Emphasizes determination of volume and composition of sources of funds. Primary attention directed to cost of capital for specific sources of financing.

678 CAPITAL BUDGETING 3 credits
Prerequisite: 674. Attempt to integrate various theories of capital budgeting into comprehensive conceptual scheme. Theoretical concepts and practical applications blended for better understanding of capital problems.

679 MERGERS, ACQUISITIONS, CONSOLIDATION, TAKEOVERS: AN INVESTMENT BANKING APPROACH 3 credits
Prerequisite: 602 or permission of instructor. A comprehensive study of financial planning, factors, steps to be considered for successful consummation of a merger.

681 INTERNATIONAL BUSINESS FINANCE 3 credits
Prerequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational operations. Consideration of working capital and permanent assets return on investment and capital budgeting for the global firm.

690 SELECTED TOPICS IN FINANCE 3 credits
(May be repeated for a total of six credits)
Prerequisite: 674. Provides study of contemporary issues and areas not covered in current finance graduate courses.

697 INDEPENDENT STUDY IN FINANCE 1-3 credits
(May be repeated for a total of three credits)
Focus on special topics of study and research in finance on an independent basis.

698 INDEPENDENT STUDY: BUSINESS LAW 1-3 credits
Focus on special topics of study and research in the legal aspects of business administration.

699 SEMINAR IN FINANCE 3 credits
(Must be repeated for a total of six credits)
Prerequisites: 674 and a total of 15 Phase I graduate credits. Program of independent research in finance area of student's choice, requiring submission of a finished research report.

MANAGEMENT

6500:

301 MANAGEMENT: PRINCIPLES AND CONCEPTS 3 credits
Prerequisites: Three credits in behavioral science, economics, mathematics, theory, practice in management of human, other economic resources, with extensive coverage of operations systems.

302 INTRODUCTION TO ORGANIZATIONAL BEHAVIOR 3 credits
Prerequisites: 301 and two courses in psychology, sociology. Investigation of applications of behavioral and social sciences as they relate to individual, group behavior in organizations.

321 QUANTITATIVE BUSINESS ANALYSIS I 3 credits
Prerequisite: completion of college mathematics requirement. Statistical analysis of business data including coverage of probability theory, probability distributions, sampling, estimation, hypothesis testing.

322 QUANTITATIVE BUSINESS ANALYSIS II 3 credits
Prerequisite: 321. Statistical analysis of business data including analysis of variance, regression and correlation, time series, index numbers, distribution-free statistics, Bayesian decision making.

323 COMPUTER APPLICATIONS FOR BUSINESS 3 credits
Emphasis on batch and realtime programming. Includes graphics using PL/I, TALL, simulation in GPSS, business programming using BASIC, flowcharting, hardware, software, management information systems.

324 DATA MANAGEMENT FOR INFORMATION SYSTEMS 3 credits
Prerequisites: upper college standing and proficiency in the BASIC programming language or approval of instructor. Developing business application systems using BASIC and database management systems software, including sequential and random files, sorting and arranging records, and database management systems applications.

331 PRODUCTION AND SYSTEMS MANAGEMENT 3 credits
Prerequisite: 301 and corequisite: 321. Emphasis on design, analysis of operating systems, utilizing scientific decision-making methodology. Case exercises, project.

332 PRODUCTION AND OPERATIONS MANAGEMENT 3 credits
Prerequisites: 323, and one of corequisites: 311, and 322. Introduces use of models for production scheduling, materials management, quality control, distribution and project management. Includes linear programming, PERT, simulation. Cases, exercises, problems, computer analyses.

341 PERSONNEL MANAGEMENT 3 credits
Prerequisites: Two courses in psychology, sociology and 301. Principles, policies, practices in administering functions of recruiting, selecting, training, compensating, appraising human resources of organizations.
342 PERSONNEL RELATIONS
Prerequisite: 341. Analysis of management, union and employee objectives, attitudes and strategy, as they affect conduct of business and economy. Stress placed on group assigned readings and reports.

407 INDEPENDENT STUDY IN SMALL BUSINESS MANAGEMENT
3 credits
Prerequisite: senior standing. Focuses on problems of organizing and operating a small business. Case studies and field experiences.

408/508 ENTREPRENEURSHIP
3 credits
Prerequisites: upper college or graduate standing and 6500:301 or 6500:600 or equivalent. Examines the behavior and environment for entrepreneurship. Focuses on classic and contemporary entrepreneurs and the importance of personal values and strategies. Case studies. Field projects.

410/510 SELECTED TOPICS IN ENTREPRENEURSHIP
1-3 credits
Prerequisites: upper college or graduate standing and 6500:301 or 6500:600 equivalent. Facilitates comparative international study of entrepreneurship, introduction of entrepre- neurship to large organizations, or application of student’s entrepreneurial skills. Six hour limit.

421 OPERATIONS RESEARCH
1 credit
Examines the use of operations research techniques in managerial decision-making processes, constrained linear optimization, non-linear optimization, network analysis, queuing theory, simulation.

425 DECISION SUPPORT SYSTEMS
3 credits
Prerequisite: 324. May not be taken in place of 6200:454. Introduction to decision support systems design including applications in various functional areas. Projects may use BASIC, electronic spreadsheets, database and/or decision support system software.

433 BUSINESS OPERATIONAL PLANNING
3 credits
Prerequisites: 322, 332. Application of quantitative techniques for planning overall operations of firm. Emphasis given to external/internal factors, which influence short- and long-run economic success of firm.

434 PRODUCTION PLANNING AND CONTROL
3 credits
Prerequisites: 322, 332. Forecasting, materials management, production planning, scheduling, control. Integrates previous courses, provides overall framework including use of computer and quantitative methods. Cases and a project in an operating organization.

453 QUALITY CONTROL
3 credits
Prerequisite: 322. Emphasis on statistical techniques essential to controlling product quality for both in-process and final product. Includes control chart methods and acceptance sampling plans.

436 ADVANCED QUALITY CONTROL APPLICATIONS
3 credits
Prerequisites: 322 and 435. Emphasis on statistical techniques to control the operation of processes. Includes control chart methods and acceptance sampling plans.

437 SPECIAL TOPICS IN QUALITY MANAGEMENT
3 credits
Prerequisites: 435 and permission of instructor. Exploration of advanced topics of interest both to the student and professor. Many special applications, case studies, outside speakers, projects in conjunction with local industries.

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 will include projects, library research, case studies.

455/555 MANAGEMENT OF ARBITRATION: COMMERCIAL, INTERNATIONAL AND HUMAN RESOURCES
3 credits
Prerequisites: upper college or graduate standing and 6500:301 or 6500:600 or equivalent. A comprehensive study of management strategies for commercial, international and human resource arbitration. Graduate required research paper.

458 SELECTED TOPICS IN MANAGERIAL ARBITRATION, MEDIATION AND CONCILIATION
1-3 credits
Prerequisites: upper college or graduate standing and 6500:301 or 6500:600 or equivalent. Study of the various methods and mechanisms by which management can understand and deal with internal and external conflict. Six hour limit.

471/571 MANAGEMENT PROBLEMS
3 credits
Prerequisite: 471 is eligible to register for 471 and 472.

472 MANAGEMENT PROBLEMS - PRODUCTION
3 credits
Prerequisite: 472 and senior standing. Emphasis on modern management principles, practices and theory to an actual production problem in industry.

473 MANAGEMENT PROBLEMS - PERSONNEL
3 credits
Prerequisite: 473 is eligible to register for 472.

480/580 INTRODUCTION TO HEALTH CARE MANAGEMENT
3 credits
Prerequisites: upper college or graduate standing and permission of instructor. Introductory course for health care professionals providing an in-depth study of management and principles and concepts as applied to particular health care organizations and health care delivery system. Topics covered include: human resource management, health care organization and administration, and health care delivery system. Emphasis placed on management, leadership, supervision and communication practices, group dynamics, team building, and the professional role in health care delivery system.

482/582 HEALTH SERVICES OPERATIONS MANAGEMENT
3 credits
Prerequisites: upper college or graduate standing and 301 or 600 or equivalent. Students who have completed 331 are ineligible to take this course for credit. Application of production and operations management concepts and techniques in health services organizations.

485/585 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION
1-3 credits
Prerequisite: permission of instructor. Special topics in health services administration (e.g., management focusing on historical and/or contemporary organizational, economic, social and policy/strategy aspects). Separate topics may be repeated for a maximum of six credits. For those registered for graduate credit, a major research paper is required.

490 BUSINESS POLICY
4 credits
Prerequisites: senior standing (97 credits) and 6200:202, 6400:371, 301, 6500:380, and corequisites: 6200:355, 6400:320 or 321, or 5050:322. Integrates the core business disciplines (accounting, economics, finance, management, marketing) through the use of case analyses. Student evaluates objective and strategy formulation from an administrative viewpoint.

491 WORKSHOP IN MANAGEMENT
1-3 credits
(May be repeated with permission of instructor or department)
Group studies of special topics in management. May not be used to meet undergraduate major requirements in management. May be used for elective credit only.

495 INTERNSHIP IN MANAGEMENT
1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reporting, term papers required as appropriate.

497 HONORS PROJECT
1-3 credits
Prerequisite: senior standing in Honors Program. Individual Senior Honors Thesis or creative project relevant to management approved and supervised by member of the department faculty.

499 INDEPENDENT STUDY: MANAGEMENT
1-3 credits
Prerequisites: senior standing and permission of department head. Provides a means for individualized study in management from which student can derive significant value.

Graduate Courses

600 MANAGEMENT AND PRODUCTION CONCEPTS
3 credits
Introduces basic marketing concepts, stresses the components of marketing programs involved in the operations of profit and non-profit organizations within various macroenvironments.

601 QUANTITATIVE DECISION MAKING
3 credits
Prerequisite: finite mathematics. 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 nonparametric statistics.

602 COMPUTER TECHNIQUES FOR MANAGEMENT
3 credits
An introduction to computer techniques which will aid the manager in decision making. Elementary programming skills useful for business programming developed.

640 INFORMATION SYSTEMS AND MANAGEMENT
3 credits
Prerequisite: 602 or equivalent. An introduction to systems design, management information systems, data base management, their relationship to problem solving and the organization.

651 PRODUCTIVITY AND QUALITY OF WORKFORCE ISSUES
3 credits
Prerequisite: 652 or permission of instructor. A comprehensive study of innovations in organizations designed to increase human satisfaction and productivity through changes in human management.

652 ORGANIZATIONAL BEHAVIOR
3 credits
Prerequisite: 600 or equivalent. Study of factors which influence human behavior in business organizations. Emphasis on theories of individual and group behavior, motivation, leadership and communication in organizations.

653 ORGANIZATIONAL THEORY
3 credits
Prerequisite: 652. Leadership styles in organized institutional setting. Influence of leadership styles on individual, group behavior, organizational goal attainment. Analysis of leader’s role in administrative process.

654 INDUSTRIAL RELATIONS
3 credits
Prerequisite: 600. Study of rights and duties of management in dealing with labor and economic consequences of union and management policies and practices.

656 MANAGEMENT OF INTERNATIONAL OPERATIONS
3 credits
Prerequisite: 652 or equivalent. Deals with international environment of international business: parameters of international business system which hold the system together and which individual businesses cannot materially alter.

657 THE LEADERSHIP ROLE IN ORGANIZATIONS
3 credits
Prerequisite: 653. Analysis and development of leadership theory and thought. Identification of leadership in both formal and informal organizations. Training and development methods for leaders evaluated. Individual and small group field study assignments.

659 OPERATIONS AND STRATEGIC PLANNING
3 credits
Prerequisites: 600.12 or equivalent. Long-range and short-term planning in organizations and linkage between the two. Planning models are presented of business and non-profit organizations.
882 QUANTITATIVE METHODS- OPERATIONS MANAGEMENT

Prerequisite: 601 or equivalent. Survey of basic techniques of operations research. Stresses application to functional areas of business with particular emphasis given to production and planning aspects.

663 APPLIED INSTRUMENTAL STATISTICS I

3 credits
Prerequisite: 601 or equivalent. Design of survey sampling and estimation. Simple linear regression analysis, including inferences, aptness of the model and point confidence intervals.

664 APPLIED INSTRUMENTAL STATISTICS II

3 credits
Prerequisite: 663. Applications and analysis of multiple regression including determining “best” set of independent variables, correlation modeling, analysis of variance modeling including multifactor models. Experimental designs including randomized block and Latin square designs.

671 ADVANCED OPERATIONS RESEARCH

3 credits
Prerequisite: 662. Designed to present in more depth and breadth certain topics surveyed in 662. Emphasis on application of these techniques to student’s own situational problems.

672 MANUFACTURING AND OPERATIONS ANALYSIS

3 credits
Prerequisite: 601 or equivalent. Provides an applications forum where skills gained in other manufacturing—quantitative areas of curriculum can be empirically utilized and applied.

673 QUALITY AND PRODUCTIVITY TECHNIQUES

3 credits
Prerequisite: 601. Introduction to techniques for improving productivity and quality, including statistical process control (SPC), material requirements planning (MRP), just-in-time (JIT) inventory control and management of the program.

688 INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION

1-3 credits
(May not be repeated for more than three credits)
Prerequisite: permission of instructor. Independent study and research of a special topic of interest in health services administration (e.g., management), chosen by the student in consultation with and under the supervision of the instructor.

689 SEMINAR IN HEALTH CARE SYSTEMS MANAGEMENT

3 credits
Prerequisite: 600 or equivalent or permission of instructor. In-depth study of nonprofit health care organizations and health care delivery system. Examination of organizational structure and management differences of nonprofit health care organizations and traditional business organizations. Study of providers (patient care third-party payers), and role of governmental programs. Major research paper.

690 SELECTED TOPICS IN MANAGEMENT

3 credits
(May be repeated for a total of six credits)
Prerequisite: 532. Selected topics in historical, contemporary and/or operational and functional areas of management.

695 BUSINESS STRATEGY AND POLICY: DOMESTIC AND INTERNATIONAL

3 credits
Prerequisite: to be taken in MBA program. A case-oriented course which focuses on integration of theoretical and practical knowledge acquired in core business courses. Students analyze, evaluate, formulate organization objectives and strategies within domestic and international environmental contexts.

697 INDEPENDENT STUDY IN MANAGEMENT

1-3 credits
(May be repeated for a total of three credits)
Focus on special topics of study and research in management on an independent basis.

699 GRADUATE SEMINAR IN MANAGEMENT

3 credits
(May be repeated for a total of six credits)
Prerequisite: total of 15. Phase II graduate credits. 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.

350 ADVERTISING AND MARKETING COMMUNICATIONS

3 credits
Full range of marketing communication elements. Emphasis on role of each element and coordination required of marketing manager in developing successful and systematic program of marketing communications.

360 INDUSTRIAL MARKETING

3 credits
Prerequisite: 300. Following principles of modern management marketing, locates on development of local, regional, national markets. Emphasis on problems of industrial goods manufacturers.

370 PURCHASING

3 credits
Prerequisite: 3250/202. Process and activities associated with cost effective buying. Internal management of all materials, equipment needed by manufacturer to produce product or provide a service.

375 PROFESSIONAL SELLING

3 credits
Prerequisite: 300 or permission of instructor. Study of the role of personal selling in the organization’s marketing mix with emphasis on customer problem solving and persuasive communication.

380 SALES MANAGEMENT

3 credits
Prerequisite: 350 or 360. Advanced consideration of firm’s marketing mix as applied and adjusted to marketing objectives and policies and their implementation and control.

385 INTERNATIONAL MARKETING

3 credits
Prerequisite: 6800/305. Provides a basic understanding of the complexities of foreign marketing. It assumes knowledge of the basic international business course.

390 MANAGEMENT OF MARKETING CHANNELS

3 credits
Prerequisite: 300. An integrative approach to analysis of marketing channels of distribution to complement the more specialized analyses of retailing, wholesaling and physical distribution. Stresses the interaction of factors comprising a channel and the nature of managerial decisions designed to coordinate the efforts of the groups of institutions that make up a channel of distribution.

420/520 LOGISTICS SYSTEMS ANALYSIS

3 credits
Prerequisites 320, 660. Stresses application of quantitative techniques in design and operation of individual logistics components as well as integration of total logistics system in the firm. Emphasis on student’s evaluation and solving of logistics problems.

430 PROMOTIONAL CAMPAIGNS

3 credits
Prerequisite: 350. Examination of total communications efforts involved in planning, developing and monitoring promotional campaigns. Stress is placed on understanding the nature and roles of advertiser, agency and support services.

440/540 PRODUCT PLANNING

3 credits
Prerequisite: 300. In-depth study of tools and techniques involved in new product development process and management of the product throughout its life cycle. Emphasis on the use of technology in the development process and the nature of managerial decisions underlying the process. Differences between consumer and industrial products.

460 MARKETING RESEARCH

3 credits
Prerequisites 300, 6500/321. Through lectures, cases and team projects, a student is taught to detect and evaluate actionable forces in the marketplace. Emphasis on investigation appropriate to economics of situation.

465/565 FORECASTING AND QUANTITATIVE METHODS IN MARKETING

3 credits
Prerequisites: 440, 620. Explores the more sophisticated quantitative and forecasting methods, both procedures available to marketing researchers, decision makers; how these are applied to marketing problems.

491 WORKSHOP IN MARKETING

1-3 credits
Group studies in special topics in marketing. Not used to meet undergraduate or graduate major requirements in marketing. May be used for elective credit with permission of instructor or department.

495 INTERNSHIP IN MARKETING

1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and term papers required as appropriate.

497 HONORS PROJECT

1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program, individual Senior Honors Theses or creative project relevant to marketing, approved and supervised by member of the department faculty.*

499 INDEPENDENT STUDY: MARKETING

1-3 credits
Prerequisite: permission of instructor. Provides a means for individualized in-depth study of marketing problem or problems from which student can derive significant benefit.

Graduate Courses

600 MARKETING CONCEPTS

3 credits
Assessment of basic marketing principles involved in business and industry. Required of all nonbusiness undergraduates. May not be selected for Phase II credit.

630 STRATEGIC MARKETING MANAGEMENT

3 credits
Prerequisite: 600 or equivalent. Managerial assessments of opportunities, threats are explored as are the development and management of appropriate strategic marketing plans and their tactical implementation.
630 INTERNATIONAL MARKETING POLICIES 3 credits
Prerequisite: 620. Explores the problems of formulating and implementing marketing strategies and tactics within complex and changing multi-national organizations and international markets. A planning framework is emphasized.

640 MARKETING INFORMATION SYSTEMS AND RESEARCH 3 credits
Prerequisites: 620, 650:601.2. Explores managerial development and maintenance of systematic methods for locating, acquiring, processing, analyzing and utilizing marketing information for marketing decision making.

650 CONSUMER BEHAVIOR 3 credits
Prerequisite: 620. Methods of identifying and analyzing final industrial and institutional markets are explored. Focus is placed upon theoretical models, research tools, appropriate marketing responses.

655 MARKETING COMMUNICATIONS 3 credits
Prerequisite: 620. Total range of marketing communication tools are examined individually in the context of the planning, development and implementation of systematic marketing communications programs.

680 MARKETING THEORY 3 credits
Prerequisite: 620. Designed to apply those theoretical works from areas of economics, psychology, sociology and cultural anthropology which have relevance to a general theory of marketing.

690 SEMINAR IN INTERNATIONAL BUSINESS 3 credits
Prerequisites: 629 and a total of 15 Phase II graduate credits. Permits M.B.A. candidate to independently analyze a significant international business problem culminating in a major paper.

697 INDEPENDENT STUDY IN MARKETING 1-3 credits
(May be repeated for a total of three credits) Focus on special topics of study and research in marketing on an independent basis.

