<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>3</td>
</tr>
<tr>
<td>About The University</td>
<td></td>
</tr>
<tr>
<td>of Akron</td>
<td></td>
</tr>
<tr>
<td>Section 2</td>
<td>15</td>
</tr>
<tr>
<td>Student Services</td>
<td></td>
</tr>
<tr>
<td>and Activities</td>
<td></td>
</tr>
<tr>
<td>Section 3</td>
<td>23</td>
</tr>
<tr>
<td>Admissions, Requirements, Procedures and Costs</td>
<td></td>
</tr>
<tr>
<td>Section 4</td>
<td>41</td>
</tr>
<tr>
<td>Undergraduate</td>
<td></td>
</tr>
<tr>
<td>Academic Programs</td>
<td></td>
</tr>
<tr>
<td>Section 5</td>
<td>103</td>
</tr>
<tr>
<td>Minor Areas of Study</td>
<td></td>
</tr>
<tr>
<td>Section 6</td>
<td>111</td>
</tr>
<tr>
<td>Interdisciplinary and Certificate Programs</td>
<td></td>
</tr>
<tr>
<td>Section 7</td>
<td>125</td>
</tr>
<tr>
<td>Graduate, Professional</td>
<td></td>
</tr>
<tr>
<td>and Law Academic Programs</td>
<td></td>
</tr>
<tr>
<td>Section 8</td>
<td>169</td>
</tr>
<tr>
<td>Research Centers and</td>
<td></td>
</tr>
<tr>
<td>Institutes:</td>
<td></td>
</tr>
<tr>
<td>Continuing Education</td>
<td></td>
</tr>
<tr>
<td>and Public Services</td>
<td></td>
</tr>
<tr>
<td>Section 9</td>
<td>177</td>
</tr>
<tr>
<td>Courses of Instruction</td>
<td></td>
</tr>
<tr>
<td>Directory</td>
<td>277</td>
</tr>
<tr>
<td>Index</td>
<td>299</td>
</tr>
</tbody>
</table>
Calendar 1986-87

Fall Semester 1986
*Labor Day Mon., Sept. 1
Day and Evening Classes Begin Tues., Sept. 2
Veterans Day (Classes held) Tues., Nov. 11
**Thanksgiving Recess Classes Resume Thurs.-Sat., Nov. 27-29
Final Instructional Day Mon., Dec. 1
Final Examination Period Sat., Dec. 13

Spring Semester 1987
Day and Evening Classes Begin Tues., Jan. 20
Founders Day (classes held) Tues., Feb. 10
Spring Recess Mon.-Sat., March 23-28
†May Day Fri., May 1
Final Instructional Day Sat., May 9
Final Examination Period Mon.-Sat., May 11-16
Commencement Sun., May 24

Summer Session I
First 5- and 8-Week Sessions Begin Mon., June 15
*Independence Day Fri., July 3
First 5-Week Session Ends Fri., July 17

Summer Session II
Second 5-Week Session Begins Mon., July 20
Eight-Week Session Ends Fri., Aug. 7
Second 5-Week Session Ends Fri., Aug. 21

Fall Semester 1987
Classes Begin Mon., Aug. 31

Inquiries

Address inquiries concerning:
Admissions information, campus tours and housing, transfer of credits to the Office of Admissions, 166 Fir 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, James A. Rhodes Health and Physical Education Building, (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 Buckingham Center for Continuing Education, (216) 375-7826.
Graduate study to the Graduate School, Buchtel Hall, (216) 375-7663.
The University switchboard number is (216) 375-7111.
The University of Akron Akron, OH 44325

*University Closing
**University closed from Wednesday, November 26 at 5 p.m. until Monday, December 1 at 7 a.m.
†Classes suspended from to 5 p.m. at the discretion of the instructors.
Background

HISTORY

The self-conscious connection between The University of Akron and its surrounding community has been a recurring theme from the institution's founding as a small denominational college in 1870 to its current standing as a major metropolitan state university. It is significant that the efforts, energy, and financial support of an Akron manufacturer of farm equipment, John R. Buchtel, were instrumental in persuading the Ohio Universalist Convention to build its college on a hill overlooking the town stretched along the Ohio Canal. The grateful trustees responded by naming the school Buchtel College. It is also significant that during its first four decades, the struggling institution was repeatedly aided in its efforts to survive by various local entrepreneurs who pioneered and prospered in such industries as cereals, clay products, matches and rubber. Buchtel College's emphasis on local rather than denominational interests became increasingly clear, and by 1913 those strong ties and the school's financial situation caused its trustees to transfer the institution and its assets to the city. For the next 50 years, the Municipal University of Akron received its principle support from city tax funds and swelled from an enrollment of 196 to nearly 10,000.

The growth of the college paralleled the remarkable expansion of the community itself. From 1910 to 1920 Akron was the fastest-growing city in the country, evolving from a thriving canal town of 70,000 to a major manufacturing center of 208,000, thanks in large part to a boom in local factories that bore names such as Goodyear, Firestone, Goodrich and others. The age of the automobile — and the demand for inflatable rubber tires — changed the complexion of Akron forever.

And changes within the Municipal University's curriculum reflected the strong interrelationship of town and gown. In 1914 a College of Engineering began instruction, and other professional schools followed: education (1921), business administration (1953), law (1959), the Community and Technical College (1964), fine and applied arts (1967) and nursing (1967). Still another response to the community's needs was a comprehensive evening session, initiated in 1915 to make courses available to a broad cross-section of citizens; currently almost 5,000 Evening College students pursue undergraduate and graduate degrees in all majors offered by the University.

Considering the institution's location in the heart of the burgeoning rubber industry, it seemed only appropriate that the world's first courses in rubber chemistry would be offered at Buchtel College in 1909. From those first classes in Professor Charles W. Knight's laboratory would evolve the prestigious Institute of Polymer Science, a world leader in polymer research. In the 1930s and 1940s, with the establishment in Akron of the Guggenheim Airship Institute, UA scientists studied the structure and design of zeppelins, and during World War II University of Akron researchers helped fill a critical need in the U.S. war effort by contributing to the development of synthetic rubber.

But research, innovation and creative activity take many forms at the University, in the sciences and in the arts and humanities as well. Today UA faculty members study ways of matching workers with jobs to maximize performance; they devise more effective methods of extracting oil from shale; they write and produce plays, pen poetry, choreograph dance works; they design valves for artificial hearts and explore improved methods of tumor detection; they evaluate the quality of water in northeast Ohio; they draft new maps to meet specialized needs of local businesses and industries; and they study laws of taxation and their effects on commerce. UA's continuing and central commitment to the liberal arts is signified by the perpetuation of the institution's original name in the Buchtel College of Arts and Sciences.

And the University has maintained an openness to innovation in other ways. As early as the 1880s Buchtel College was liberalizing its curriculum by allowing students to choose free electives within their courses of study. The University later adopted and developed the general education concept, which represents an attempt to prepare students for both their personal and their professional lives by providing a balance between courses that teach them how to make a living and courses that teach them about life as we know it in Western civilization.

The University's first doctoral degree was awarded in polymer chemistry in 1959, but master's degrees were granted as early as 1882. Doctoral work has now expanded to programs leading to the highest academic degree in 14 different fields of study.

In 1963 the receipt of state tax monies made UA a state-assisted municipal university, and on July 1, 1967, The University of Akron officially became a state university. Today some 26,500 students from 34 states and 83 foreign countries are enrolled in its nine colleges, making it the third largest university in Ohio, and 52nd largest in the nation. Its 50,000 alumni are worldwide. The 150-acre campus with its 70 modern buildings is within walking distance of downtown Akron and its shopping, restaurants, entertainment and cultural centers. The northeast Ohio metropolitan area, with its 1.5 million population, provides numerous opportunities in recreation, major collegiate, amateur and professional sports, concerts, cultural events and commerce, all within easy driving distance and many accessible via public transportation.

For over a century, the college on the hill has been an integral part of the city whose name it bears, an active participant in Akron's renaissance of commercial and artistic endeavor, a leader in the city's intellectual and professional advancement, a center for internationally lauded research efforts, a source of enrichment, education and vitality both for itself and for its community. Our history is a long and proud one — but at The University of Akron, our eyes are on the future, for our students, our faculty and staff, our community, our world.

MISSION AND GOALS

The University of Akron's mission is influenced by its location, its heritage, its teaching and research objectives and its responsibility to serve the local, national and international communities.

These influences, combined with the University's commitment to provide the highest quality educational opportunity possible to each person regardless of race, creed, color, sex, age, national origin or handicapping condition, shape this institution's distinctive character.

The foremost goals of The University of Akron are to create and maintain the highest standards of excellence in its curriculum; its teaching/learning process; its development of students; its research and its service to the public. Existing and proposed programs alike are evaluated in terms of their contributions to these goals.