699 SEMINAR IN MARKETING 3 credits
(May be repeated for a total of six credits) Prerequisite: a total of 15 Phase II graduate credits. Capstone course permits M.B.A. candidate to undertake a carefully delineated program of independent study and reading which leads to a finished major paper.

INTERNATIONAL BUSINESS

6800:

305 INTERNATIONAL BUSINESS 3 credits
Prerequisites: 3250:201,202. A basic course in international business which can also provide a platform for more specialized international business courses.

405/505 MULTI-NATIONAL CORPORATIONS 3 credits
Prerequisite: 305 or permission of instructor. Course provides in-depth understanding of the functions, structures and strategic considerations governing the MNCs through theory and case study analysis.
College of Fine and Applied Arts

COOPERATIVE EDUCATION 7000:

301 COOPERATIVE EDUCATION 0 credits
(May be repeated)
For Cooperative Education Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

ART 7100:

100 SURVEY OF HISTORY OF ART I 4 credits
Architecture, sculpture, painting and minor arts from Primitive sources through Gothic time period in Europe.

101 SURVEY OF HISTORY OF ART II 4 credits
Prerequisite: 100. Architecture, sculpture, painting and minor arts from Renaissance through 1900's, primarily in Western art. Development of photography and its application as art form integrated into artistic styles of Twentieth Century.

105 UNDERSTANDING ART 3 credits
Uses different societies have found for art and how social and technological levels of the society have affected the kind of art they make.

120 FUNDAMENTALS OF SCULPTURE 3 credits
A study of sculptural techniques through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

121 THREE-DIMENSIONAL DESIGN 3 credits
Introduction to meaning of "design" and act of designing in real space. Study of naturally occurring form, structure and process.

130 FUNDAMENTALS OF SCREEN PRINTING 3 credits
A study of screen printing through lecture and studio experiences. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

131 INTRODUCTION TO DRAWING 3 credits
Freehand drawing experience with an orientation to elements and principles of visual organization. Limited media

132 INSTRUMENT DRAWING 3 credits
Creative uses of mechanical drawing processes for visually descriptive purposes. Proficiency in use of mechanical drawing instruments stressed. Both practical and theoretical drawing styles undertaken.

140 FUNDAMENTALS OF ACRYLIC PAINTING 3 credits
A study of the acrylic painting medium through lecture, demonstration and studio activity. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

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.

150 FUNDAMENTALS OF CERAMICS 3 credits
A study of ceramics through lecture and studio experiences. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

160 FUNDAMENTALS OF JEWELRY 3 credits
A study of jewelry making through lecture and studio for the non-art major. No credit toward major in art.

170 FUNDAMENTALS OF PHOTOGRAPHY 3 credits
A study of photography through lecture, demonstration and studio work. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

180 FUNDAMENTALS OF GRAPHIC DESIGN 3 credits
A study of graphic design through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

190 FUNDAMENTALS OF OFF-LOOM WEAVING 3 credits
A study of off-loom weaving through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

191 DESIGN 2 credits
Basic principles of creative design and color theory. Discussion and studio. No credit toward major or teaching field in art.

213 INTRODUCTION TO LITHOGRAPHY 3 credits
Prerequisites: 131, 144 or 231. Use of lithographic stone and metal plate as printmaking media. Stone and plate preparation. Lithographic drawing materials and techniques: platen registration and printing press covered. Emphasis on aesthetic theory, technique and related history.

214 INTRODUCTION TO SCREEN PRINTING 3 credits
Prerequisites: 131, 144 or 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.

215 INTRODUCTION TO RELIEF PRINTING 3 credits
Prerequisites: 131, 144 or 231. Printmaking using found objects, synthetic materials, as well as traditional woodcut and linoleum engraving. Emphasis on aesthetic theory, technique and related history.

216 INTRODUCTION TO INTAGLIO PRINTING 3 credits
Prerequisites: 131, 144 or 231. Intaglio printmaking using drypoint engraving, aquatint and soft-ground techniques. Emphasis on aesthetic theory, technique and related history.

221 DESIGN APPLICATIONS 2 credits
Prerequisite: 121. 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.

222 INTRODUCTION TO SCULPTURE 3 credits
Prerequisite: 121. Exploration of aesthetic factors influencing sculptural statements. Development of proficiency in the use of tools, materials and techniques.

231 DRAWING II 3 credits
Prerequisite: 131. Continuation of 131. In-depth exploration of wide range of techniques and media. Attention to controlled descriptive drawing and space illusion and their aesthetic applications.

233 LIFE DRAWING 3 credits
Prerequisite: 131. Perceptual problems in drawing from the life model. Study of skeletal, muscular, mechanical nature of human figure and application of this knowledge to the resolution of aesthetic problems.

244 COLOR CONCEPTS 3 credits
Prerequisite: 121 or 144 or 286 or 2240.124. Lecture and studio experience giving information concerning perception of color, additive color phenomena of light, subtractive color phenomena of pigments and dyes, color notation systems and psychological effects of color.

245 INTRODUCTION TO POLYMER ACRYLIC PAINTING 3 credits
Prerequisites: 131, 144. Technical, aesthetic problems involved in polymer acrylic painting. Study of paints, media, and experimentation, transparent and opaque uses of this water-based paint.

246 INTRODUCTION TO WATERCOLOR PAINTING 3 credits
Prerequisites: 131, 132. Lecture course in theory and technique of watercolor painting. Study of traditional transparent watercolor materials, and experimentation with less conventional approaches to aqueous media.

247 INTRODUCTION TO OIL PAINTING 3 credits
Prerequisites: 131, 144. Study of technical and aesthetic problems involved in oil painting. A painting orientation to plasticity of form as mediated by color.

254 INTRODUCTION TO CERAMICS 3 credits
Lecture/laboratory course exploring potentials of hand-building techniques in both sculptural and functional forms. Clay processing, glaze application and practical kiln firing.

265 INTRODUCTION TO JEWELRY 3 credits
Studio experience in which student is introduced to properties of metals, processes of silversmithing and design and production of jewelry.

268 ENAMELING ON METAL 3 credits
Prerequisite: 266. Studio course in which student investigates inherent aesthetic qualities of color and texture resulting when metal, colored glass is applied to metal surfaces.

275 INTRODUCTION TO PHOTOGRAPHY 3 credits
Lecture, studio and laboratory course. Technical and aesthetic issues are studied using both 4x5 and 35mm cameras. A 35mm camera with full manual control is required.

282 ARCHITECTURAL PRESENTATIONS I 3 credits
Prerequisites: 131, 144, or 2240.124. Study and studio practice in architectural design and presentation methods, both residential and commercial, and the development of graphic presentations of interior and exterior concepts. Emphasis on beginning drawing and rendering in pencil and pen and ink.

283 DRAWING TECHNIQUES 3 credits
Prerequisites: 131 and 232. Includes advanced drawing and presentation techniques commonly used in graphic design. Various presentation and design problems will be encountered stressing use of selected drawing methods and processes.

284 INTRODUCTION TO GRAPHIC DESIGN 3 credits
Prerequisite: 131. Studio experience in use of tools and materials of commercial graphic artist. Elementary design problems in commercial graphic design.

285 COMMERCIAL DESIGN THEORY 3 credits
Prerequisites: 284 and 132. Basic course in visual problem solving emphasizing visual movements in, and graphic elements of, single as well as multiple images. Equal emphasis given to existing and created images.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>208</td>
<td>LETTER FORM AND TYPOGRAPHY</td>
<td>3</td>
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<tr>
<td>209</td>
<td>ARCHITECTURAL PRESENTATIONS II</td>
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<td>210</td>
<td>ART SINCE 1845</td>
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<td>202</td>
<td>INTRODUCTION TO WEAVING</td>
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<td>300</td>
<td>ART FROM 1900 TO 1945</td>
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<tr>
<td>303</td>
<td>OPPERTUNITY IN EUROPE DURING THE SEVENTEENTH AND EIGHTEENTH CENTURIES</td>
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<tr>
<td>304</td>
<td>OPPERTUNITY IN EUROPE DURING THE NINETEENTH CENTURY</td>
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<tr>
<td>317</td>
<td>PRINTMAKING II                                                                                 (May be repeated for a total of 12 credits)</td>
<td>3</td>
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<tr>
<td>321</td>
<td>FIGURATIVE SCULPTURE                                                                            (May be repeated for a total of 12 credits)</td>
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<tr>
<td>322</td>
<td>INTERMEDIATE SCULPTURE                                                                            (May be repeated for a total of 12 credits)</td>
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<tr>
<td>331</td>
<td>DRAWING II                                                                                  (May be repeated for a total of 12 credits)</td>
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<tr>
<td>333</td>
<td>ADVANCED LIFE DRAWING                                                                          (May be repeated for a total of 9 credits)</td>
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<tr>
<td>348</td>
<td>PAINTING II</td>
<td>3</td>
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<tr>
<td>354</td>
<td>CERAMICS II                                                                                 (May be repeated for a total of six credits)</td>
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<td>366</td>
<td>METALSMITHING II                                                                               (May be repeated for a total of six credits)</td>
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<tr>
<td>386</td>
<td>ADVANCED ENAMELING                                                                            (May be repeated for a total of nine credits)</td>
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<tr>
<td>385</td>
<td>PHOTOGRAPHY II                                                                                (May be repeated for a total of two credits)</td>
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<td>376</td>
<td>PHOTOGRAPHS</td>
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<tr>
<td>380</td>
<td>GRAPHIC VIDEO                                                                                (May be repeated for a total of two credits)</td>
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<tr>
<td>386</td>
<td>PACKAGING DESIGN                                                                                (May be repeated for a total of two credits)</td>
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<tr>
<td>387</td>
<td>ADVERTISING LAYOUT DESIGN                                                                        (May be repeated for a total of two credits)</td>
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<tr>
<td>388</td>
<td>ADVERTISING PRODUCTION AND DESIGN                                                                (May be repeated for a total of two credits)</td>
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<tr>
<td>392</td>
<td>WEAVING II</td>
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<tr>
<td>405</td>
<td>SPECIAL TOPICS IN HISTORY OF ART                                                             (May be repeated for a total of 12 credits)</td>
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<td>418</td>
<td>ADVANCED PRINTMAKING                                                                           (May be repeated for a total of six credits)</td>
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<tr>
<td>422</td>
<td>ADVANCED SCULPTURE                                                                            (May be repeated for a total of nine credits)</td>
<td>3</td>
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<tr>
<td>431</td>
<td>DRAWING II</td>
<td>3</td>
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<tr>
<td>448</td>
<td>ADVANCED PAINTING                                                                             (May be repeated for a total of nine credits)</td>
<td>3</td>
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<tr>
<td>454</td>
<td>ADVANCED CERAMICS                                                                             (May be repeated for a total of 12 credits)</td>
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<tr>
<td>455</td>
<td>FIBER, CLAY AND METAL SEMINAR                                                                           (May be repeated for a total of 12 credits)</td>
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<tr>
<td>466</td>
<td>ADVANCED METALSMITHING                                                                         (May be repeated for a total of 12 credits)</td>
<td>3</td>
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<tr>
<td>475</td>
<td>ADVANCED PHOTOGRAPHY                                                                            (May be repeated for a total of 12 credits)</td>
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<tr>
<td>480</td>
<td>ADVANCED GRAPHIC DESIGN                                                                        (May be repeated for a total of 12 credits)</td>
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<tr>
<td>492</td>
<td>CORPORATE IDENTITY AND GRAPHIC SYSTEMS                                                          (May be repeated for a total of 12 credits)</td>
<td>3</td>
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<tr>
<td>484</td>
<td>ILLUSTRATION</td>
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<tr>
<td>485</td>
<td>ADVANCED ILLUSTRATION                                                                         (May be repeated for a total of 12 credits)</td>
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</tbody>
</table>
HOME ECONOMICS AND FAMILY ECOLOGY

TEXTILES
Basic study of natural and man-made fibers. Emphasis on physical properties, selection and care. Attention given to design and manufacture of textiles. Lecture.

CLOTHING CONSTRUCTION
Basic theory and methods of garment construction including experience with pattern alterations, diverse fabrics and special construction techniques. Two hours lecture, four hours laboratory.

EARLY CHILDHOOD NUTRITION
Emphasis on nutrition as component of Early Childhood programs. Nutrition principles discussed in relation to self and young children. Prenatal and infant nutrition studied. Food as learning experience, menu planning, purchasing, sanitation, food labeling, storage and parent involvement included. For Family and Child Development Option, and an educational technology student.

NUTRITION FUNDAMENTALS
Study of fundamental concepts of nutrition; emphasis on nutrients and requirements at different stages of the individual's life cycle.

FOOD FOR THE FAMILY
Application of nutrition to meal planning, problems in selecting, budgeting and preparing meals. Lecture/Laboratory.

HOME ECONOMICS SURVEY
Survey of history and development of home economics with emphasis on professional and career opportunities.

INTRODUCTION TO INTERIOR DESIGN AND FURNISHINGS
Introduction to home furnishings involving topics such as furniture styles, utilization of space, color, lighting, wall treatments, floor coverings, furniture arrangement, selection and accessorizing. Lecture/Laboratory.

FAMILY HOUSING
Study of housing alternatives related to stages in the family life cycle. Also overview of physical aspects of house: construction, financing, insulation, heating/cooling systems, serving and kitchen design. Lecture/Laboratory.

RELATIONAL PATTERNS IN MARRIAGE AND FAMILY
Study of familial interaction in various life styles with emphasis on self-concept, changing roles, developmental issues, family life cycles and socioeconomic and cultural influence upon individual and family.

SURVEY OF APPLIED HOME ECONOMICS IN THE COMMUNITY
Directed study and observation of ongoing community and business programs in home economics and family ecology related areas, including housing, home management, financial management, food and nutrition, clothing, child development, parent effectiveness, and handicapping conditions through family life cycle. Two-hour local tour in addition to class sessions.

FAMILY HEALTH AND HOME NURSING
Overview of strategies for generation of positive physical, mental and emotional health across individual and family life cycles. Emphasis on preventative strategies as well as home care procedures.

BASIC FOOD THEORY AND APPLICATION
Prerequisites: 333, 3150; 129 or permission of instructor. Scientific and aesthetic principles involved in the selection, storage and preparation of common foods to maintain the highest nutritional quality and palatability.

FATHERHOOD: THE PARENT ROLE
Overview of development of stereotyped behavior as it affects the father role and his interpersonal relationships with other family members. Directives for family life education, research, theory, and social policy.

CHILD DEVELOPMENT
Physical, social, mental and emotional development of child from prenatal through five. Observation in child care and preschool centers.

PLAY AND CREATIVE EXPRESSION ACTIVITIES
Prerequisite: 265. Importance of play in child's social, emotional, intellectual and physical growth. Encouragement of creativity in adults and children through planned experiences that provide for individual expression.

ADMINISTRATION OF CHILD CARE CENTERS
Prerequisites: 265, 275 or permission of instructor. 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.

DIRECT EXPERIENCES IN THE HOSPITAL
Prerequisites: permission of advisor.Individual learning experiences for students with patient and their families and the hospital personnel in various hospital settings under the direction of hospital and university staff.

CONSUMER EDUCATION
Study of consumer needs, concerns and problems as related to individual consumer, to consumers in the market economy and to the complex society in which families function.

CONSUMERS OF SERVICES
A study of the services sector of the economy. Emphasis is on a framework for studying all service providers and in developing criteria for evaluating service providers.

CHILDREN AS CONSUMERS
Development of consumer education concepts for children grades K-6. Emphasis includes research data on children in the consumer role.

ADVANCED CONSTRUCTION AND TAILORING
Prerequisite: 123. Advanced theory and principles in construction of couture garments. Construction of coat or suit jacket utilizing custom tailoring techniques. Two hours lecture, four hours laboratory.

CONTEMPORARY NEEDLE ARTS
Use of appropriate textiles, yarns and needles in creation of various items for purposes of enhancing leisure time or as earning skills. Lecture/Laboratory.

INTRODUCTION TO FOOD SYSTEMS MANAGEMENT
Prerequisite: 245 or permission; corequisite: 314. Introductory course in management of dielectric food service systems which relates to achievement of nutrition care goals.

INTRODUCTION TO FOOD SYSTEMS MANAGEMENT - CLINICAL
Prerequisite: CULP student only; corequisites: 313, 416. Demonstration of food preparation techniques in production area of community facilities; understanding of basic responsibilities of production supervisors; identification of resources involved in total management of base hospital's food service system.

SCIENCE OF NUTRITION

HISTORIC COSTUME
Chronological study of costume from ancient to modern times as source of inspiration for contemporary dress and the theatre with consideration of cultural forces that affected the development. Lecture.

INTRODUCTION TO NUTRITION IN MEDICAL SCIENCE
Prerequisite: 316. Analysis of therapeutic healthcare concepts. Consideration of nutritional implications of pathological conditions, construction of diets for specific disorders.

INTRODUCTION TO NUTRITION IN MEDICAL SCIENCE - CLINICAL
Prerequisites: 316, CULP student only; corequisite: 328. Clinical experiences in area hospitals for application of principles of nutritional care learned in 328.

HISTORY OF TEXTILES AND FURNISHINGS
An in-depth study of textiles and furnishings which focuses on the social, economic and political effects of technological and aesthetic developments from antiquity through the Twentieth Century.
THE FASHION INDUSTRY 3 credits
Prerequisites: 121, sophomore standing. Overview of fashion industry including growth, promotion and impact of cultural influences. Review of international and American fashion scene. Lecture/Discussion.

MEAL SERVICE 2 credits
Prerequisites: 245, 316 or 131 or 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.

TAILORING FOR MEN 2 credits

PARENT-CHILD RELATIONS 3 credits
Prerequisites: 123 or permission. The study of interactive parent-child relations from infancy through adulthood and the internal and environmental forces which impact upon family dynamics.

HOME MANAGEMENT THEORY 3 credits
Introduction to management theories, processes and principles as applied to utilization of human and material resources in promotion of individual and family well-being.

INTRODUCTION TO COMMUNITY NUTRITION 1 credit
Orientation to the philosophy, objectives and structure of government and voluntary agencies and organizations which have nutrition components. Clinical observation scheduled.

FAMILY RELATIONSHIPS IN MIDDLE AND LATER YEARS 2 credits
Exposition of the family and individual development during middle and later years of life. Emphasis on issues related to intimacy, economics, social policies, psychological and biological changes.

DEVELOPMENTAL INVOLVEMENT IN HOME ECONOMICS 1-3 credits
Development of managerial expertise through experience. Selected participation sites in business and industry, retailing, community agencies and with individual families with special managerial problems.

FAMILY LIFE PATTERNS IN THE ECONOMICALLY DEPRIVED HOME 2 credits
Study of family life orientation and life-style patterns among economically deprived with emphasis on impact on socio-economic and psychological deprivation on family members throughout family life span.

ADVANCED FOOD PREPARATION 3 credits
Prerequisites: 141 or 245 or permission of instructor. Study of advanced techniques of food preparation. Introduction to and interpretation of classic and foreign cuisines. Emphasis on individualized experience, skill development and evaluation of procedures and results.

ADOLESCENCE IN THE FAMILY CONTEXT 3 credits
Prerequisites: 201, 265 or permission of instructor. The influences of adolescent behavior on the family and the influence of the family environment on adolescent development.

FAMILY RESOURCE MANAGEMENT 2 credits
Management of family resources as families function as consuming units in today’s economy. Exposure to current consumer education resources including sources of consumer information and methods of utilizing these resources.

INSTITUTIONAL MANAGEMENT 3 credits
Organization and management in administration of food service systems, problems in administration of food service systems, problems in control of labor, time and cost. Field experience in food production.

FOOD SYSTEMS MANAGEMENT 3 credits
Prerequisite: 313, corequisite: 414. Advanced concepts in management of dietary service systems relating to achievement of nutritional care goals.