The historically strong interrelationship between The University of Akron and the surrounding community confirms UA's responsibility to serve the community in ways that will reflect the needs of both the institution and the region of which it is a part. The University will continue to serve those pursuing a traditional educational program as well as those seeking a nontraditional program for a career change, for professional development or for self-enrichment.

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 that emphasizes 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.
- Offer appropriate educational and professional services to its various publics within available resources and established continuing education and outreach philosophies.
- Maintain its firmly established tradition of concern for the higher educational and cultural needs of our 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 promote the discovery and creation of 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 will enhance students' abilities to participate effectively in a complex society by designing programs that will not only fulfill educational needs but will also provide opportunities for intellectual, personal, cultural and social development.

GOAL IV
The University will provide public service through its traditional and continuing education programs, its faculty, its students and its facilities, and it will 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 and assures a student taking pre-professional courses leading to advanced study in such fields as medicine, dentistry, law and theology that he is receiving sound preparation for acceptance at other graduate and professional schools. Accreditation also provides the security of 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 the Accreditation of Counseling and Related Educational Programs (provisional)
- 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 academic spectrum. Programs are available leading to the associate (two-year), bachelor's (four-year), master's (graduate) and doctoral (graduate or professional) degrees. A student may study in the College of Business Administration, Buchtel College of Arts and Sciences, Community and Technical College, College of Education, College of Engineering, 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, salespeople, 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
- Individuated Study
- Labor Studies
- Manufacturing Technology
- Industrial Supervision
- Marketing and Sales Technology
- Fashion
- Industrial
- Tailoring
- 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 Technology
- Surveying and Construction Technology
- Construction
- Surveying
- Transportation
- Airliner Travel Industry
- Commercial Aviation
- 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
- Home Economics
- Education
- Textiles and Clothing
- Business
- Communication
- Theatre Costume
- Humanities
- Management
- Industrial Accounting
- Marketing
- Industrial
- International
- Marketing Communications
- Physical Distribution
- Retail Marketing
- Mathematical Sciences
- Applied Mathematics
- Computer Science
- Mathematics
- Statistics
- Mechanical Engineering
- Medical Technology
- Modern Languages
- French
- German
- Russian
- Spanish
- Music
- Accompanying
- History and Literature
- Jazz Studies
- Music Education
- Performance
- Theory/Composition
- Natural Sciences
- Combined ES/MD
- Nursing
- Philosophy
- Physical Education
- Outdoor Education
- Athletic Training for Sports
- Medicine

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. Study in the University College develops the student's ability to understand and express ideas effectively and to comprehend the processes involved in accurate thinking. After completing the general studies phase, the student is admitted to a degree-granting college, where he then concentrates courses in his specific academic interest.

Programs are offered in:

- Accounting
- Art
- Art History
- Ceramics
- Crafts
- Drawing
- Graphic Design
- Metalworking
- Painting
- Photography
- Printmaking
- Sculpture
- Studio Art
- Biology
- Botany
- Cytotechnology
- Ecology
- Medical Technology
- Microbiology
- Physiology
- Pre-Professional
- Pre-Dental
- Pre-Medical
- 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
- Mathematics
- Construction Technology (2 + 3)
- Cybertechnology
- Dance
- Economics
- Labor Economics
- Electrical Engineering
- Computer Engineering
- Elementary Education
- Dual Certification
- Kindergarten-Primary
- Nursery School
- Rehaing
- Engineering
- Chemical
- Civil
- Electrical
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 natural sciences. These colloquia examine the interrelations of academic studies while exploring significant contemporary issues. 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 academic excellence. It supports the college's attempt to provide worthwhile career programs that 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 various academic disciplines.

Cooperative Education Program

This program 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 can enhance a student's education and career preparation by integrating classroom theory with on-the-job performance; providing 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

A student may add a dimension of depth to his education beyond his chosen major by pursuing one of the University's interdisciplinary or interdepartmental programs, which provide concentrated work in the following areas.
GRADUATE SCHOOL

The Graduate School offers advanced study to students who wish further education beyond the baccalaureate degree. Graduate degree programs are listed below; a dagger (†) indicates programs that offer doctorates only; an asterisk (*) signifies programs that offer both master's and doctoral degrees; the remaining disciplines offer master's degrees only.