FOOD SYSTEMS MANAGEMENT — CLINICAL 3 credits (credit/ noncredit)
Prerequisite: 314, corequisite: 413. Application of advanced food systems management concepts in community dietary food service facilities; preparation for entry-level staff positions as administrative dietitians; clinical experience for 24 hours per week for 10 weeks of semester.

HOUSEHOLD EQUIPMENT 2 credits
Selection, use and care of modern household equipment. Survey of commercial equipment used in home economics related professions.

QUANTITY FOOD PREPARATION 2 credits
Prerequisite: 245. Theoretical concepts and practical application of principles and procedures in quantity food management, preparation and service.

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. Lecture/Discussion.

EXPERIMENTAL FOODS 3 credits
Prerequisites: 245, 316 or 131 or 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.

SPECIAL PROBLEMS IN HOME ECONOMICS 1-3 credits
Additional study or apprentice experience in specialized field or preparation; group and individual experimentation.

ADVANCED HOME MANAGEMENT 2 credits
Theoretical and practical experiences utilized in study of management processes and principles as applied to families. Management of human and material resources and decision-making processes emphasized.

NUTRITION IN THE LIFE CYCLE 3 credits
Prerequisite: 316 or permission of instructor. Study of the physiological basis for nutritional requirements; interrelating factors which affect growth, development, maturation and nutritional status from conception through the elderly years.

THEORETICAL NUTRITION 4 credits
Prerequisites: 316, 3100:130, 3150:203 or permission. Application of principles of normal nutrition to diet in disease. Effects of pathological conditions on planning of modified diets to meet nutritional needs. Practice in writing therapeutic diets and interviewing hospitalized patients; limited experience in specialized clinics.

NUTRITION IN MEDICAL SCIENCE 4 credits
Prerequisite: 328. Overview of major areas of diet therapy not covered.

NUTRITION IN MEDICAL SCIENCE — CLINICAL 3 credits (credit/ noncredit)
Prerequisites: 329. CUP students only. corequisite 428. Clinical experience in hospitals applying principles of nutritional care learned in 428.

COMPUTER-ASSISTED FOOD SERVICE MANAGEMENT 3 credits
Use of computer programs in application of management concepts for food service systems.

INTERIOR DESIGN I: RESIDENTIAL 3 credits
Prerequisite: 710:282. An in-depth study of the interior design profession and its complexities, with emphasis on developing skills necessary to function effectively as a residential designer.

INTERIOR DESIGN II: CONTRACT 3 credits
Prerequisite: 433. Continuation of Interior Design I with an emphasis on both residential interior design and commercial interior design, and the development of the basic skills necessary to function effectively as an interior designer.

PRACTICES AND PRINCIPLES OF INTERIOR DESIGN 3 credits
Study of the business aspects of interior design. Procurement, manufacturing of home furnishings and principles and psychology of marketing home furnishings.

FAMILY CRISIS 3 credits
Study of family stress and crisis including internal and external variables and their influence on degree of disorganization, coping and recovery. Includes theory, research and application of intervention strategies.

HUMAN SEXUALITY 3 credits
Prerequisite: 231 or permission of instructor. Introduction to problems and values. Emphasis is on the role of values in intimate relationships, the diverse dimensions of sexual responsibility.

PUBLIC POLICY AND THE AMERICAN FAMILY 3 credits
How legislation in such areas as housing, clothing, consumer affairs, family formation and dissolution, resource conservation, civic development and health care affects and, in some cases, determines the nature, structure and quality of the family as a social institution.

CRITICAL ISSUES IN HOME ECONOMICS 1 credit
Prerequisites: 147 and senior standing. Consideration of home economics as a profession and its impact on the quality of life of individuals, families and their environments. Analysis of challenges facing the profession and all home economists.

BEFORE AND AFTER SCHOOL CHILD CARE 2 credits
Study of the development, implementation and evaluation of school-age child care programs for before and after school and vacation periods.

FLAT PATTERN DESIGN 3 credits
Prerequisite: 305. Theory and experience in women’s clothing design using flat pattern techniques. Two lecture hour, four laboratory.

DEMONSTRATION TECHNIQUES 2 credits
Prerequisite: major only. Provides practical experience in organization and presentation of demonstrations. Emphasis on competencies in coordination of materials, motion and speech in presentation.

CHILD IN THE HOSPITAL 4 credits
Prerequisite: 265, comparable course or permission of instructor. Seminar dealing with special needs and problems of hospitalized ill child and family. Literature related to effects, separation, illness and stress. Examination of strategies for coping.

PRACTICUM: ESTABLISHING AND SUPERVISING A CHILD LIFE PROGRAM 3 credits
Prerequisite: 350. Explores procedures for implementing and supervising child life programs, critical analysis of currently functioning program.

MACHINE STITCHERY 3 credits
Understanding the utilization of the sewing machine as a creative tool. Emphasis on developing the artistic and technical skills necessary for designing, constructing, applying, drawing, quilting, patchwork, crotchet and other related textile arts by machine.

ORGANIZATION AND SUPERVISION OF CHILD CARE CENTERS 3 credits
Theory, principles and procedures involved in establishing and operating centers for infants, toddlers, preschool and school age children.

COMMUNITY NUTRITION I 3 credits
Prerequisite: 316. corequisite 481. Major food and nutrition related problems in the community. Emphasis on community assessment program implementation and evaluation; rationales for nutrition services.

COMMUNITY NUTRITION II — CLINICAL 1 credit (credit/ noncredit)
Prerequisite: CUP students only, corequisite 480. Field placement in area agencies offering nutrition services, Study of agencies, goals, organization and philosophy of nutritional care.
482/582 COMMUNITY NUTRITION II 3 credits
Prerequisite: 480. Food and nutrition-related problems on a national and international level. Emphasis on legislation, nutrition policies, controversies, cultural differences and educational approaches.

483 COMMUNITY NUTRITION II - CLINICAL 1 credit
Prerequisite: CUP student only; concurrent 482. Field placement in area agencies offering nutrition services. Study of agencies' goals, organization and philosophy of nutritional care.

484/584 ORIENTATION TO THE HOSPITAL SETTING 2 credits
Prerequisite: 265, comparable course or permission of instructor. Focuses on hospital as a major social institution; introduces procedures and functions of the hospital's role played by various hospital personnel plus cursory knowledge of medical terminology, common childhood illnesses, injuries and illnesses.

485/585 SEMINAR IN HOME ECONOMICS 1-3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.

486 STAFF RELIEF: DIETETICS 1 credit (credit/nonecredit)
Prerequisite: 414. CUP senior only. Opportunity to function as an entry-level dietician in area of administrative, therapeutic or community dietetics. The graduating senior CUP student spends two 40-hour weeks in a mutually agreeable agency primarily under direction of staff dietitian or coordinator.

490/590 WORKSHOP IN HOME ECONOMICS AND FAMILY ECOLOGY 1-3 credits
Prerequisite: at least junior standing. Investigation on current issue or topic in selected areas of home economics and family ecology. May be on off-campus study tour or an on-campus ful-time group meeting.

495 INTERNSHIP: GUIDED EXPERIENCES IN CHILD LIFE PROGRAM 8 credits
Prerequisite: 455. A field experience in a child life program as a child life specialist at Children's Hospital Medical Center of Akron.

496/596 PARENTING SKILLS 3 credits
Prerequisite: 265, comparable course or permission of instructor. Reviews and analyzes various child-rearing techniques with an emphasis on practical application.

497 INTERNSHIP IN HOME ECONOMICS AND FAMILY ECOLOGY 2-6 credits
Prerequisite: permission of instructor. In-depth field experience in business, industry or community agencies related to student's area of specialization.

499 SENIOR HONORS PROJECT IN HOME ECONOMICS AND FAMILY ECOLOGY 1-3 credits
May be repeated for a total of 6 credits.
Prerequisite: senior standing in Honors Program and approval of Honors preceptor. Individual study supervised by advisor. Student and preceptor define goals, objectives and methodology.

600 EVALUATION OF HOME ECONOMICS LITERATURE 3 credits
A study of selected literature with emphasis upon evaluation and interpretation techniques.

601 FAMILY IN TRANSITION 2 credits
Overview of family in historical perspective. Effects of social change upon family and emerging relational patterns. Review of theory, research and educational strategies.

602 FAMILY IN LIFE SPAN PERSPECTIVE 2 credits
Study of individual and family development across life span. Emphasis on understanding of available resources, adjustment patterns and intra-personal competence. Implications for education, theory, research and social policy.

603 FAMILY MIDDLE AND LATER YEARS 2 credits
Study of family patterns and problems during middle and later years of life with emphasis on psychological and biological changes and economic and social adequacy. Research and trends in gerontology.

604 DEVELOPMENTAL PARENT-CHILD INTERACTIONS 3 credits
Prerequisite: 265 or equivalent permission. Study of reciprocal interactions formed between parent and child from birth to adulthood. Consideration of cross-cultural, historical and societal influences and varying family characteristics and structures.

607 FAMILY DYNAMICS 3 credits
Development of techniques in home economics programs utilizing role theory, exchange theory and system theory as understood through the study of family across the life cycle.

610 CHILD DEVELOPMENT THEORIES 3 credits
A comparative study of developmental theories of the child within the family context. Application of the theories to child rearing in the family will be emphasized.

616 INFANT AND CHILD NUTRITION 2 credits
Emphasizes current research trends in physiology of infant and young child in relation to nutritional requirements and feeding practices.

651 FAMILY AND CONSUMER LAW 3 credits
Study of laws which control and protect individuals within family. Emphasis on current trends, legal rulings. Course taught by attorney.

660 PROGRAMMING FOR CHILD CARE CENTERS 2 credits

665 DEVELOPMENT IN INFANCY AND EARLY CHILDHOOD 3 credits
Analysis of research and theoretical frameworks regarding infant and child development from conception through age five. Implications for guidance and education.

675 CONCEPTUAL FRAMEWORKS IN FAMILY ECOLOGY 3 credits
The ecosystem will be used as a model for viewing the family as a unit and the relation between family groups and the environment.

685 INTERNSHIP IN FAMILY AND CHILD DEVELOPMENT 5 credits
Prerequisite: permission of adviser. Community-based experience designed to supplement classroom studies. A student works with agency personnel and clientele in programs designed to meet needs of children and/or families.

687 INDIVIDUAL INVESTIGATION IN FAMILY DEVELOPMENT 1-3 credits
Prerequisite: permission of graduate adviser. Individual pursuit and analysis in specific area of student's interest and design under direction of faculty adviser.

699 INDIVIDUAL INVESTIGATION OF CHILD DEVELOPMENT 1-3 credits
Prerequisite: permission of graduate adviser only. Individual pursuit and analysis in specific area of student's interest and design under direction of faculty adviser.

699 THESIS 5 credits
Prerequisite: permission of adviser. Preparation of thesis pertaining to a selected research project in area of family or child development.

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MUSIC 7500:

100 FUNDAMENTALS OF MUSIC 2 credits
Introduction of basic notation and development of functional music reading and keyboard skills. Conducted in electronic keyboard laboratory with computer-assisted instruction available. For non-music majors only. With little or no previous musical training.

101 INTRODUCTION TO MUSIC THEORY 2 credits
Describes functional music major toward correction of deficiencies in theory background as determined through placement testing. Includes classroom instruction and computer-assisted instruction in basic notation, scales, chords, scales, key signatures, ear training and basic familiarity with the keyboard. Credit not applicable toward music major.

103 TRENDS IN JAZZ 2 credits
An overview of the first 100 years of jazz music with emphasis on major figures and styles central to the development of jazz. This course is specifically designed for non-music majors.

104 CLASS PIANO I 2 credits
Prerequisite: 101 or permission of instructor. Designed for students with no previous keyboard experience to learn rudimentary keyboard skills such as playing scales, chords, arpeggios and rhythmic patterns as well as simple music.

105 CLASS PIANO II 2 credits
Prerequisite: 104 or permission of instructor. Continuation of work begun in 104.

107 CLASS VOICE I 2 credits
Prerequisite: 104 or permission of instructor. Minimum memorization and solo singing requirement seven songs: vocal literature emphasis. folk songs, ballads, spirituals, sacred songs and easy art songs in English.

108 CLASS VOICE II 2 credits
Prerequisite: 107. Minimum memorization and solo singing requirement eight songs: Vocal literature emphasis: old Italian art, English songs, art songs in English or foreign language if student is conversant with the language.

110 CLASS GUITAR FOR NON-MUSIC MAJORS 1 credit
Prerequisite: permission of instructor. Introduction to the guitar: its repertoire and techniques: Basic techniques and music reading, strums, finger picking, accompaniment patterns, blues styles will be covered.

151,2 THEORY I, II 3 credits each
Sequential. Prerequisite: 101 or permission of instructor. Study of creative use of elements of music: investigation of music of major composers of classical and romantic era: introduction to earlier musical practices and contemporary music.

154,5 MUSIC LITERATURE I, II 2 credits each
Sequential. Familiarization with large body of musical material from all branches of music writing, vocal, instrumental, symphonic and choral music literature. Special attention given to style, form and structural procedures of principal composers.

157 STUDENT RECITAL 0 credits
Required of all music majors until minimum requirement is met. Forum for student and faculty members providing lectures, recitals and opportunity for practice of various skills necessary for successful music performance.
161 AURAL/ORAL MUSIC READING SKILLS 4 credits
Prerequisite: 101 or passing placement test or permission of instructor. Competency-based, super-pre-dilr in the chant repertory of scales, modes, intervals, broken chords, melodies, rhythms, meter, tempo, modulation. Computer-based education programs in ear training and error detection.

173 NOTATION AND CALLIGRAPHY 2 credits
Prerequisite: 101 Techniques involved in writing music symbols and their correct placement on staff paper. Included are specific techniques in orchestral, choral, jazz, popular notation.

205 MARCHING BAND ORGANIZATION AND TECHNIQUE 1 credit
Prerequisite: 104. All aspects of band on the field discussed. Student learns to write complete half-time show, administer marching band program.

210 JAZZ IMPROVISATION I 2 credits
Prerequisites: 262 and permission of instructor. Study and application of principles of jazz improvisation as they relate the chord-scale structures, motif development and style.

211 JAZZ IMPROVISATION II 2 credits
Prerequisite: 210. Advanced study in principles of jazz composition.

212 THE MUSIC INDUSTRY: A SURVEY OF PRACTICES AND OPPORTUNITIES 2 credits
A study of current practices affecting the professional musician and a survey of career opportunities relating to the music industry.

251.1 THEORY III, IV 3 credits each
Sequential. Prerequisite: 150. Renaissance vocal counterpoint. Baroque instrumental counterpoint. Form and analysis of music of all eras.

254.5 STRING INSTRUMENT TECHNIQUES I, II 2 credits each
Sequential. Fundamentals of technique, tone production, methods and materials pertaining to violin, viola, cello and string bass, heterogeneous string ensemble activities.

261.2 KEYBOARD HARMONY I, II 2 credits each
Sequential. Prerequisites: 105 or equivalency and 152. Essentials of basic theory and harmony practically applied at keyboard, accompaniment, improvisation, transposition, modulation and sight-reading.

263 SERVICE PLAYING FOR ORGANISTS 2 credits
Prerequisites: 152 and 261. Practical course in basic keyboard skills needed by organist to play for religious services in various denominations. Hymn playing, anthem accompanying and simple improvisation.

264 BEGINNING PIANO PEDAGOGY AND LITERATURE 2 credits
Prerequisite: permission of instructor. Examination of musical content and pedagogical orientation of beginning piano materials to include appropriate teaching works, methods and ensemble pieces from a variety of historical periods.

265.6 DICTION FOR SINGERS I, II 2 credits each
Sequential. Prerequisite: permission. Study of diction of the four most used languages (Italian, German, French and English) in vocal performance and international phonetic alphabet. Designed for student who expects to function as vocal performers and/or choral and studio voice teachers.

301 MUSIC APPRECIATION: MUSIC BEFORE 1800 2 credits

302 MUSIC APPRECIATION: NINETEENTH AND TWENTIETH CENTURIES 2 credits
501 and 2 designed as electives for non-music major to provide introductory survey of art of music.

306 MARCHING BAND ARRANGING 2 credits
Prerequisite: 152 or permission of instructor. A student arranges music for marching band including style, sound projection. Includes discussion of scoring for concert bands as related to marching band.

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 organization and direction of stage bands.

308 THE HISTORY AND LITERATURE OF JAZZ 3 credits
Prerequisite: permission of instructor. Study of origins of jazz music, its development and influence on today’s culture. Investigates evolution of musical instruments as they pertain to jazz music, the artists who perform on them, and their music through live and recorded performances.

309 JAZZ KEYBOARD TECHNIQUES 2 credits
Prerequisite: 262. Study of and familiarization with basic jazz keyboard techniques as they relate to contemporary jazz harmony and theory.

310 JAZZ IMPROVISATION III 2 credits
Prerequisite: 211. Advanced study in the principles of jazz improvisation.

311 JAZZ IMPROVISATION IV 2 credits
Prerequisite: 310. Advanced study in the principles of jazz improvisation.

325 RESEARCH IN MUSIC 2 credits
Prerequisites: 155, 161, 252, 262. Techniques of basic research methods, examination of selected music materials. Field trips to specialized collections.

340 GENERAL MUSIC (May be repeated for a total of six credits) 3 credits
Prerequisites: 155, 162, 252, 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.

342 WIND-PERCUSION INSTRUMENT TECHNIQUES 3 credits
(May be repeated for a total of six credits)
Prerequisites: 155, 161, 252, 262. Basic techniques in teaching woodwind, brass and percussion instruments. Development of knowledge and skills on band instruments applied to ensemble, large group and individualized instruction. Clinical and field-based experiences.

351.2 MUSIC HISTORY I, II 3 credits each
Sequential. Prerequisites: 152, 155. Development of music from ancient to modern times; scores, recordings and live performances as illustrative material.

353 ELECTRONIC MUSIC 3 credits
(May be repeated for a total of six credits)
Prerequisite: 252. Theory of electronically-generated sound and practice of electronic music composition. Emphasis is on developing practical understanding of the components of the voltage-controlled studio.

356 MUSIC IN THE TEACHING OF RETARDED AND HANDICAPPED PEOPLE 2 credits
Prerequisite: permission of instructor. Study of application of music to needs of the special person in public/private school, clinical settings.

358 FUNCTIONAL CLASS GUITAR 2 credits
Prerequisites: knowledge of music rudiments and permission of instructor. Provides student in music education with basic rudiments of guitar playing as related to use in music classrooms.

361 CONDUCTING 2 credits
Prerequisite: 152. Study and practice of conducting techniques, beat patterns, fermatas, tempo and dynamic change, attacks and releases, score reading.

362 CHORAL ARRANGING 2 credits
Prerequisites: 252, 252 or permission of instructor. Designed to provide student with an understanding of principles of choral arranging and composition in all idioms and styles.

365 SONG LITERATURE 2 credits
Prerequisite: 252 or permission. Exposes student systematically to vocal literature, aiding in their ability to distinguish between various periods and styles of music through recordings and class participation.

368 GUITAR STYLES 2 credits
Prerequisite: 200. Performance level or permission of instructor. Techniques involved in performing musical styles other than those in classical guitar. Included are plucked styles such as bluegrass, country and rock, as well as flamenco, folk, popular and jazz.

369 HISTORY AND LITERATURE OF THE GUITAR AND LUTE 2 credits
Prerequisite: permission of instructor. Study of plucked, fretted string instruments from the Fourteenth Century to the present: construction, notation, literature and performance practices. Modern editions and recordings evaluated.

371 ANALYTICAL TECHNIQUES 2 credits
Prerequisite: 252. Techniques for analysis of musical score from all eras of western music history, with major emphasis on works of Baroque, Classical and Romantic periods.

372 TECHNIQUES FOR THE ANALYSIS OF TWENTIETH-CENTURY MUSIC 2 credits
Prerequisite: 252. Techniques for the analysis of musical scores from the Twentieth Century. Required of a theory-composition major.

407 JAZZ ARRANGING AND SCORING 2 credits
Prerequisite: 454 or permission of instructor. Study of jazz instrumentation from small groups to large ensembles.

451/551 INTRODUCTION TO MUSICOLOGY 2 credits
Prerequisite: 352. Comparative musicology: acoustics, psychology and physiology of music; aesthetics; theory of music theory; historical musicology.

452 COMPOSITION 2 credits
Prerequisite: 252 or permission of instructor. Study and creative use of major styles and idioms of musical composition; emphasis on Twentieth-Century techniques.

453/553 MUSIC SOFTWARE SURVEY AND USE 2 credits
Prerequisite: 152 or permission of instructor. A survey and evaluation of available software in the various forms of musical instruction. Students will design a course suitable for submission to a programmer.

454 ORCHESTRATION 2 credits
Prerequisite: 252. Theory of instrumentation ranging from small ensembles to full band and orchestras.

455/555 ADVANCED CONDUCTING: INSTRUMENTAL 2 credits
Prerequisites: 361 and 454. Baton techniques and problems relating to practice, reading and preparation of scores; organization of orchestra and band, problems in programming and practice conducting larger instrumental ensembles.

456/556 ADVANCED CONDUCTING: CHORAL 2 credits
Prerequisite: 361 or equivalent. Adaptation of basic conducting techniques to the choral ensemble, including leadership, error detection, tonal development, stylistic accuracy and analysis.

462/562 REPERTOIRE AND PEDAGOGY: ORGAN 3 credits
Prerequisite: permission of instructor. Survey of organ literature of all eras and styles, and of methods of teaching organ, applying principles to literature.

463/563 REPERTOIRE AND PEDAGOGY: STRING INSTRUMENTS 3 credits
Prerequisite: permission of instructor. Study of the four bowed string instruments: their teaching and close relationship. Despite obvious difference in physical application of cello and bass from violin and viola, methods of bowing, sound production and coloring are closely related. Application of the instruments to solo, chamber and orchestral playing.
Graduate Courses

601 CHORAL LITERATURE 2 credits
Prerequisite: permission of instructor. Study in depth of style, structure, technical demands, manner of setting text, and special performance problems found in masterworks by great choral composers of nine centuries.

604 DEVELOPMENT OF OPERA 2 credits
Prerequisite: permission of instructor. Growth and development of opera from 1600 to present. Includes detailed examination of stylistic and structural changes as well as performance practices.

608 SEMINAR IN MUSIC OF THE WESTERN HEMISPHERE 2 credits
Prerequisite: permission of instructor. Designed to develop understanding of peoples and cultures of Western Hemisphere through study of music of each major area. Research and writing in areas of special interest.

609 PEDAGOGY OF JAZZ IMPROVISATION 3 credits
A detailed study of the methods and materials as they relate to the teaching of jazz improvisation.

611 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION 3 credits
Prerequisite: permission of instructor. Study of basic philosophical, historical, sociological, and psychological concepts around which public school music programs function.

612 PRACTICES AND TRENDS IN MUSIC EDUCATION 3 credits
Prerequisite: permission of instructor. In-depth exploration of innovative practices and trends in music education. Findings of research and practice related to prevailing situations in public/private school programs.

613 INSTRUCTIONAL PROGRAMMING IN MUSIC FOR THE MICROCOMPUTER 3 credits
Prerequisite: 453/553. Introduction to programming languages for the microcomputer including BASIC, Pascal and Assembler. Programming will be directed towards educational music concepts.

614 MEASUREMENT AND EVALUATION IN MUSIC 2 credits
Prerequisite: permission of instructor. Study and application of principles of music aptitude, music achievement, and content evaluation. Elementary statistics for music test interpretation and construction explored.

615 MUSICAL STYLES AND ANALYSIS I 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in western music from period of Gregorian chant through music of Palestina, Gesualdo and others of late Renaissance.

616 MUSICAL STYLES AND ANALYSIS II 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in western music from Baroque and earlier.

617 MUSICAL STYLES AND ANALYSIS III 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in music of the 18th century.

618 MUSICAL STYLES AND ANALYSIS IV 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in music of the 19th century.

619 THEORY AND PEDAGOGY 2 credits
Prerequisite: permission of instructor. Methodology of theory teaching in Twenty-First Century. Focus on differing philosophies of approach to theory instruction as noted from texts on subject. Recent innovations and techniques of teaching, such as programmed materials, computer-assisted instruction studied.

620 COMPUTER ANALYSIS IN MUSIC 2 credits
Prerequisite: permission of one course in the 615-618 series. A systematic study of analytic techniques in music which make use of the computer. Hands-on experiences with music encoding, card manipulation, interactive, systems and program writing as related to music analysis.

621 MUSIC HISTORY SURVEY: MIDDLE AGES AND RENAISSANCE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music of Middle Ages and Renaissance. Research and writing in areas of special interest.

622 MUSIC HISTORY SURVEY: BAROQUE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of Baroque music in depth of specific examples, from recordings, scores and live performances. Continuation and synthesis of approaches normal to study of music history. Selected readings related to each student's particular field of interest. Project papers.

623 MUSIC HISTORY SURVEY: CLASSIC AND ROMANTIC 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of Classic and Romantic music in depth of specific examples, from recordings, scores and live performances. Continuation and synthesis of approaches normal to study of music history. Selected readings related to each student's particular field of interest. Project papers.

624 MUSIC HISTORY SURVEY: TWENTIETH CENTURY 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of Twentieth Century music in depth of specific examples from scores, recordings and live performances. Continuation and synthesis of approaches normal to study of music history. Selected readings and project papers.

625 GRADUATE BIBLIOGRAPHY AND RESEARCH IN MUSIC 2 credits
Prerequisite: undergraduate music degree or equivalent. Examination of all types of published music materials, research methods for thesis preparation and professional publishing, field trips to music libraries, computerized music research.

630 TEACHING AND LITERATURE: BRASS INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in brass teaching techniques, and appropriate literature.

631 TEACHING AND LITERATURE: WOODWIND INSTRUMENTS 2 credits
Prerequisite: permission of instructor. To delineate and clarify contemporary techniques of woodwind pedagogy and to develop a comprehensive understanding of woodwind literature.

632 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS 2 credits
Prerequisite: permission of instructor. To prepare an experienced instrumental music educator in new trends of percussion education. Emphasis placed on research, literature, performance techniques, new instruments and problems of teaching percussion from elementary level through high school.

633 REPERTOIRE AND PEDAGOGY: PIANO AND HARPSICHORD 2 credits
Prerequisite: permission of instructor. Study of keyboard techniques in historically chronological order with special attention to its pedagogical value and stylistic differences.

634 TEACHING AND LITERATURE: STRING INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in string teaching techniques and appropriate literature.

637 MASTER'S CHAMBER RECITAL 1 credit
Prerequisite: permission of instructor. Composition student will present a recital of chamber music compositions (at least one-half hour in length) written while in residence at the University. Student will actively organize and coordinate the recital and will also participate either as performer or conductor.

655 VOCAL PEDAGOGY 3 credits
Prerequisite: permission of instructor. In-depth study of subjects dealing with the teaching of voice: physiology of vocal instrument, principles governing vocal production and application of vocal pedagogy.

666 ADVANCED SONG LITERATURE 3 credits
Prerequisite: permission of instructor. Systematic study of song literature presented chronologically according to national schools of composition. Stylistic compositional characteristics and representative works of all major composers of song literature.

697 ADVANCED PROBLEMS IN MUSIC 1-3 credits
(May be repeated for a total of eight credits.) Prerequisite: permission of graduate adviser. Studies or research projects related to problems in music.

698 GRADUATE RECITAL 2 credits
Prerequisite: permission of graduate adviser. Recital prepared and presented as a required for any appropriate degree option. It recital document is to be written in conjunction with the recital, add 699 for the additional credit.

699 THESIS RESEARCH/RECITAL DOCUMENT 4-6 credits
Prerequisite: permission of graduate adviser. Related to the completion of the master's thesis or recital document written in conjunction with the graduate recital, depending on the student's degree option.

MUSICAL ORGANIZATIONS

7510:
No fee is charged for enrollment of a qualified student in music organizations. Enrollment may be repeated for specific requirements for an undergraduate student in music. Consult page six of the Music Department Handbook.
### Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6019</td>
<td>UNIVERSITY CHORUS SYMPOPHY</td>
<td>1</td>
<td>Membership by audition. Prospective members are advised to contact the Department of Music two weeks prior to beginning of term.  Includes Symphony Band, Wind Ensemble, and Concert Band. Membership in all bands open to university students by audition with director of bands.</td>
</tr>
<tr>
<td>604</td>
<td>UNIVERSITY SYMPHONY ORCHESTRA</td>
<td>1</td>
<td>Membership by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special/university appearances. Major conducted ensemble.</td>
</tr>
<tr>
<td>605</td>
<td>CHORAL ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Study and performance of literature for chamber vocal ensemble from all periods of music history. Freqent public concerts. Designed for personnel with good music reading ability and previous choral experience.</td>
</tr>
<tr>
<td>606</td>
<td>BRASS ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Study and performance of literature for brass ensemble from all periods of music history. Freqent public concerts. For advanced brass players.</td>
</tr>
<tr>
<td>607</td>
<td>STRING ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Study and performance of literature for brass ensemble from all periods of music history. Freqent public concerts. For advanced brass players.</td>
</tr>
<tr>
<td>608</td>
<td>PERCUSSION ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Study and performance of literature for various percussion groups. Develops skill in ensemble performance.</td>
</tr>
<tr>
<td>609</td>
<td>WOODWIND ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Study and performance of woodwind literature from all periods for various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.</td>
</tr>
<tr>
<td>610</td>
<td>CHAMBER ORCHESTRA</td>
<td>1</td>
<td>Membership by audition. Organization designed to study for the substantial repertoire for small orchestra. Open to student of advanced ability.</td>
</tr>
<tr>
<td>611</td>
<td>MENS GLEE CLUB</td>
<td>1</td>
<td>Membership by audition. Designed to perform variety of music written for male voices in ensemble.</td>
</tr>
<tr>
<td>612</td>
<td>WOMENS GLEE CLUB</td>
<td>1</td>
<td>Membership by audition. Designed to perform variety of music written for female voices in ensemble.</td>
</tr>
<tr>
<td>613</td>
<td>KEYBOARD ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Designed to perform variety of music written for female voices in ensemble.</td>
</tr>
<tr>
<td>614</td>
<td>JAZZ ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Provides experience in jazz ensemble performance. A student is assumed to have knowledge of rudiments of music and some experience in jazz performance.</td>
</tr>
<tr>
<td>615</td>
<td>GUITAR ENSEMBLE</td>
<td>1</td>
<td>Membership by audition. Provides experience in conducted ensemble performance for guitarists. Major conducted ensemble.</td>
</tr>
<tr>
<td>617</td>
<td>COLLEGIUM MUSICUM</td>
<td>1</td>
<td>Prerequisite permission of instructor. A musical ensemble that performs music written before 1750 on copies of authentic instruments.</td>
</tr>
<tr>
<td>618</td>
<td>SMALL ENSEMBLE - MIXED</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

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**APPLIED MUSIC 7520:**

A student must contact the Department of Music and consult with the applied music instructor before registering for applied music.

A music major must perform annually before an applied music jury on each instrument studied. Non-music majors performing music will appear before a jury at the discretion of the private teacher.

Credit is earned on the basis of two credits per semester for one 30-minute lesson per week and 90 minutes practice per day. Enrollment may be repeated each semester for credit.

**021-68 APPLIED MUSIC FOR NONMAJORS**

For a student below minimum level of performance skills expected for credit at 100 level or above. Designed for those with limited background in applied study who wish to take lessons for their own pleasure, satisfaction and/or elective credit in non-major programs. Not to be counted for credit in any music major programs of study.

**021 PERCUSSION**

**022 CLASSICAL GUITAR**

**023 HARP**
The following courses are intended for a student majoring in one of the programs in the Department of Music. Course levels correspond approximately to class standing (100 for freshman, 200 for sophomore, etc.). A student may progress up one level by successfully completing an applied music jury, usually offered in the spring semester. NOTE: No more than eight credits at the 100, 200 or 300 level may apply in music degree programs; no such limit exists for the 400 level.

Courses of Instruction

121-221-321-421/521 PERCUSSION
122-222-322-422/522 CLASSICAL GUITAR
123-223-323-423/523 HARP
124-224-324-424/524 VOICE
125-225-325-425/525 PIANO
126-226-326-426/526 ORGAN
127-227-327-427/527 VIOLIN
128-228-328-428/528 VIOLA
129-229-329-429/529 CELLO
130-230-330-430/530 STRING BASS
131-231-331-431/531 TRUMPET OR CORNET
132-232-332-432/532 FRENCH HORN
133-233-333-433/533 TROMBONE
134-234-334-434/534 BARITONE
135-235-335-435/535 TUBA
136-236-336-436/536 FLUTE OR PICCOLO
137-237-337-437/537 OBOE OR ENGLISH HORN
138-238-338-438/538 CLARINET OR BASS CLARINET
139-239-339-439/539 BASSOON OR CONTRABASSOON
140-240-340-440/540 SAXOPHONE
141-241-341-441/541 HARPSICHORD
142-242-342-442/542 PRIVATE LESSONS IN MUSIC COMPOSITION
(May be repeated)
Prerequisites: 7500 or 7525 and permission of instructor. 7500 recommended. Private instruction in composition. Primarily for student whose major is theory-composition.
161-261-361-461 JAZZ PERCUSSION
162-262-362-462 JAZZ GUITAR
163-263-363-463 JAZZ ELECTRIC BASS
164-264-364-464 JAZZ PIANO
165-265-365-465 JAZZ TRUMPET
166-266-366-466 JAZZ TROMBONE
167-267-367-467 JAZZ SAXOPHONE
168-268-368-468 JAZZ COMPOSITION

Graduate Courses

621-661 GRADUATE STUDY IN APPLIED MUSIC
2 or 4 credits each
(May be repeated)
Prerequisites: undergraduate degree in music, graduate standing and/or permission of instructor determined through audition.
621 PERCUSSION
622 CLASSICAL GUITAR
623 HARP
624 VOICE
625 PIANO
626 ORGAN
627 VIOLIN
628 VIOLA
629 CELLO
630 STRING BASS
631 TRUMPET OR CORNET
632 FRENCH HORN
633 TROMBONE
634 BARITONE
635 TUBA
636 FLUTE OR PICCOLO
637 OBOE OR ENGLISH HORN
638 CLARINET OR BASS CLARINET
639 BASSOON OR CONTRABASSOON
640 SAXOPHONE
641 HARPSICHORD
642 APPLIED COMPOSITION
661 JAZZ PERCUSSION
662 JAZZ GUITAR
(May be repeated)
Prerequisites: undergraduate degree with a major in music; Private instruction in composition offered primarily for a student majoring in composition. Another student may be approved by composition faculty.

COMMUNICATION

7600:

102 SURVEY OF MASS COMMUNICATION 3 credits
Considers entire field of contemporary American mass communication. Presents and explains functions of agencies through which news, views and entertainment reach the general public.
115 SURVEY OF COMMUNICATION THEORY 3 credits
Presents models of major forms of speech communication and discusses elements of models, their interaction and their function in the human communication system.

201 NEWS WRITING 3 credits
Prerequisites: 102, ability to type. Writing of news stories, applying theory through discussions, illustrative material, actual writing for publication.

204 EDITING 3 credits
Prerequisites: 201, ability to type or permission. Copyreading, headline writing, proofreading, makeup and typography, printing machines and processes, newspaper methods and systems.

206 FEATURE WRITING 3 credits
Prerequisites: 201, ability to type or permission. Short newspaper and magazine articles, preparation of articles for publication, human interest situations, extensive writing with class discussion.

225 LISTENING 1 credit
Prerequisite: permission. Techniques and approaches involved in understanding the listening process and practice of listening improvement techniques.

226 INTERVIEWING 1 credit
Prerequisite: 225 or permission. A concentrated study of the principles of interviewing and application of those principles of varied settings (especially those crucial to media study).

227 NONVERBAL COMMUNICATION 1 credit
Focused study of the principal aspects of nonverbal communication in public, group and interpersonal settings.

228 COMMUNICATION EXPERIENCES 1 credit
(May be repeated for a total of eight credits) Prerequisite: permission of instructor. Required attendance and interview. Participation in selected communication activities on campus, such as forensics, WAUP-FM, Buchtelite, Tele-Buch Television Center.

235 INTERPERSONAL COMMUNICATION 3 credits
Prerequisite: 115. Theory and practice in interpersonal communication concepts and principles. Special topics in communication apprehension, assertive communication, communication dyads and triads, and transactional communication.

245 ARGUMENTATION 3 credits
Prerequisite: 115 or permission of instructor. Study of the process of developing, presenting and defending inferences and arguments in oral communication settings. Includes study and practice of evidence, reasoning, case construction, refutation and rebuttal.

252 PERSUASION 3 credits
Prerequisite: 115 or permission. Emphasis on understanding persuasion theory and practice. Includes information analysis of motivational appeal and introduction to propaganda analysis.

270 VOICE TRAINING FOR MEDIA 2 credits
Prerequisites: 115 and permission. Safe and effective use of the vocal instrument in its specific application to radio, television and film.

280 MEDIA PRODUCTION TECHNIQUES 3 credits
Introduction to production techniques used in the mass communication covers sound, image, lighting, fundamentals of conveying messages on slide, film and video.

282 RADIO PRODUCTION 3 credits
Study of radio production techniques and the functional operation of AM and FM radio stations. Includes practical production experience in studio.

283 TELEVISION PRODUCTION 3 credits
Prerequisite: permission. Function, structure and influence of television as communication medium with practical production experience in studio.

288 FILM PRODUCTION 3 credits
Prerequisite: permission. Techniques, limitations and potentials of film production. A student learns script writing, directing, lighting and makeup, practical production experience in studios and on location.

301 ADVANCED NEWS WRITING 3 credits
Prerequisite: 201 or permission. Advanced course in writing and editing news, features and analysis for print media. Behavioral approach to communication of information and ideas.

303 PUBLICITY WRITING 2 credits
Prerequisite: 201 or permission. Acquaints student with functions of publicity relations in our society and explains basic theories and principles involved in publicity writing and placement.

309 PUBLICATIONS PRODUCTION 3 credits
Prerequisites: 201, ability to type or permission. Fundamental course for person engaged in production of publications. Consideration of various topics of processes for reproducing printed work including photoengraving, lithography, letterpress, offset gravure, mimeographing.

325 INTERCULTURAL COMMUNICATION 3 credits
Study of effect on oral communication process of existence of cultural barriers. Includes study of verbal and nonverbal communication in transracial, informal international and diplomatic communicative settings.

335 ORGANIZATIONAL COMMUNICATION 3 credits
Study of major organizational communication principles and practices. Group projects related to several communication problems inherent to organizations inside communication flow, communication outward, incoming information to organization.

344 PUBLIC DECISION MAKING 3 credits
Prerequisite: 115 or permission. Discussion of basic considerations, approaches and techniques involved in understanding and participating in the communication process essential to public decision making.

345 BUSINESS AND PROFESSIONAL SPEAKING 3 credits
Prerequisite: 1100.105 or 6. Practical improvement in speaking skills used in business settings.

355 FREEDOM OF SPEECH 3 credits
Discussion and analysis of the Constitution's free speech guarantee: contemporary issues in freedom of communication, role of the media in free speech issues.