Accounting
Biomedical Engineering
Biology
Business/Law Joint Program
Chemical Engineering
Chemistry
Civil Engineering
Communication
Communicative Disorders
Counseling Psychology
Economics
Labor and Industrial Relations
Educational Administration and Supervision
Higher Education
Electrical Engineering
Elementary Education
Reading Specialist or Consultant
Engineering
Biomedical Engineering
Polymer Engineering
English
Family Ecology
Child Development
Family and Child Development
Finance
Geography
Geology
Earth Science
Geophysics
Engineering Geology
Environmental Geology
Guidance and Counseling
History
Home Economics and Family Ecology
International Business
Management
Marketing

EVENING COLLEGE AND SUMMER SESSIONS

The University Evening College and Summer Sessions provide educational opportunities for the student who wishes to attend college classes during the evening or over the summer. The Evening College and Summer Sessions include work toward associate, baccalaureate and advanced degrees as well as additional education in students' chosen professions. Courses in the evening program are fully accredited and are conducted throughout the year.

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 through 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 160 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 situated in a large metropolitan area. The campus, although centrally located within the city, is set apart from the downtown area. Students have easy access to major national east-west routes (Interstates 80, 90, 76 and the Ohio Turnpike), and north-south routes (Interstates 71 and 77), all of which link Akron to the surrounding states and regions. The University itself is located between East Buchtel Avenue and Carroll Street in the downtown area. 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.

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. 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, studios and offices for the Ohio Ballet and the Dance Institute.

Bierce Library. Named for Gen. Lucius V. Bierce, an 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 1.8 million items. The facility also houses the University Archives, Media 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 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, the Adult Resource Center, the Office of Cooperative Education, the Office for Noncredit Courses, the Nursing Home Training Center, the 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 media 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 $1.3 million, 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 a 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

BUILDINGS

Many of the buildings on campus bear the names of prominent persons who are recognized for their contributions in administration, education, business, science or University service. Major buildings include:

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 student 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.
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, a game and billiard room, a bookstore, bank facilities, the Perkins Art Gallery, cooperative education offices, the Gardner Theatre, a cafeteria and other dining facilities.

**Gladwin Hall.** Housing the College of Nursing, allied health and biology laboratories, this building was named in honor of distinguished alums 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 multipurpose nursing laboratory, a simulated six-bed hospital containing surgical-labor delivery suite, a nursery suite and a well-patient clinic.

**Guzzetta Hall.** Complementing the Edwin J. Thomas Performing Arts Hall, this facility was constructed directly across from Thomas Hall on Hill Street. The $5.5 million structure dedicated in October 1976 houses the office of the dean of the College of Fine and Applied Arts, and the departments of communication, and music, theatre and dance. In addition to providing more than 40 student practice rooms, the complex houses radio and television studios, WAUP-FM, a small experimental theatre and a 300-seat recital hall.

**James A. Rhodes Health and Physical Education Building (JAR).** 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, the athletic director's office, the sports information office, athletic offices and a ticket office.

**Hower House.** Located on Fir Hill, the century-old mansion has been designated as a 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 at Buchtel College as early as 1909. 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.** Identified 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 Center for Community and Public Television, 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 court rooms, appellate-review office, seminar rooms and faculty offices. A planned $3.5 million expansion will provide additional library and support space. The center stands at the corner of East Center Street and Grant 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, a large gymnasmum, a swimming pool, intramural sports office and classrooms. A current remodeling project will provide physiology, bio-mechanics and rehabilitation laboratories.

**North Hall.** Located on South Forge Street, this facility houses the administrative service departments of University Communications, Purchasing, Staff Personnel and Benefits Office.

**Ocasek Natatorium.** The six million dollar natatorium, currently under construction, is scheduled for completion in fall 1987. The 64,000 gross square foot structure will house an Olympic-size swimming pool with adjacent spectator seating area, and will have locker rooms and showers. The center will also house nine racquetball courts as well as weight room facilities. The natatorium is named for Ohio State Senator Oliver Ocasek.

**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, which cost more than $11.9 million, was formally opened in 1973. Designed to accommodate concerts, opera, ballet and theatre productions, the hall is a masterpiece in architecture, acoustics and creative mechanisms. It stands at the corner of East Center and Hill Streets.

**Physical Plant Operations Center.** This building at 146 Hill 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 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, has 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, features an artificial turf playing field, seating for 35,000, locker rooms, concessions and a press box.