357 SPEECH IN AMERICA 3 credits
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.

361 AUDIO RECORDING TECHNIQUES 3 credits
Prerequisite: 280. Basic principles of sound, human hearing and the techniques of audio recording. Theory and laboratory training, recording of live vocal and instrumental performance.

383 ADVANCED TELEVISION PRODUCTION 3 credits
Prerequisite: 293. In-depth study of role of producer in complexities of developing a television program from inception to completion.

384 MASS MEDIA-COMMUNICATION RESEARCH 3 credits
Prerequisites: 102, 15. Fundamental concepts and methods of survey research, and the application and interpretation of survey data in communication and in media operations.

385 AMERICAN FILM HISTORY: THE BEGINNING TO 1945 3 credits
Prerequisite: 102 or permission. Acquaints undergraduate student with historical developments of film and film concepts, ensos with films of 1945.

386 AMERICAN FILM HISTORY: 1945 TO THE PRESENT 3 credits
Prerequisite: 385 or permission. Continuation of student's survey of film history and film concepts begun in 385.

387 RADIO AND TV WRITING 3 credits
Prerequisite: 293. Practical application of script writing principles and techniques used in writing scripts for commercials, announcements, comedy, drama, news and documentaries.

388 HISTORY AND STRUCTURE OF BROADCASTING 3 credits
Prerequisite: 293. Growth of broadcasting in America, historical evolution of approaches to programming, news and financing of broadcasting operations.

395 RADIO STATION PROGRAMMING AND OPERATIONS 3 credits
Prerequisites: 282, 388. History and development of radio programming from early formation to present, nature, structure and function of educational and commercial radio broadcasting.

396 TELEVISION STATION PROGRAMMING AND OPERATIONS 3 credits
Prerequisites: 280, 388. Examines the operations and programming processes of a broadcast station; programming philosophies, broadcast schedules, feature and syndication acquisition, local productions, issues of staffing and funding.

400/500 HISTORY OF JOURNALISM IN AMERICA 3 credits
A review and analysis of the historical evolution of journalism in America, focusing primarily on newspapers, magazines, radio, television.

401 PHOTO EDITING 3 credits
Prerequisite: 309. Use of the photocopy as a reporting tool. Criteria for a publishable photograph, selection and cropping of photographs, display of photo stories, combining of print and photographs in a communication effort.

403 COMMUNICATION IN PUBLIC RELATIONS 3 credits
Prerequisite: 359. Selected communication theories used to analyze and implement effective public relations programs with emphasis placed upon research, planning, promotional messages and evaluation of program.

405 MEDIA COPYWRITING 3 credits
Prerequisites: 102, 484, ability to type or permission. Selected communication theories and research techniques used to plan, write and analyze commercial messages. Emphasis will be placed on selection of audience, medium, appeal, writing style and evaluation of efforts.

439 INDEPENDENT STUDY 1-12 credits
(May be repeated for a total of 12 credits) Prerequisite: permission of faculty. Directed independent readings, research projects and productions. Written proposal must be submitted before permission is granted. Appropriate documentation of work required.

450 SPECIAL TOPICS IN MASS MEDIA-COMMUNICATION 3 credits
(May be repeated for a total of nine credits) Prerequisite: permission of instructor. Special interest topics in mass communication, journalism, or communication, supplementing courses listed in University Bulletin. See department for current listing of offerings.

454/554 THEORY OF GROUP PROCESSES 3 credits
Prerequisite: 344 or permission. Group communication theory and conference leadership as applied to individual projects and seminar reports.

465 NON-BROADCAST MEDIA 3 credits
Prerequisites: 201 or 206, 297 and permission of instructor. Analysis of production problems and design, production and evaluation of solutions involving slides, film and non-broadcast video. Materials fee.
470 ANALYSIS OF PUBLIC DISCOURSE 3 credits
Prerequisites: 246 or permission. Identifies principal textual and contextual elements of public discourse and presents various theories and models to be applied in studying rhetorical acts.

471/571 THEORIES OF Rhetoric 3 credits
Prerequisite: 110. Study of key figures in history of rhetorical theory, stressing relationships among theories of rhetoric, intellectual climates, and social climates.

480 MASS MEDIA-COMMUNICATION INTERNSHIP 1-8 credits
May be repeated for a total of eight credits. Prerequisites: 24 credits in departmental courses and permission. Provides student with supervised experience and on-the-job training. Written permission must be obtained from the department prior to the term for which credit is to be received.

484 REGULATIONS IN MASS MEDIA 3 credits
Concentration on government regulations and self-regulatory bodies in broadcasting, film, and print media.

485 SENIOR HONORS PROJECT IN MASS MEDIA-COMMUNICATION 1-6 credits
(May be repeated for a total of six credits.) Prerequisite: standing in Honors Program; approval of Honors Preceptor and independent study project leading to completion of Senior Honors Thesis or other original work.

486 BROADCAST SALES AND MANAGEMENT 3 credits
Prerequisite: senior standing or permission of instructor. Using simulation and case study techniques, this course examines the sales and decision-making processes of a broadcast station.

487/587 THE AMERICAN FILM INDUSTRY 3 credits
History, current operation and possible futures of the American film industry. Business and industrial aspects of film considered in relation to technological and social change.

488/588 ADVANCED FILM PRODUCTION 3 credits
Prerequisites: 268 and permission of instructor (audition film or have台词). Advanced study in film. Includes study of 35-mm, 16-mm, and Super-8 mm color and black and white, sound on film, emphasis on individual production.

489/589 DOCUMENTARY FORM IN FILM AND TELEVISION 3 credits
Historical and critical study of documentary and non-fiction forms in film and television with an analysis of their roots in photography and radio. Emphasis on American film and TV.

490/590 MASS MEDIA-COMMUNICATION WORKSHOP 1-3 credits
(May be repeated for a total of six credits.) Prerequisites: advanced standing and permission. Group study of group projects investigating a particular phase of media not covered by other courses or curricula.

Graduate Courses

600 INTRODUCTION TO GRADUATE STUDY IN MASS MEDIA-COMMUNICATION 3 credits
Introduction to the ideas and scholarship that constitute the various research interests in the department.

603 EMPIRICAL RESEARCH IN MASS MEDIA-COMMUNICATION 3 credits
An introduction to the conduct of empirical research and their application in studies of mass media research topics.

604 INTRODUCTION TO QUANTITATIVE RESEARCH IN MASS MEDIA-COMMUNICATION 3 credits
Prerequisite: 263 or equivalent. An introduction to reading and understanding research designs employing basic parametric and nonparametric descriptive and inferential hypotheses testing. Students are expected to use statistical models in mass media communication.

606 COMMUNICATION PROBLEMS IN THE BASIC SPEECH COURSE 1 credit
Designed to train a graduate student in methods and materials of introductory speech course. It is required of all teaching graduate assistants.

608 COMMUNICATION PEDAGOGY 3 credits
Familiarizes students with the role of communication in media courses at the college level.

623 AMERICAN MASS MEDIA SYSTEMS 3 credits
An exploration of the role, performance and impact of media in America.

624 SURVEY OF COMMUNICATION THEORY 3 credits
Study of dimensions of the subject of communication: information analysis, social interaction and semantic analysis.

625 THEORIES OF MASS COMMUNICATION 3 credits
Study of various theories of mass media and their relation to social and cultural processes.

626 CONTEMPORARY ISSUES IN BROADCASTING 3 credits
Study of issues important to the management of radio and television broadcasting station. Specialization in professional journal required.

628 CONTEMPORARY PUBLIC RELATIONS THEORY 3 credits
Study and practical application of the concepts, theories, and skills relevant to public relations programs in businesses and nonprofit organizations.

631 SEMINAR: ADVANCED PRODUCTION DESIGN I 3 credits
Prerequisite: 254. A study of the production values in photography, film, and video and their role in the design and production of a major project.

632 SEMINAR: ADVANCED PRODUCTION DESIGN II 3 credits
Prerequisite: 253. A study of the production values in photography, film, and video and their role in the design and production of a major project.

635 ISSUES IN LEGAL REGULATION OF THE MEDIA 3 credits
Structure of the regulatory system, current regulatory issues, print, radio, and television broadcasting pay and cable-in.

645 INTERCULTURAL COMMUNICATION THEORY 3 credits
Study of the impact of the communication process of cultural difference between communicators, examination of existing literature in intercultural communication.

655 THEORIES OF ARGUMENT AND PERSUASION 3 credits
Study of various theories of argument and persuasion and the role of the communication process in influencing the outcome.

670 COMMUNICATION CRITICALISM 4 credits
Study of the role of critical thinking and its application in the mass media.

675 SEMINAR ON RHETORICAL CRITICISM 3 credits
May be repeated for a total of six credits. Organized around special problems and methods involved in analysis of different genres, forms, and topics of discourse.

676 SEMINAR IN RHETORICAL THEORY 3 credits
A study of recent developments in the field of rhetorical theory.

678 RHETORICAL ELEMENTS OF SOCIAL MOVEMENTS 3 credits
Study of the role of rhetoric in the development of social movements.

688 STUDIES IN COMMUNICATION MEDIA: RADIO 3 credits
Study of radio station programming.

687 STUDIES IN COMMUNICATION MEDIA: TELEVISION 3 credits
Study of television programming.

691 ADVANCED COMMUNICATION STUDIES 3 credits
May be repeated for a total of six credits. Special topics in communication in areas of particular faculty expertise. Consult department for particular topic each semester.

692 SEMINAR IN FILM 3 credits
Prerequisite: permission of instructor. Advanced historical and critical study of specific film and video. Topics vary.

497 GRADUATE RESEARCH IN MASS MEDIA-COMMUNICATION 1-6 credits
(May be repeated for a total of six credits.) Prerequisites: 7800:600 and approval of project prospectus one term prior to undertaking the project. Performance of research on problems found in mass media communication.

699 ADVANCED COMMUNICATION STUDIES 1-3 credits
Prerequisite: permission of instructor. Advanced historical and critical study of specific film and video. Topics vary.

700 COMMUNICATION DISORDERS 7 credits
Prerequisites: 487 and 488 or permission of instructor. An introduction to the study of the development, treatment, and etiology of communication disorders in speech and language.

7700:

100 MANUAL COMMUNICATION I 5 credits
Prerequisites: 271 and 2210:104 or permission of instructor. Study of different communication systems employed by the deaf, characteristics, similarities, and differences. Introduction to American Sign Language.

110 INTRODUCTION TO SPEECH DISORDERS 3 credits
Overview of various types of speech disorders, their incidence, etiology, and characteristics. Basic concepts and principles underlying speech pathology.

111 INTRODUCTION TO PHONETICS 2 credits
Introduction to the international phonetic alphabet and the use of articulatory phonetics.

120 INTRODUCTION TO AUDIOLOGY/URAL REHABILITATION 3 credits
(Not open to communicative disorders majors.) Introduction to the field of audiology with emphasis on auditory examination, measurement, and treatment of hearing disorders. Introduction to hearing aids, amplification, and issues related to hearing impairment.

121 PSYCHO-SOCIAL ASPECTS OF DEAFNESS 3 credits
Prerequisite: 120. An introduction to the effects of deafness on the emotional, social, motor, and cognitive development of the individual. An introduction to the effects of deafness on interpersonal relationships.
130 BASES AND STRUCTURE OF LANGUAGES 3 credits
Introduction to linguistic bases of speech and language: phonological, morphological, syntactical and semantic. Social and psychological variables in communicative process as applied to therapeutic environment presented.

140 INTRODUCTION TO AUDIOLOGY 3 credits

150 MANUAL COMMUNICATION II 4 credits
Prerequisite: 100. Further study of American as a language. Practice in modifications which influence sign formation; more meaningful units and constructions; further similarities and differences among other signing systems.

200 MANUAL COMMUNICATION III 4 credits
Prerequisite: 150. Further practice in developing expressive and receptive skills in American Sign Language. Review of previous work and further in-depth study of linguistic components of manual communication systems of the deaf.

210 APPLIED PHONETICS 3 credits

211 INTRODUCTION TO SPEECH SCIENCE 2 credits
Study of anatomical, physiological and physical principles involved in production, transmission and reception of speech signals.

222 INTRODUCTION TO THE DEAF CULTURE AND ITS ORIGINS 2 credits
Prerequisite: 2210/100 or permission of instructor. The treatment of deaf persons, their education and legal status in western cultures from early civilizations to modern times. Review of basic methods used in educating the deaf; the rationale behind these methods and the contributions of the use of the different methods on the deaf culture.

223 SPEECH AND LANGUAGE OF THE DEAF CHILD AND ADULT 4 credits
(Not open to communicative disorders majors)
Prerequisite: 222. Introduction to acquisition of speech and language hearing and prelingually deaf children. Principles and techniques in language assessment and instruction will be covered.

230 SPEECH AND LANGUAGE DEVELOPMENT 3 credits
Study of language development including acquisition of comprehension and production of phonology, syntax and semantics. Approaches to use of language in learning and thinking.

240 AUSTRALIAN REHABILITATION 4 credits
Prerequisite: 140. Introduction to principles 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.

241 PRINCIPLES OF AUDIOMETRY 3 credits
Prerequisite: 146. Introduction to psychoacoustic principles which underlie basic audiological tests, principles of speech audiology, masking and impedance audiometry.

250 OBSERVATION AND CLINICAL METHODS 2 credits
Prerequisite: To be taken concurrently with 231. Introduction to clinical procedures, analysis of preparation and structure essential to a successful therapy session and observation of therapy within several different settings.

271 LANGUAGE OF SIGNS I 3 credits
Expressive and receptive skills in manual communication. Introduction to various sign systems: phonological, morphological, and syntactical. Concepts of deafness, conversational sign language and developing speed and comprehension of fingerspelling skills. Laboratory.

321 SPEECH PATHOLOGY I 4 credits
Prerequisites: 110, 210. Study of disorders of articulation, voice and stuttering including etiology, symptomatology, evaluation and therapeutic procedures.

322 SPEECH PATHOLOGY II 4 credits
Prerequisites: 110, 3100/246. Study of organically based speech disorders, cleft palate, cerebral palsy, aphasia and dysphasia including etiology, symptomatology, evaluation and therapeutic procedures.

330 LANGUAGE DISORDERS 4 credits
Prerequisite: 230. Etiology, evaluation, intervention, remediation of symbolic, cognitive, interpersonal language disorders of children. Disorders viewed as correlated or isolated at central nervous system dysfunction or emotional upheaval.

340 AUDIOLOGIC EVALUATION 2 credits
Prerequisite: 241. "Test battery" approach to audiology. No- and yes-substitutions, etiology, identification, diagnosis, treatment of hearing disabilities, physiological changes, speech and hearing in various age groups.

350 CLINICAL PRACTICUM: ARTICULATION 1 credit
(May be repeated for a total of two credits)
Prerequisites: 250, 321. Supervised clinical practicum in articulation. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

351 CLINICAL PRACTICUM: LANGUAGE 1 credit
(May be repeated for a total of two credits)
Prerequisites: 250, 330. Supervised clinical practicum in language. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

352 CLINICAL PRACTICUM: AURAL REHABILITATION 1 credit
(May be repeated for a total of two credits)
Prerequisites: 240, 250. Supervised clinical practicum in hearing rehabilitation. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

370 LANGUAGE OF SIGNS II 1 credit
Prerequisite: 271 or permission of instructor. Advanced work in signs and fingerspelling with emphasis on additional sign vocabulary acquisition and development of expressive and receptive skills. Stress on continued skill building in conversing with deaf adults.

430/530 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits
(Not open to communicative disorders majors)
Prerequisite: 100. Introduction to acquisition and development of comprehension and production of language—phonologically, semantically and syntactically. Relates language acquisition to perceptual development of child and looks at function of language in individual, family and school.

450 INTRODUCTION TO SPEECH AND HEARING DIAGNOSTICS 3 credits
Prerequisite: senior status. Introductory course devoted to disorders of speech and hearing clinics in diagnostic procedures. Emphasis on case history taking and administration of standardized and informal procedures in diagnosis of communicative disorders.

451 CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY 1 credit
Prerequisite: permission of instructor. Study of communicative disorders. Not open to communication disorders majors.

460/560 SPEECH AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits
(Not open to communicative disorders majors)
Nature, causes and treatment of speech, hearing and language disorders in public schools. Special reference to role of classroom teacher in identifying and referring students with suspected problems and in working with school clinicians.

461 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH AND HEARING PROGRAMS 2 credits
Prerequisite: senior standing, open to majors in communicative disorders only. Designed for speech and hearing clinicians who plan to work in public school systems. Covers following areas: historical and particular reference to 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 Ohio Department of Education.

480 SEMINAR IN COMMUNICATIVE DISORDERS 2 credits
Prerequisite: senior standing. Provides vehicle for detailed study and discussion of various communicative disorders.

481 SPECIAL PROJECTS: COMMUNICATIVE DISORDERS 1-3 credits
(May be repeated for a total of four credits)
Prerequisite: permission of instructor. Individual or group projects related to any of the problems of communicative disorders.

483/583 COMMUNICATION DISORDERS: GERIATRIC POPULATION 3 credits
(Not open to communicative disorders majors)
Examination of communication disorders that exist in geriatric population. Focus on etiology, symptomology and concomitant rehabilitative procedures. Designed for a student interested in the aging population.

490/590 WORKSHOP: COMMUNICATIVE DISORDERS 1-3 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Group investigation of particular phase of speech pathology and/or audiology not offered by other courses.

495 INTERNSHIP: SPEECH PATHOLOGY AND AUDIOLOGY 1-3 credits
Prerequisite: permission of director of Speech and Hearing Center. Affords opportunity for in-depth clinical experience in variety of clinical settings outside the University of Akron Speech and Hearing Center. On-the-job experience with specialized case populations.

498 SENIOR HONORS PROJECT: SPEECH PATHOLOGY AND AUDIOLOGY 1-2 credits
(May be repeated for a total of six credits)
Prerequisites: enrollment in the Honors Program, senior standing and major in communicative disorders.

Graduate Courses

601 ADMINISTRATION AND SUPERVISION IN SPEECH AND HEARING PROGRAMS 4 credits
Prerequisite: permission of instructor. Organization and management of speech and hearing programs in voluntary and official agencies. Philosophy and methodology in supervision of services.

610 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDIOLOGY 2 credits
Principles and use of clinical and research instrumentation in speech and hearing.

611 RESEARCH METHODS IN COMMUNICATIVE DISORDERS I 3 credits
Introduction to experimental design in field of communicative disorders.

612 RESEARCH METHODS IN COMMUNICATIVE DISORDERS II 2 credits
Prerequisite: 611. Advanced experimental methods; development of a research study.

619 COMMUNICATION DISORDERS: ADULT DYSARTHRIA AND APRAXIA 2 credits
Development, symptoms, diagnosis and treatment of adult dysarthria and apraxia.

620 ARTICULATION 2 credits
Historical background, current theories and research related to etiology, diagnosis and treatment of articulatory disorders.

621 COMMUNICATION DISORDERS IN CLEFT PALATE 2 credits
Historical background, current theories and research related to etiology, diagnosis and treatment of cleft palate.
651 ADVANCED CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY
(May be repeated for a total of six credits)
Supervised clinical practicum: diagnostics and audiologic rehabilitation.

655 ADVANCED CLINICAL PRACTICUM: ARTICULATION
(May be repeated for a total of six credits)
Prerequisites: 326 and permission of the director of the Speech and Hearing Center.
Supervised clinical practicum in articulation. Therapy procedures, diagnostic techniques and preparation of reports.

656 ADVANCED CLINICAL PRACTICUM: LANGUAGE
(May be repeated for a total of six credits)
Prerequisites: 330 and permission of the director of the Speech and Hearing Center.
Supervised clinical practicum in language. Therapy procedures, diagnostic techniques and preparation of reports.

657 ADVANCED CLINICAL PRACTICUM: REHABILITATIVE AUDIOLOGY
(May be repeated for a total of six credits)
Prerequisites: 240 and permission of the director of the Speech and Hearing Center.
Supervised clinical practicum in hearing rehabilitation. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

695 EXTERNSHIP: SPEECH PATHOLOGY AND AUDIOLOGY
(May be repeated for a total of four credits)
Clinical practicum in a selected area center.

697 SPECIAL PROBLEMS: SPEECH PATHOLOGY AND/OR AUDIOLOGY
(May be repeated for a total of six credits)
Prerequisite permission of instructor. Guided research or reading in selected topics in speech pathology, audiology or language disorders.

699 RESEARCH AND THESIS
(May be repeated for a total of six credits)
Prerequisite: permission of department head.

SOCIAL WORK

7750:

270 POVERTY IN THE UNITED STATES
3 credits
Survey of social and personal dimensions of life in the inner city and other areas of poverty in the United States. Introduction to basic concepts relating to understanding and efforts toward solutions to problems of poverty in American society.

276 INTRODUCTION TO SOCIAL WELFARE
4 credits
Survey of field of social welfare: places of social work profession within human services institutions of United States. Introduction to basic concepts relating to the role of social welfare practitioners and social work as a profession.

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.

402/502 SOCIAL WORK PRACTICE II
3 credits
Prerequisite: 401 or permission. Concepts and methods of social work practice particularly relating to understanding and working with groups and organizations.

403/503 SOCIAL WORK PRACTICE III
3 credits
Prerequisite: 402 or permission. Development of understanding and practice skills for utilization of community resources and social planning as social work processes in assessing problems and developing programs to meet needs.

410/510 MINORITY ISSUES IN SOCIAL WORK PRACTICE
3 credits
Prerequisite: 276 or permission. Racial, ethnic and cultural issues in social work related to various practice and theoretical perspectives, to various types of social problems, service agencies, individual family, group, community and societal contexts and the methodologies of the social work profession.

411/511 WOMEN'S ISSUES IN SOCIAL WORK PRACTICE
3 credits
Prerequisite: 276 or permission. Social Work practice knowledge and skill, social welfare institutions and social policy in relation to women's issues and concerns in the United States.

421 FIELD EXPERIENCE SEMINAR
1 credit
Prerequisite: 401 or permission. Corequisites: 495. Careful observation and integration of academic understanding and professional methodology skills into professional practice.

425/525 SOCIAL WORK ETHICS
3 credits
Prerequisite: 216 or permission. Social Work’s code of ethics as applied to practices, problems and issues in social work.

427/527 HUMAN DEVELOPMENT FOR SOCIAL WORKERS
3 credits
Prerequisite: 427 or permission of instructor. For 527 permission of instructor. Social Work’s perspective on human development across the life-cycle. Human diversity approach consistent with the needs of Social Work Students preparing for practice.

430/530 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT FOR SOCIAL WORKERS
3 credits
Prerequisite: 430. Corequisite: 427 or permission of instructor. For 530 permission of instructor. Emphasis on social workers’ understanding of and use of individual interaction and growth within family as a system, groups, roles, organizations, community and culture.
440/454 SOCIAL WORK RESEARCH I 3 credits
Prerequisites: 440, 454, 5401, 12, 3470, 251, 52 or permission: for 454, permission. Social work practitioner's role in utilization of scientific method in the conduct of practice and utilization of social work research as found in social work and social science literature for improvement and advancement of social work practice.

441/551 SOCIAL WORK RESEARCH II 3 credits
Prerequisite for 441/442: permission of instructor: for 551, permission of instructor. Evaluation of social work intervention with individual, group and community. Processing and interpreting agency information for better practice, policy and administrative decisions.

445/545 SOCIAL POLICY ANALYSIS FOR SOCIAL WORKERS 3 credits
Prerequisite for 445: 276, 454, or permission: for 545, undergraduate social work degree or permission. Description, analysis and construction of social policy in social services. To understand forces and processes which establish social and program policies. To predict consequences of social policies and to establish goals for social policy development, integrated into effective social work methodology.

450/550 SOCIAL NEEDS AND SERVICES FOR LATER ADULTHOOD AND AGING 3 credits
Prerequisite: 276 or permission. Application of 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 institutions serving them and their relatives.

451/551 SOCIAL WORK IN CHILD WELFARE 3 credits
Prerequisite: 276 or permission. In-depth exploration of structure and functioning of social services designed to help children and of practice of social work in child welfare settings. Consideration of supportive, supplementary and substitute services.

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.

453/553 SOCIAL WORK WITH FAMILIES 3 credits
Prerequisite: 276 or permission: Professional social work practice with families in social services, the dynamics of family systems, assessment of family function and dysfunction, professional helpering processes.

454/554 SOCIAL WORK IN JUVENILE JUSTICE 3 credits
Prerequisite: 276 or permission (undergraduate). The theory and practice of social work in the juvenile justice systems of the United States. Traditional procedures and recent developments, prevention, diversion and community outreach, legal concerns, case management, institutional functioning.

456/556 SOCIAL WORK IN HEALTH SERVICES 3 credits
Prerequisite: 276 or permission. Policies, programs and practice in health care settings: short-term, intermediate and long-term hospitals, outpatient services, emergency services, clinics, visiting nurse services, nursing homes, pediatric services, self-help organizations.

457/557 ADVANCED PRACTICE WITH INDIVIDUALS 3 credits
Prerequisite: 401 or permission (undergraduate). Internship social work degree or permission (graduate). Advanced professional development of direct and indirect strategies and techniques of intervention for individuals in improving psychosocial functioning.

458/558 ADULT DAY CARE 3 credits
Prerequisite: 276 or permission of instructor for 558: permission of instructor. Planning, development, implementing, evaluating and delivery of adult day care services.

459/559 SOCIAL WORK WITH THE MENTALLY RETARDED 3 credits
Prerequisite: 276 or permission of instructor: Application of Social Work principles in the provision of social services to meet the needs of the mentally retarded and developmentally disabled and their families.

465/585 ADMINISTRATION AND SUPERVISION IN SOCIAL WORK 3 credits
Prerequisite: 401 or permission: Preparation for use of supervision, staff development and program planning in a social work agency. Examines the social work/welfare agency in its community as it affects its organizational goal-setting and program-implementation problems.

470/570 LAW FOR SOCIAL WORKERS 3 credits
Prerequisite: 276 or permission: Basic terminology, theories, principles, organization and procedures of law will be explored along with the relationships between social work and law and comparisons of the theoretical bases of the two professions.

480/580 SPECIAL TOPICS IN SOCIAL WORK AND SOCIAL WELFARE 1-3 credits
Prerequisite: permission of 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.

490/590 SOCIAL WORK WORKSHOP 1-4 credits
Prerequisite: permission of instructor: Group investigation of a particular phase of social work or social welfare not offered by other courses in curriculum.

495 FIELD EXPERIENCE IN SOCIAL AGENCY 2-8 credits
(Two credits with a minimum of 8 credits maximum total in consecutive semesters only.)
Prerequisites: 401 and permission: corequisite 421: Individual placement in selected community and social service agencies for supervised experience with individuals, groups, and communities in family service, health care, correction, community development, mental health, child welfare, public welfare and similar social welfare settings. Students must register intent and receive permission to take the course with the course instructor during early part of semester preceding enrollment; for senior major in social work.

497/597 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK SOCIAL WELFARE 1-3 credits
Prerequisites: permission and prearrangement with instructor. Individual readings, research or projects in area of interest in social welfare theory or institutional or social

499 SENIOR HONORS PROJECT IN SOCIAL WORK 1-3 credits
(May be repeated for a total of six credits.)
Prerequisites: senior standing in Honors Program and approval of Honors preceptor in department. Open only to social work major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work resulting in writing of research paper in proper scholarly form, supervised by student's honors project adviser within the department.

Graduate Course

073 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.

THEATRE

7800:

100 EXPERIENCING THEATRE 3 credits
Experience the theatre as a dynamic art form through an exposure to and participation in production and performance.

102 INTRODUCTION TO TECHNICAL THEATRE 3 credits
Introduction to various elements of technical production: personnel, organization, scheduling, shop processes, techniques and capabilities. Laboratory required.

106 INTRODUCTION TO STAGE DESIGN 3 credits
Introduction to basic design principles involving floor plans, elevations and renderings for the design of stage scenery. Laboratory.

151 VOICE FOR THE STAGE 3 credits
Speech improvement as it specifically applies to the stage. This course is concerned with the proper techniques and principles of vocal production in their practical application to stage performance.

172 ACTING I 3 credits
Introductory fundamentals of acting through the investigation of the body as an instrument for the stage, improvisation, and basic scene study.

262 STAGE MAKEUP 3 credits
Theory and practice in the application of stage makeup from juvenile to character Lecture/Laboratory

263 SCENE PAINTING 3 credits
The development of skills and knowledge of stage scenic painting required for the theatre designer and technician. Laboratory required.

265 BASIC STAGECRAFT I 3 credits
Basic stagecraft including equipment, construction and handling of two-dimensional scenery and theatrical hardware. Laboratory required.

266 BASIC STAGECRAFT II 3 credits
Prerequisite: 265. Aspects of stagecraft including the construction and handling of three-dimensional scenery and the rigging of scenic units. Laboratory required.

271 DIRECTING I 3 credits
Emphasizes fundamentals of play directing, including responsibilities of director, stage nomenclature, play selection, character analysis and rehearsals. One-act form emphasized.

320 PERIOD MOVEMENT AND DANCE 2 credits
Medieval and Early Renaissance style and manners. Studio and lecture.

334 STAGE COSTUME CONSTRUCTION 3 credits
Study and practice of stage costume construction techniques.

335 INTRODUCTION TO STAGE COSTUME HISTORY AND DESIGN 3 credits
Study of historical costume and theatre dress. Costumes designed for each historical period in class. Period patterns drafted and constructed during designated laboratory hours.

338 HISTORY AND CONSTRUCTION OF PERIOD COSTUME 3 credits
Furnishing for the stage
Survey of historic furniture and hand prop styles, with emphasis on practical stage applications. Study of prop construction materials and techniques, wood, metal, leather, plastic, basic woodworking, upholstery, jewelry, finishing methods.

350 ADVANCED VOICE FOR THE STAGE I 3 credits
Prerequisite: 151. Vocal training through interpretation and analysis of various theatre styles.

351 ADVANCED VOICE FOR THE STAGE II 3 credits
Prerequisite: 350. Continuation of 350.

362 ADVANCED STAGECRAFT 3 credits
Prerequisite: 266. Aspects of advanced stagecraft: flying scenery, processes and techniques of rigging, textile and sculptured materials. Surfaces. Lab required.
Courses of Instruction

365 STAGE DESIGN
Prerequisite: 106. The art of stage design: its demands, elements, principles.
3 credits

367 HISTORY OF THEATRE I: GREEK-Renaissance
Prerequisite: 100 or permission. Development of theatre in Greece and Rome. Medieval period and Renaissance, with emphasis on culture of each period, dramatists, plays, stage conventions, architecture.
4 credits

368 HISTORY OF THEATRE II: RESTORATION TO PRESENT
Prerequisite: 100 or permission. Development of theatre from English Restoration, Eighteenth and Nineteenth Century, to modern period with emphasis on culture of each period, dramatists, plays, stage conventions, architecture.
4 credits

370 THE AMERICAN THEATRE: PLAYS, PLAYERS AND PLAYWRIGHTS
Study of American theatre, from its beginning in Seventeenth Century to present, with emphasis on achievements in Twentieth Century.
3 credits

371 DIRECTING II
Prerequisites: 271 and permission. Advanced course in practical techniques of staging plays from major theatrical periods as well as principles of working with the actor.
3 credits

373 ACTING II
Prerequisite: 172. Continuation of 172. Further emphasis on the psychology of the actor and development of performing techniques through scene study.
3 credits

374 ACTING III
Prerequisite: 373. Further in-depth actor training with emphasis on the language and interpretation of Shakespeare through scene study.
3 credits

376 THEATRE ORGANIZATION AND MANAGEMENT
Prerequisite: 100. Study of successful organization and management of nonprofessional theatre operations.
2 credits

403 SPECIAL TOPICS IN THEATRE ARTS
(May be repeated as different subjects are covered. But no more than 10 credits may be applied toward B.A. degree.)
Prerequisites: permission. Traditional and nontraditional topics in theatre arts, supplementing courses listed in General Bulletin.
1-4 credits

421 MUSICAL THEATRE PRODUCTION
Designed to make the musical theatre performer aware of the total creative process involved in mounting a stage musical. May be taught in conjunction with the production of a musical or a special departmental music project.
3 credits

435 STAGE COSTUME DESIGN
Prerequisite: 335. Tools of fashion and figure drawing, stage costume rendering, and theatrical design assignments.
3 credits

436 STYLES OF SCENIC DESIGN
Prerequisite: 385. Theatrical styles and periods in scenic design and scenography.
3 credits

437 STYLES OF STAGE COSTUME DESIGN
Prerequisite: 435. The art and styles of costume design for the stage and the many processes needed to produce the stage costume for theatrical effects.
3 credits

445 MOVEMENT FOR ACTORS I
Prerequisite: 172. Specialized physical training for the actor.
3 credits

446 MOVEMENT FOR ACTORS II
Prerequisite: 445. Specialized movement training, integrating the actor's physical and vocal instrument.
3 credits

450/456 PERFORMANCE PROJECTS
(May be repeated for a total of six credits.)
Prerequisite: 172, or equivalent experience. Permission of instructor. Preparation and presentation of programs and projects for the public schools, hospitals, nursing homes and other community and campus organizations.
3 credits

462/462 PLAYWRITING
Prerequisite: permission. Principles of dramatic construction learned through analyses of playwright's art, as well as through writing of individual dramatic compositions.
2 credits

464 STAGE LIGHTING
Outlines history, theories and practices of stage lighting. Among areas discussed are colored light and color theory, electricity and electrical safety, dimming control systems, other aspects of craft of effective stage lighting.
2 credits

465 STAGE LIGHTING DESIGN
Prerequisite: 464. The art and technique of stage lighting design: light plotting, color theory, and optical effects.
3 credits

467/567 CONTEMPORARY THEATRE STYLES
Study of contemporary theatre from emergence of modern drama in Nineteenth Century through a reading list of representative plays with special emphasis on departures from realism.
3 credits

468/568 CHILDREN'S THEATRE
Study of theatre for child audience: play selection, set design and construction, acting, directing. A full-length play for children produced by the class may culminate the course.
3 credits

470 PROBLEMS IN LIGHTING DESIGN
Prerequisite: 465. Advanced study of practical application to problems confronting lighting designer and technician.
3 credits

470 PRACTICUM IN PRODUCTION DESIGN/TECHNOLOGY
(May be repeated for a total of six credits)
Prerequisite: permission of instructor. Practice in selected production design/technology as it applies to projects in major departmental productions.
1-3 credits

474 ACTING IV
Prerequisite: 374. Investigation of acting styles, through scene study, as they apply from Shakespeare through modern playwrights.
3 credits

475 ACTING FOR THE MUSICAL THEATRE
Prerequisites: 373, 7520:124, permission. A scene study course in analyzing and performing roles in American musicals. Emphasis will be on coordinating the many aspects of the role for the purpose of fully developing characterization.
3 credits

480/490 WORKSHOP IN THEATRE ARTS
(1-3 credits)
Prerequisite: advanced standing or permission. Group study or group projects investigating particular phase of theatre arts not covered by other courses in curriculum.

Graduate Courses

600 INTRODUCTION TO GRADUATE STUDIES
Exploration of the basic research tools and methods applicable to the discipline, including utilization of the computer. Guidelines for writing thesis and preparing production document.
3 credits

903 SPECIAL TOPICS IN THEATRE ARTS
(May be repeated as different subjects are covered. But no more than twelve credits may be applied toward M.A. degree.)
Prerequisites: permission. Traditional and experimental courses in theatre, supplementing those listed in the General Bulletin.
1-4 credits

908 PRINCIPLES OF MODERN SCENOGRAPHY
Prerequisite: permission of instructor. Study of styles of scenic design and scenography as a collaborative art form.
3 credits

541 PROBLEMS IN DIRECTING
Advanced directing course, with special emphasis on staging of complex plays from all periods of dramatic literature.
3 credits

542 PROBLEMS IN CONTEMPORARY ACTING
Study of problems confronting advanced actor in various modern styles.
3 credits

558 HISTORY OF TECHNICAL PRODUCTION
History of technical production utilizing pictorial materials and models to study evolution of physical stage: scene changing devices: stage machineries. Term paper or project required.
3 credits

559 HISTORY AND THEORY OF STAGE LIGHTING
Historical survey of evolution of stage lighting culminating in understanding of modern lighting design skills and their practical application. Term paper or major project required.
3 credits

660 ADVANCED TECHNICAL THEATRE
Detailed problems in mounting plays on secondary school, university and professional stages.
2 credits

661 SEMINAR IN STAGE COSTUME DESIGN
Prerequisite: undergraduate costume design course or permission of instructor. Study of special problems in costume design for musical or opera theatre, research of specific period costume patterns, portfolio projects, research of noted designers.
3 credits

662 SEMINAR IN SCENE DESIGN
Prerequisite: 106 or undergraduate scene design course or permission of instructor. Study of special problems in scene design: portfolio projects, research of noted designers, studies of theatre spaces and new scenographic materials.
3 credits

663 SEMINAR: AMERICAN THEATRE
Study of American theatre: plays, players and playwrights from colonial times to present. Term paper or project required.
2 credits

665 AUDIENCE FOR THE ARTS: RESEARCH/ANALYSIS
Examination of both qualitative and quantitative methods of researching today's audience and support for the arts/cultural institutions, such as arts councils, foundations. Research projects: team taught.
2 credits

666 INTRODUCTION TO ARTS MANAGEMENT
Examination of efficient and practical arts management with emphasis on theatre operations, individual projects and lectures by experts in field highlight course.
2 credits

687 STUDIES IN DRAMATIC PRACTICE I
Development of dramatic literature and its relationship to the social/political/religious influences of varying cultures from classical Greece to the Restoration and its relationship to the physical theatre.
3 credits

688 STUDIES IN DRAMATIC PRACTICE II
Development of dramatic literature and its relationship to the social/political/religious influences in various cultures from the Eighteenth Century to modern times and its relationship to the physical theatre.
3 credits

690 GRADUATE RESEARCH/READINGS
(May be repeated for a total of nine credits)
Prerequisite: permission. Individual research of independent readings under supervision of member of theatre graduate faculty.
1-3 credits

691 SEMINAR: THE ROLE OF THE ARTS ADMINISTRATOR
In-depth examination of roles of arts administrator, manager including theatre, opera, ballet, arts organizations and performing arts halls, centers. Guest lecturers. Term paper required.
3 credits

692 LEGAL REGULATIONS AND THE ARTS
Analysis of legal framework of arts organization. Introduction to selected areas of law relevant to the arts management through reading and discussion of legislation, cases and scholarly materials.
2 credits
THEATRE
ORGANIZATIONS
7810:

100 PRODUCTION LABORATORY-DESIGN/TECHNICAL 1 credit
(May be repeated for a total of 12 credits)
Provides student with practical experience in technical aspects of theatre. Students will
undertake assignments in such areas as set construction, state lighting, and costume
construction.

110 PERFORMANCE LABORATORY 1 credit
(May be repeated for a total of 12 credits)
Prerequisite: permission of project supervisor and undergraduate theatre coordinator.
Provides student with practical performance experience in conjunction with University
Theatre productions. Includes actual public performance of assigned role.

200 PRODUCTION LABORATORY-DESIGN/TECHNICAL 1 credit
(May be repeated for a total of 12 credits)
Prerequisite: permission of project supervisor and undergraduate theatre coordinator.
Provides student with practical performance experience in conjunction with University
Theatre productions. Includes actual public performance of assigned role.

210 PERFORMANCE LABORATORY 1 credit
(May be repeated for a total of 12 credits)
Prerequisite: permission of project supervisor and undergraduate theatre coordinator.
Provides student with practical performance experience in conjunction with University
Theatre productions. Includes actual public performance of assigned role.

300 PRODUCTION LABORATORY-DESIGN/TECHNICAL 1 credit
(May be repeated for a total of 12 credits)
Prerequisite: permission of project supervisor and undergraduate theatre coordinator.
Provides student with practical performance experience in conjunction with University
Theatre productions. Includes actual public performance of assigned role.

310 PERFORMANCE LABORATORY 1 credit
(May be repeated for a total of 12 credits)
Prerequisite: permission of project supervisor and undergraduate theatre coordinator.
Provides student with practical performance experience in conjunction with University
Theatre productions. Includes actual public performance of assigned role.

400 PRODUCTION LABORATORY-DESIGN/TECHNICAL 1 credit
(May be repeated for a total of 12 credits)
Prerequisite: permission of project supervisor and undergraduate theatre coordinator.
Provides student with practical performance experience in conjunction with University
Theatre productions. Includes actual public performance of assigned role.

410 PERFORMANCE LABORATORY 1 credit
(May be repeated for a total of 12 credits)
Prerequisite: permission of project supervisor and undergraduate theatre coordinator.
Provides student with practical performance experience in conjunction with University
Theatre productions. Includes actual public performance of assigned role.

Graduate Courses

601 PRODUCTION PRACTICUM/DESIGN/TECHNOLOGY 1-2 credits
(May be repeated for a total of four credits)
Prerequisite: permission of instructor. Practice in selected production design/technology
operations, applications and techniques as they apply to production projects and major
departmental productions.

605 PERFORMANCE PRACTICUM 1-2 credits
(May be repeated for a total of 12 credits)
Prerequisite: permission of project advisor. Recognition of work undertaken by the student
when performing a role in a theatre production. Credit assigned and work supervised by
faculty project supervisor.

DANCE
7900:

115 DANCE AS AN ART FORM 2 credits
Survey of dance for novice observer: aesthetics, philosophies, methods of training. Lecture
and discussion of readings, viewing of film, videotape and live performances.

116 DANCE ANALYSIS I 2 credits
Required of all dance majors in first two years. Lecture/laboratory. Understanding the body
and its relation to technique.

117 DANCE ANALYSIS II 2 credits
Prerequisite: 116 or permission. Continuation of 116. Lecture/Laboratory. Use of body in
dance as technique as student, future teacher or performer.

119 INTRODUCTION TO CONTEMPORARY DANCE I 2 credits
(May be repeated for a total of 4 credits)
Course for novice dancers and teachers wishing to explore contemporary styles and
techniques.

120 INTRODUCTION TO CONTEMPORARY DANCE II 2 credits
(May be repeated for a total of 4 credits)
Prerequisite: permission. Continuation of 119. Expansion of contemporary movements and
techniques.

122 BALLET TECHNIQUE I 5 credits
(May be repeated for a total of ten credits)
Prerequisite: permission. Fundamental theory, vocabulary, structure, placement.

124 INTRODUCTION TO BALLET I 2 credits
(May be repeated for a total of 4 credits)
Emphasis on body placement, muscular awareness.

125 INTRODUCTION TO BALLET II 2 credits
(May be repeated for a total of 4 credits)
Prerequisite: permission. Continuation of 124. Basic exercises of classical ballet.

219 INTRODUCTION TO CONTEMPORARY DANCE III 2 credits
Prerequisite: permission. Continuation of 120, expanding the contemporary
dance/techniques. Designed to perfect the student's technique for entering the Contemporary
Technique I.

220 INTRODUCTION TO CONTEMPORARY DANCE IV 2 credits
Prerequisite: permission. Continuation of 219, expanding the contemporary
dance/techniques. Designed to perfect the student's technique for entering the Contemporary
Technique I.

222 BALLET TECHNIQUE II 5 credits
(May be repeated for a total of 20 credits)
Prerequisite: permission. Continuation of 122, expanding theory on vocabulary, structure,
placement.

224 FUNDAMENTAL BALLET TECHNIQUE 3 credits
(May be repeated for a total of six credits)
Prerequisite: permission. Continuation of 124.5. Emphasis on barre and developing
strength.

229 CONTEMPORARY TECHNIQUE I 3 credits
(May be repeated for a total of 12 credits)
Prerequisite: permission. Expanding the basic contemporary dance techniques.

316 CHOREOGRAPHY I 2 credits
Prerequisite: permission of the instructor. Study and practical application of choreographic
principles in the areas of rhythm dynamics, spatial awareness, and body and eye focus.

317 CHOREOGRAPHY II 2 credits
Prerequisite: 316 and permission of the instructor. Continuation of 316 with emphasis on
established and traditional choreographic forms, including theme and variation, the suite
and fugue and the narrative.

320 DANCE NOTATION 2 credits
Beginning study of Labanotation method of recording movement, and preparation for
beginner's examination of the Notation Bureau.

322 BALLET TECHNIQUE III 5 credits
(May be repeated for a total of 30 credits)
Prerequisite: permission. Continuation of 222. Emphasis on technique, style and line.

323 JAZZ DANCE TECHNIQUE I 2 credits
Emphasizes basic jazz techniques and styles, including East Indian, Afro-Cuban, Early
American Ho-Down and Folklore styles. Also, Soft-Shoe. Charleston and Early Burlesque.

324 TAP TECHNIQUE I 2 credits
Emphasizes basic tap combinations and routines, tap terminology and methods for recording
combinations. Special clothing/shoes required.

329 CONTEMPORARY TECHNIQUE II 3 credits
(May be repeated for a total of 12 credits)
Prerequisite: permission. Continuation of 229, expanded development of contemporary
techniques.

377 JAZZ DANCE TECHNIQUE II 2 credits
Prerequisite: 323. The use of more complex jazz technique combinations.

378 TAP TECHNIQUE II 2 credits
Prerequisite: 324, 329. A study of more complex routines and combinations, including
syncopation, classical tap and style (Assante, Kelly, Vereen, Draper, Boiger). Special
clothing/shoes.

463 SPECIAL TOPICS IN DANCE 1-4 credits
(May be repeated as different subject areas are covered, but no more than 10 credits may be
applied toward B.A. degree)
Prerequisite: permission. Traditional and non-traditional topics in dance. Supplementing
courses listed in General Bulletin.
416 CHOREOGRAPHY III
Prerequisites: '17, permission of the instructor. Continuation of 317 with emphasis on rhythmic analysis and non-traditional forms.

417 CHOREOGRAPHY IV
Prerequisites: 416 and permission of the instructor. Continuation of 416, expanding into group choreography and counterpoint.

422 BALLET TECHNIQUE IV
(5 credits)
Prerequisite: permission. Continuation of 322, professional level of technique.

423 HISTORY OF THE DANCE
Study of important developments in dance from pre-history to Renaissance.

424 20TH CENTURY DANCE
Prerequisite: dance major or permission. Investigation of changes in styles and techniques and their influence on current choreography.

425 DEVELOPMENT OF DANCE
Romantic and Diaghilev eras and their influence on current dance.

426 TECHNIQUES OF TEACHING DANCE I
Prerequisite: dance major or permission. Practical work in the basic principles of elementary teachers' training.

427 TECHNIQUES OF TEACHING DANCE II
Prerequisite: 426 or permission. Continuation of 426. Projects in teaching of elementary training.

490/590 WORKSHOP IN DANCE
(1-3 credits)
Prerequisite: advanced standing or permission. Group study or group projects investigating particular phase of dance not covered by other courses in curriculum.

DANCE ORGANIZATIONS

7910:

101 CLASSICAL BALLET ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of classical ballet repertoire.

102 CHARACTER BALLET ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of character ballet repertoire.

103 CONTEMPORARY DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of contemporary dance repertoire.

104 JAZZ DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of jazz dance repertoire.

105 MUSICAL COMEDY ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of dance production numbers in a musical comedy.

106 OPERA DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of dance sequences in an opera.

107 EXPERIMENTAL DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of Avant Garde dances.

108 CHOREOGRAPHER'S WORKSHOP
By audition only. Participation in rehearsal and preparation for public performance of student dances.

109 ETHNIC DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of ethnic dance repertoire.

110 PERIOD DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of dances from specific historical periods such as the Renaissance or Baroque era.

111 TOURING ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of any dances prepared for touring purposes.

Courses of Instruction 271

*Any 7910 course may be repeated for credit. Total credit for graduation may not exceed 12 credits. Open to majors and non-majors. Full-time dance majors required to enroll in one Organization each semester.
College of Nursing

COOPERATIVE EDUCATION

8000:

301 COOPERATIVE EDUCATION 0 credits
(May be repeated. For Cooperative Education Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.)

NURSING

8200:

100 INTRODUCTION TO NURSING 1 credit
Concepts to introduce the student to nursing. Emphasis on historical perspective as basis for modern trends in profession of nursing.

101 INTRODUCTION TO BACCALAUREATE NURSING FOR THE R.N. 1 credit (15 lecture hours)
Prerequisite: Registered Nurse. Emphasizes role reorganization for R.N.'s seeking a baccalaureate in nursing. Explores concepts in accordance with the philosophy, conceptual framework and curriculum structure of the baccalaureate nursing program.

200 NURSING THEORIES AND CONCEPTS 5 credits
Prerequisite: 100. Demonstrates relationships of relevant concepts and theories from various sciences with man's interactions with ecosystem. Relates these theories and concepts to practice of nursing in health care system utilizing scientific research approach.

300 NURSING: HEALTH 10 credits
Prerequisites: I00, 200. Healthy man's adaptation throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process used to view this approach as holistic man's adaptation.

305 NURSING THEORIES, CONCEPTS AND RESEARCH 6 credits
Prerequisite: 101, admission to college. The specific focus is to relate concepts, theories and investigative projects to the practice of nursing in a health care system using the nursing process.

320 NURSING: DIMINISHED HEALTH I 12 credits
Prerequisite: I00, 200, 300. Man's maladaptation throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process used to view this approach as holistic man's adaptation.

400 NURSING: DIMINISHED HEALTH II 12 credits
Prerequisites: I00, 200, 300, 320. Assists student in applying knowledge and skills for an integrated approach to nursing process in various settings and in developing roles of leadership and change-agent utilizing teaching/learning process.

405 HEALTH MAINTENANCE NURSING 5 credits
Prerequisites: I01, 305. Designed to focus on healthy man throughout the life cycle. Theory and practice focus on healthy man's reciprocal interaction with ecological variables.

415 DIMINISHED HEALTH NURSING 6 credits
Prerequisites: I01, 305. Theoretical and clinical components emphasizing alternative behaviors for the client and the nurse, within the framework of the nursing process, to assist individuals and families experiencing diminished health to attain, maintain and regain optimal levels of health.

420 NURSING: SYNTHESIS 10 credits
Prerequisites: I00, 200, 300, 320. Provides student with independent study opportunity. Emphasizes on student's practice in an area of his/her choice. Guidance and direction provided to student as necessary by preceptor.

430/530 HEALTH CARE (CURRENT YEAR): ISSUES AND NURSING 2 credits
Prerequisite: acceptance in the college. Survey and exploration of the state of health care delivery in the United States today and their ramifications for nursing.

480 SENIOR HONORS PROJECT 1-3 credits per semester
Prerequisite: senior standing in Honors Program and nursing major. A creative project, independent study or research relevant to nursing which is supervised by a faculty preceptor and/or sponsor.

489/589 SPECIAL TOPICS: NURSING 1-4 credits
(May be repeated as new topics are presented)
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.

Graduate Courses

603 THEORETICAL BASIS FOR FAMILY HEALTH NURSING 3 credits
Prerequisite: acceptance in the Family Health Nursing graduate program. Study of concepts and theories common to nursing. Provides a firm basis for family health nursing within the ecological-phenomenological perspective.

613 NURSING INQUIRY 3 credits
Prerequisites: 603 and 3470.664. Philosophical and ethical considerations, concept formation, and theory development will be studied. Research in family health nursing with the ecological-phenomenological perspective will be implemented.

619 FAMILY HEALTH APPRAISAL 3 credits
Prerequisite: 603. Seminar and practicum will be used to study health appraisal. The focus will be on the health of families and individuals across the life span.

622 FAMILY HEALTH NURSING I 4 credits
Prerequisites: 603 and 619. Theory and practice of family health nursing focusing on concepts, theories and practice relative to families and individuals within the ecological-phenomenological perspective.

623 FAMILY HEALTH NURSING II 4 credits
Prerequisites: 603, 619 and 622. Continuation of 622.

624 NURSING OF FAMILIES WITH CHILDREN 3 credits
Deals with the growing child and his/her family. Infants and children from the newborn period through school age will be considered.

625 TEACHING STRATEGIES IN NURSING EDUCATION 3 credits
Focus on the development of increased knowledge for the selection of learning opportunities effective in the clinical and classroom settings used by the Family Health Nurse.

626 NURSING OF FAMILIES WITH ADULT MEMBERS 3 credits
Analysis of the young and middle aged adult within the family structure. Focuses on application of the nursing process with the healthy adult and identification of barriers to maintenance of optimal health.

628 HEALTH PERSPECTIVE OF THE EXPANDING FAMILY 3 credits
Focuses on the nursing analysis of the process of family expansion; the individual member's accommodation to that process; relevant health issues.

629 FINANCIAL MANAGEMENT FOR NURSING ADMINISTRATION 3 credits
Prerequisite: acceptance in the Family Health Nursing Program or by faculty permission. Concepts, theories and processes necessary to implement sound financial management for nursing administration. Focus is on cost containment and impact on family health nursing.

630 HUMAN RESOURCES IN NURSING SETTINGS 3 credits
Prerequisite: acceptance in the Family Health Nursing graduate program or instructor's permission. Identify and examine major issues related to human resources in nursing settings. The focus is on those settings where family health nursing is the core of practice, education and research.

670, 1 SPECIAL TOPICS 2 credits each
Prerequisite: completion of all required first-year courses. Selected topics and areas of interest to faculty. Student available as electives.

672 INDEPENDENT STUDY 1-4 credits
An opportunity for the graduate student to elect an area of nursing for practice and is considered as an option for the following: nursing elective credit, and leadership role of nursing elective credit.

673 NURSING OF FAMILIES WITH OLDER MEMBERS 3 credits
Prerequisite: graduate status. This course focuses on the diversity of roles held by older adults in various family situations, such as: the new family, the multi-generational family, the family with a widowed member, the institutionalized family. Opportunities are provided to function in a leadership role in family health nursing and to become involved in community conferences which influence public policy for older adults.

675 CULTURE, ETHNICITY AND HEALTH CARE 3 credits
Increase cultural sensitivity by exploration of culturally diverse health values, beliefs, practices. Life styles of selected ethnic groups, factors affecting the health of individuals in ethnic communities, the health care choices of ethnically diverse populations shall be examined from an ecological-phenomenological perspective.

680 FAMILY HEALTH NURSING LEADERSHIP SEMINAR: DIRECT CARE WITH FAMILIES 2 credits
Conquisites: 603, 613, 622.3. Examines family health nursing practice utilizing the ecological-phenomenological perspective, to identify and explore practice issues and goals.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>681</td>
<td>FAMILY HEALTH NURSING LEADERSHIP PRACTICUM:</td>
<td>3</td>
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<tr>
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<td>DIRECT CARE WITH FAMILIES</td>
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<td>Prerequisite: 680. Guided study and practice in the leadership role of a family health nurse in direct care with families within the ecological-phenomenological perspective.</td>
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<tr>
<td>685</td>
<td>FAMILY HEALTH NURSING LEADERSHIP SEMINAR:</td>
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<td>EDUCATION</td>
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<td></td>
<td>Prerequisite: 603, 613, 622. Expanding the leadership role of the Family Health Nurse from the philosophical perspective of education. Utilizes theoretical frameworks to develop and critique family health nursing curricula within the ecological-phenomenological perspective.</td>
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<tr>
<td>686</td>
<td>FAMILY HEALTH NURSING LEADERSHIP PRACTICUM:</td>
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<td>EDUCATION</td>
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<td>Corequisite: 689. Prerequisite: 603, 685. Guided study and practice in the leadership role of a family health nurse educator within the ecological-phenomenological perspective.</td>
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<tr>
<td>687</td>
<td>FAMILY HEALTH NURSING LEADERSHIP SEMINAR:</td>
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<td>ADMINISTRATION</td>
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<td></td>
<td>Prerequisite or Corequisite: 623. Prerequisite: 622. Expanding the leadership role of family health nurse from philosophical perspectives of administration. Utilizes theoretical frameworks to develop and identify administrative goals within the ecological-phenomenological perspective.</td>
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<tr>
<td>688</td>
<td>FAMILY HEALTH NURSING LEADERSHIP PRACTICUM:</td>
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<td>ADMINISTRATION</td>
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<td>Prerequisite: 687. Guided study and practice in the leadership role of a family health nurse administrator within the ecological-phenomenological perspective.</td>
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<td>689</td>
<td>COLLOQUIUM</td>
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<td>Corequisites: 681, 685, 686. Similarities and differences of the family health nurse leadership roles in administration, education, direct care with families within the ecological-phenomenological perspective are examined.</td>
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<tr>
<td>699</td>
<td>THESIS RESEARCH</td>
<td>1-4</td>
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<td></td>
<td>Prerequisites: 613, 623; corequisite: 623. Family health nursing research in which selected philosophies, theories, concepts are investigated within the ecological-phenomenological perspective.</td>
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</tbody>
</table>
601 CIVIL PROCEDURE I

3 credits
602 CIVIL PROCEDURE II
Prerequisite: 601. Continuation of 601.

3 credits
603 CONSTITUTIONAL LAW I
Governmental authority and its distribution under Constitution. Introduction to individual rights and liberties.

3 credits
604 CONSTITUTIONAL LAW II
Prerequisite: 603. Continuation of 603. Rights, privileges and immunities under the Constitution.

3 credits
605 CONTRACTS I

3 credits
606 CONTRACTS II

3 credits
607 CRIMINAL LAW
Nature and source of criminal liability studied in light of modern developments. The act. Mental conditions require to criminal responsibility. Specific crimes and defense thereto.

3 credits
608 EVIDENCE
Covers basic evidence law with emphasis on the Federal Rules of Evidence and state rules patterned thereon.

3 credits
610 GENERAL WRITING REQUIREMENT
(May be repeated)
To fulfill the school's General Writing Requirement, as set forth in the faculty-approved statement (paragraphs a, b, and c), degree seeking students are required to register for the 610 no credit course at the same time as registering for a credit course that qualifies as fulfilling the School's writing requirement.

0 credits (credit or noncredit)
612 LEGAL PROFESSION
Legal profession as an institution. Responsibilities of lawyers. Duties and privileges Professional qualifications.

2 credits
614 PROPERTY I
Possession, means by which title may be obtained; fixtures; emblements; estates in land, concurrent ownership; the deed; the mortgage; the land contract.

3 credits
615 PROPERTY II
Prerequisite: 614. History of land law. Status of Frauds. Recording title; registration; covenants for title; adverse possession; landlord-tenant relationship; legislation restricting land use; easements; licences; private restrictions; water rights.

3 credits
616 TORTS I
Survey of basic tort law and its function: impact of insurance and innovations of allocating cost or unintentionally caused harm on tort doctrines key to negligence.

3 credits
617 TORTS II
Prerequisite: 616. Continuation of 616.

3 credits
618 LEGAL RESEARCH
1 credit Familiarization with legal publications and computer assisted legal research necessary to perform legal research.

1 credit
619 BASIC LEGAL COMMUNICATIONS
2 credits Introduction to basic skills in written expression and analysis in a legal context through preparation of research memoranda and other written assignments.

2 credits
620 INTERMEDIATE LEGAL COMMUNICATIONS
Enhancement of legal writing skills through preparation of an argumentative brief and other writings: development of oral advocacy skills through presentation of an argument based on a brief.

1 credit
621 ACCOUNTING FOR LAWYERS
A study of the underlying assumptions and principles of financial information prepared in accordance with generally accepted accounting principles and the evaluation of such information in terms of its significance to users of such information.

3 credits
622 ADMINISTRATION OF CRIMINAL JUSTICE
Administration of criminal justice relating processes of criminal law to objectives of criminal correction. Effects of federal constitutional provisions on criminal procedure.

3 credits
623 ADMINISTRATIVE PROCESS
Prerequisite: 604. Traditional polico-legal theories of separation of powers and the administrative process; procedure for rule-making and adjudication; conclusiveness of administrative determination.

3 credits
624 AIR LAW
Law of modern air transportation in international and domestic flight and emerging area of outer space.

3 credits
625 ANTITRUST LAW
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.

3 credits
626 BASIC BUSINESS ASSOCIATIONS

3 credits
627 COMMERCIAL LAW I
This course focuses on the Uniform Commercial Code with emphasis on Articles 2, 3, 4 and 9 together with the appropriate cognate areas such as the Bankruptcy Act, the Uniform Fraudulent Conveyance Act, The Tax Lien Act and the FTC Holder Rule.

3 credits
628 COMMERCIAL TRANSACTIONS: SALES
Law of sales of personal property under Article 2 of Uniform Commercial Code and under prior uniform acts relevant to the modern law of sales.

2 credits
629 COMMERCIAL LAW II
Prerequisite: 627. Continuation of 627.

3 credits
630 ADMIRALTIAL
History and jurisdiction of admiralty; carriage of goods by water and combined transport; collision; salvage and insurance; claims for personal injury and death claims; maritime lien.

3 credits
631 CONFLICT OF LAWS
Problems of application of private law in joint relations containing one or more foreign elements. Jurisdiction and enforcement.

3 credits
632 CORPORATIONS
An introduction to the law relating to the typical American enterprise. Principal emphasis on financing, control, management and regulation of corporations, both publicly owned and closely held.

4 credits
633 CREDITORS' RIGHTS

3 credits
635 FAMILY LAW
Major areas of family law, theories that have influenced its development. Functions performed by various agencies which seek to effect a non-judicial settlement of domestic problems. Adoption.

3 credits
636 DEVELOPMENT OF LAW AND SOCIAL CHANGE
Historical introduction to the Anglo-American legal system and an examination of the influence of law on society and society on law to illuminate contemporary developments in law and social institutions.

3 credits
637 EQUAL OPPORTUNITY LAW
Legal developments, primarily federal, affecting discrimination in employment. Housing and public accommodations. The major emphasis of the course will be on equal employment opportunity law.

3 credits
638 FAMILY LAW
Major areas of family law, theories that have influenced its development. Functions performed by various agencies which seek to effect a non-judicial settlement of domestic problems. Adoption.

3 credits
639 FEDERAL ESTATE AND GIFT TAXATION
Federal estate and gift taxation: relation between federal income tax and federal taxes on transfers of property.

3 credits
640 SEMINAR IN ADVANCED CORPORATE TAXATION
Prerequisite: 642. An analysis of federal corporate taxation problems.

3 credits
641 FEDERAL INCOME TAXATION I
Survey of federal income tax law with primary emphasis on individual income. May be taken independently of 642.

3 credits
642 FEDERAL INCOME TAXATION II
Prerequisite: 641. Survey of federal income tax law applicable to partnerships.

3 credits
643 FEDERAL JURISDICTION AND PROCEDURE
Prerequisite: 642. 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.

3 credits
644 FINANCING STATE AND LOCAL GOVERNMENT
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.

2 credits
645 BUSINESS REORGANIZATION UNDER THE BANKRUPTCY CODE
Prerequisite: 635. This course covers the six stages of a Chapter 11 (rehabilitation under the Bankruptcy Laws): (1) commencement of a case; (2) operation of the business; (3) preparation of the plan; (4) creditors' acceptance of the plan; (5) judicial confirmation of the plan; and (6) post-confirmation concerns.

3 credits
647 JUVENILE LAW
Study of laws relating to juveniles (neglect, dependency, delinquency).

3 credits
<table>
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<tbody>
<tr>
<td>645 INSURANCE LAW</td>
<td>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</td>
<td>3</td>
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</tr>
<tr>
<td>649 INTERNATIONAL LAW</td>
<td>Nature and breadth of international law; sources and subjects; relation to municipal law, individuals and international organizations.</td>
<td>3</td>
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</tr>
<tr>
<td>651 LABOR ARBITRATION AND COLLECTIVE BARGAINING</td>
<td>Prerequisite: 650. Law and practice of labor arbitration and collective bargaining, including study of grievance arbitration process pursuant to collective bargaining agreements</td>
<td>3</td>
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<tr>
<td>652 LAND USE PLANNING</td>
<td>Prerequisite: 615. Assumptions, doctrines and implications of planning law; zoning; legal and administrative problems involved in allocating and developing land located in metropolitan area.</td>
<td>3</td>
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<tr>
<td>653 LEGAL ISSUES IN EDUCATION</td>
<td>School governance; allowable discipline; constitutional constraints on restriction of freedom of expression and on privacy intrusions; tort liability for injuries on school property.</td>
<td>3</td>
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<tr>
<td>654 LAW OF CONSUMER CREDIT</td>
<td>Recommended: 627.9. Consumer sale and credit transactions and their regulation, including statutory and administrative approaches dealing with problems of individual consumers and classes of consumers.</td>
<td>2</td>
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<tr>
<td>655 LAW REVIEW INTERNSHIP</td>
<td>Prerequisite: completion of first year and invitation upon scholarship or demonstrated writing skills. Citations; preparation of casenote of recent cases, recent case analyses and criticism: correction of casenotes or comments of others (spading). Credit for 656.7, 96, 98 not to exceed 10.</td>
<td>1 credit (credit/noncredit)</td>
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</tr>
<tr>
<td>657 LAW REVIEW STAFF</td>
<td>(May be repeated twice) Prerequisite: 656. Preparation of comment or article of publishable quality. Credit for 656.7, 96, 98 not to exceed 10.</td>
<td>1 credit (credit/noncredit)</td>
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</tr>
<tr>
<td>658 LAW REVIEW EDITORIAL BOARD</td>
<td>Prerequisites: 657 and election to Editorial Board. One credit per term for service on Akron Law Review Editorial Board total credits for 656.7 and 8 not to exceed four. Credit for 656.7, 96, 98 not to exceed 10.</td>
<td>1 credit (credit/noncredit)</td>
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</tr>
<tr>
<td>659 LAWYER AS NEGOTIATOR</td>
<td>Prerequisite: 602. Planning negotiations and determination of strategies to effect object, weighing legal, economic, behavioral, ethical and social factors that condition outcomes.</td>
<td>2</td>
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<tr>
<td>660 SEMINAR IN WORKERS' COMPENSATION</td>
<td>Jurisdictional and procedural issues. Scope of employer liability, defenses, specific remedies.</td>
<td>3</td>
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<tr>
<td>661 LEGAL CONTROL OF THE ENVIRONMENT</td>
<td>Substantive and procedural problems in control of air and water pollution, common law precedents; federal and state statutory law, federal administrative agencies, civil actions, constitutional consideration, federal tax incentives.</td>
<td>3</td>
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<tr>
<td>662 LEGISLATION</td>
<td>Process in context of legislative organization, policy formulation, drafting, statutory construction, constitutional limitations on subject matter and form and judicial interpretation; illustrative drafting problems.</td>
<td>2</td>
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<tr>
<td>665 MODERN REAL ESTATE TRANSACTIONS</td>
<td>Prerequisite: 615. Real estate transactions such as condominiums, cooperatives, sale and leasebacks, high credit leases, lease-hold mortgage, construction lending and syndication, with major emphasis on financing and related tax considerations.</td>
<td>3</td>
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<tr>
<td>666 Moot Court</td>
<td>1 credit (credit/noncredit) (May be repeated once) Credit for participation by brief writing or written argumentation in intramural National Moot Court, Jessup International or other approved moot court competitions. Not open to first-year student. Total credits for courses designated Moot Court (666, 694 and 5) not to exceed four. Credit for 656.7, 8, 96, 94, 90.7, 8 not to exceed 10.</td>
<td>1 credit (credit/noncredit)</td>
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<tr>
<td>667 PATENT, TRADEMARK AND COPYRIGHT LAW</td>
<td>Federal protection of trademarks, patents and copyrights, registration procedures, appeals from administrative actions, right of patentees, trademark owners and copyright holders, grants, licenses and assignments, infringement, plagiarism and unfair competition.</td>
<td>2</td>
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<tr>
<td>668 REMEDIES I</td>
<td>Equitable remedies, unjust enrichment and restitution; remedies for injuries to tangible property, and economic, dignity and personal interests including wrongful death. May be taken independently of 669.</td>
<td>3</td>
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<tr>
<td>669 REMEDIES II</td>
<td>Prerequisite: 668. Discrimination and remedies for discrimination, duress, undue influence, hardship, unconstitutionality, mistake, breach of contract and nominally unenforceable transactions.</td>
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<tr>
<td>670 SEMINAR IN CRIMINAL PROCESS</td>
<td>Prerequisite: 622. Study of criminal process including decision to prosecute, grand jury, preliminary hearing, jury and severance, discovery, plea bargaining, jury trials and double jeopardy.</td>
<td>3</td>
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<tr>
<td>671 SECURITIES REGULATION</td>
<td>Prerequisite: 633. State and federal law and rules of Securities and Exchange Commission in issuance and trading of securities; legal and self-regulatory aspects of securities industry.</td>
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<tr>
<td>672 SEMINAR IN BUSINESS PLANNING</td>
<td>Prerequisite: 633 or permission of instructor. Advanced course using the problem approach in planning business transactions in light of applicable corporate, tax and securities laws.</td>
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<tr>
<td>673 SEMINAR IN COMPARATIVE LEGAL SYSTEMS</td>
<td>Study of contemporary foreign legal systems by discussion of basic problems in specific areas on comparative basis.</td>
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<tr>
<td>674 SEMINAR IN CORRECTIONS AND PRISONERS' REMEDIES</td>
<td>Study of theoretical and practical aspects of sentencing, punishment, treatment, release and alternatives thereto; developments in field of prisoners' rights and remedies.</td>
<td>3</td>
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<tr>
<td>675 SEMINAR IN REAL ESTATE PLANNING</td>
<td>Prerequisites: 641, 666, or permission of instructor. Relevant law and nonlaw problems in planning of estates and examination of disposive devices in accomplishing objectives of estate planning.</td>
<td>3</td>
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<tr>
<td>676 SEMINAR IN INTERNATIONAL TRANSACTIONS AND RELATIONS</td>
<td>Legal problems in doing business abroad. Entry, holding, property, economic activity and choice of corporate form; restrictive practices; currency and exchange. European Common Market. Relations being developed and developing countries.</td>
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<tr>
<td>677 SEMINAR IN JURISPRUDENCE</td>
<td>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.</td>
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<tr>
<td>679 SEMINAR IN LABOR LAW</td>
<td>Prerequisite: 650. Selected issues in two areas of growing importance in the field of labor and employment law: (1) public sector law with an emphasis on state and local (as opposed to federal) labor relations; (2) employee rights, with an emphasis on common law remedies, but with some consideration given to new rights of employees created by statute and collective bargaining agreements.</td>
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<tr>
<td>680 DEFERRED COMPENSATION AND EMPLOYEE BENEFIT PLANS</td>
<td>Recommended: 633. Employee benefit plans; qualified pension and profit-sharing plans under Internal Revenue Code. Non-qualified contracts involving individual employees.</td>
<td>3</td>
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<tr>
<td>681 SEMINAR IN LEGAL PROBLEMS OF THE DISABLED</td>
<td>Selected legal problems of persons disadvantaged by such factors as age, illness, mental incompetency and poverty.</td>
<td>2</td>
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<tr>
<td>682 SEMINAR IN POLITICAL AND CIVIL RIGHTS</td>
<td>Prerequisite: 604. Study of some basic problems in relationship of individual to government and in protection of rights of minority groups.</td>
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<td>683 SEMINAR IN PRODUCT LIABILITY</td>
<td>3 credits</td>
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<tr>
<td>684 SEMINAR IN SELECTED LEGAL PROBLEMS</td>
<td>(May be repeated) Analysis of special or current legal problems offering opportunities for legal research, effective integration of legal and relevant nonlegal materials, and expository legal writing.</td>
<td>1-3 credits</td>
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<tr>
<td>685 WILLS, TRUSTS AND ESTATES I</td>
<td>Intermediate: succession: execution: revocation and revindication of wills; creation and termination of trusts; gifts to charity; will substitutes; future interests; powers of appointment; class gifts.</td>
<td>3</td>
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<tr>
<td>686 WILLS, TRUSTS AND ESTATES II</td>
<td>Prerequisite: 685. Continuation of 685</td>
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<tr>
<td>687 SEMINAR IN SELECTED PROBLEMS IN EVIDENCE</td>
<td>Prerequisite: 608. Designed to give the student extensive practical in solving difficult evidentiary problems in order to supplement the instructions given in the basic Evidence course.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>688 ADVANCED LEGAL COMMUNICATIONS</td>
<td>Prerequisites: 619, 20. Refinement of skills in written and oral argument. Performance of drafting assignments, including preparation of a written expedition on a proposed solution to a drafting problem. Required course for all students.</td>
<td>1 credit</td>
<td></td>
</tr>
<tr>
<td>689 APPELLATE ADVOCACY</td>
<td>Prerequisites: 619, 20, 88. Development of skills in written and oral advocacy through handling an appellate case from receipt of trial record through oral argument.</td>
<td>1 credit</td>
<td></td>
</tr>
<tr>
<td>690 INTRODUCTION TO TRIAL ADVOCACY</td>
<td>Prerequisite: 608. Fundamental techniques of trial preparation, direct examination, cross examination, introduction of exhibits, objections, opening statements and closing arguments.</td>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>691 SELECTED PROBLEMS, INTERNATIONAL LAW</td>
<td>Prerequisite: 649. Topics of international problems and use of international law research materials in dealing with concrete international legal problems; analysis and preparation of short legal opinions.</td>
<td>2 credits</td>
<td></td>
</tr>
<tr>
<td>692 ADVANCED TRIAL ADVOCACY</td>
<td>Prerequisite: 690. Preparation and actual trial of two civil cases and two criminal cases; jury selection, ethical and political considerations of trial advocacy.</td>
<td>3 credits</td>
<td></td>
</tr>
</tbody>
</table>
### 693 PROBATE PRACTICE  
**2 credits**  
Prerequisites: 685.5. Interstate and testamentary administration, including the probating of a will, presentation of claims, the inventory, settlement and distribution and will contests. The Ohio Probate Code will be the model.

### 694 REGIONAL MOOT COURT  
**1 credit (credit/noncredit)**  
Prerequisite: open only to members of the National Moot Court Team competing or alternates in the National Appellate Advocacy Competition (NAAC) Spring Regional Competition. Each person enrolled for credit will be required to: do substantial research on the brief problem, prepare preliminary drafts of arguments, participate in practice rounds for oral presentations, total credits for courses designated Moot Court (656, 694, 5) not to exceed four. Credit for 656, 7, 8, 666, 694, 5, 6, 7, 8 not to exceed 10.

### 695 NATIONAL MOOT COURT  
**2 credits (credit/noncredit)**  
Prerequisite: open only to National Moot Court Team members or alternates in the National Moot Court Competition. Each person enrolled for credit will be required to: read and grade all intramural competition briefs, listen to and judge oral arguments in intramural competition, do substantial research on current National Moot Court problem, prepare drafts of brief, write a final brief, practice oral arguments, total credits for courses designated Moot Court (656, 694, 5) not to exceed four. Credit for 656, 7, 8, 666, 694, 5, 6, 7, 8 not to exceed 10.

### 696 CLINICAL SEMINAR I  
**2-3 credits (credit/noncredit)**  
Prerequisites: successful completion of 28 credit hours and permission of clinical director. Application of legal knowledge to practical problems in supervised public law office contexts. May be taken independently of 697. Credit for 656, 7, 8, 666, 694, 7, 8 not to exceed 10. Credit for 696, 7 not to exceed six credits.

### 697 CLINICAL SEMINAR II  
**2-3 credits (credit/noncredit)**  
Prerequisite: 696. Continuation of 696.

### 698 INDIVIDUAL STUDIES AND RESEARCH  
**2 credits**  
(May be repeated for a total of four credits)  
With permission of dean, special problems, projects or research may be taken for credit under supervision of member of faculty. Credit for 656, 7, 8, 666, 696, 8 not to exceed 10.

### 699 NORMALIZED STATUTORY DRAFTING  
**1 credit**  
This course studies a technique of drafting which was first developed for computer use but which has been found to be of great value for drafting generally.
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Gordon A. Hagerman, Member of the General Faculty Emeritus (July 1941) (Ret. 1981) B.A., The University of Akron, 1941.


Louis F. Hampel, Associate Professor Emeritus of Finance (1933) (1968) (Ret. 1974) B.S. The University of Akron; M.B.A. Northwestern University, 1931.


Lester P. Hardy, Financial Vice President Emeritus (1934) (Ret. 1964) B.S.Ed., Kent State University, M.Ed. L.H.D. The University of Akron, 1935.

Mary Grace Harrington, Associate Professor Emeritus of Bibliography (1960) (Ret. 1976) B.A. The University of Akron; B.S.L.S. University of Maryland, 1942.


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Frederick P. Hutchins, Professor Emeritus of Music (1957) (Ret. 1983) M.B. Lawrence College; M.M. S.M.M. S.M.D. School of Sacred Music; Union Theological Seminary, 1951.


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July 1985

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JAMES L. ANDERSON, Assistant Professor of Military Science (June 1983) B.S., West Virginia University, 1969; Major, (USAR) Infantry.

ERNEST C. BOROWICZ, Assistant Professor of Military Science (July 1985) B.S., Central Michigan University, 1978; Captain, Finance.

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LEONARD N. LEFFNER, Assistant Professor of Military Science (June 1983) B.A., Loyola University, M.S. Chapman College, 1978; Captain, Military Intelligence.

ELTON E. HEINBECK, JR., Assistant Professor of Military Science (August 1984) B.A., Westminster College, 1975; Captain, Infantry.

ROBERT R. SCOTT, Chief Instructor (July 1984) Sergeant Major.

ROBERT W. HINKS, Supply Sergeant (July 1986) Staff Sergeant.

Air Force


TROYEL D. PLUMMER, Assistant Professor of Aerospace Sciences (1981) B.S., Southern Illinois University, M.S., United States International University, 1981; Captain, USAF, Data Operations.

DENNIS WILLIAMS, Assistant Professor of Aerospace Sciences (August 1984) B.A., University of Southern California, M.A., Webster College, 1942; Lieutenant, USAF, Missile Maintenance Officer.
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PAUL S. WINGARD, 1977-1979, Ph.D. (acting)

MARION A. RUEBEL, 1979-1980, Ph.D. (Dean of Graduate Studies and Research)

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GERARD L. KNIETER, 1978-1980, Ph.D.

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LILLIAN J. DEYOUNG, 1975-1980, Ph.D

Wayne General and Technical College

MARVIN E. PHILLIPS, 1972-1974, M.A. (Acting Director)

JOHN G. HEDRICK, 1974-1975, M.A. (Director)

JOHN G. HEDRICK, 1976-1979, M.A. (Dean)

ROBERT L. MCELWEE, 1979-1980, M.S. (Acting Dean)

A

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