Schrank Hall. Named for Harry P. Schrank, long-time member and chairman of UA's Board of Trustees, this complex, which adjoins Auburn Science and Engineering Center, is composed of two academic structures and a parking deck. Schrank Hall North contains offices and classroom space. 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 Hezzleton 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 in this facility.

Spicer Hall. This major student contact building, renovated in 1975, 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.

Student Mailroom. Located on central campus, adjacent to the Gardner Student Center, this building contains mailboxes for all students.

The University Clue of Akron. Property of The University of Akron's Development Foundation, the club at 105 Frick Hall is operated by a private corporation for the use of its members and guests. Two dining rooms and four meeting rooms make the club an ideal location for social, cultural and intellectual activities. The Office of Alumni Relations and the Department of Development as well as offices for the division of Institutional Advancement are located on the upper floors of the building.

West Hall. This renovated structure on the corner of East Buchtel Avenue and Grant Street houses the Department of Communicative Disorders and the outpatient Speech and Hearing Clinic as well as classrooms and law school offices.

Whitby Hall. Named for G. Stafford Whitby, a pioneer in the development of polymer science, this addition to the Institute of Polymer Science (IPS) was opened in fall 1975. Housing the academic portion of IPS, the hall was purchased, renovated and equipped at a cost of $3.2 million. The Institute's research activities continue in Auburn Science and Engineering Center.

Zock Hall. Named to honor George F. Zock, president of the University from 1925 to 1933, this Buchtel Avenue facility houses the College of Education and provides a lecture room that seats 250, general classrooms, a handicrafts room, a teaching demonstration classroom, a microteaching laboratory, the Center for Economic Education and the Student Teaching Office.

FACILITIES AND EQUIPMENT

The University's addition of modern teaching aids demonstrates its recognition of the need, in this technological age, of up-to-date facilities and equipment. Some of these facilities are as follows.

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 andophysographs. 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 English shares with the humanities and social sciences departments a bank of 19 IBM computer terminals in Olin Hall. This facility is used extensively for courses in creative, expository and professional writing. Additionally, these terminals, along with terminals linked to the University mainframe, are used in computerized analysis of style.

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 periodical research collection. Major equipment includes stereo and digital plotters, ERTS satellite transceivers, overhead map eraser, field plotters, three-dimensional Perspektomat, headliner and vanityper, industrial camera, vacuum frame and map scale changers. 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 modern instrumentation for field and laboratory studies. Among the equipment are an automated electron microprobe, automated x-ray extraction system, atomic absorption spectrophotometer, ion chromatograph, coal and sulfur analyzers, oxygen, bomb calorimeter, gravimeter, resistivity gear, friction seismograph, magnetometers, image analyzer, cathodoluminescope, microcomputer laboratory with printers, plotters, and a digitizer, core laboratory, research microscopes, a well-equipped darkroom, rock saws, thin section equipment, portable rock core and three four-wheel-drive vehicles.

The Department of History in Olin Hall is housed in a modern office suite with space for graduate assistants as well as professors. The Clara G. Roe Seminar Room is used for graduate seminars. The history department shares its office space with the Department of General Studies and the Center for Peace Studies.

The Department of Mathematical Sciences is located in Ayer Hall adjacent to the Science and Technology Library. Students often make use of closed-circuit television located throughout the campus, and the Learning Resource Center which is housed in Carroll Hall.

The University has a sophisticated Computer Center which is equipped with a number of computers. Computers available to the University community are an IBM 3033U and an IBM 370/156. A Prime 650 computer is dedicated to the Engineering College for support of computer graphics. There is also an IBM 4361 dedicated to class instruction and faculty research by the Department of Mathematical Sciences. Access to these facilities is available at various locations on campus via remote computer terminals. Off-campus access via phone connections is also available on selected equipment. The University is connected electronically to other sites worldwide via BitNET.

Housed in the Department of Mathematical Sciences are 25 IBM PCs acting as independent workstations or as terminals tied to the IBM 4361. The department also has a laboratory equipped with Apple II microcomputers. Microcomputer laboratories at various locations on campus are also available for student use. All the popular computer programming languages are supported on one or more machines; examples include FORTRAN, Pascal, COBOL, PL/1, RPG, BAL, C, BASIC, SPSS, SAS, GSS, APL and LISp, as well as some lesser known languages. Many software packages that run on mainframes, minis or micros are also supported. Plans for the immediate future include the establishment of another laboratory in Ayer Hall connected to a VAX 11/785.

A most important resource of The Department of Modern Languages is the language laboratory in Olin Hall. The language laboratory schedules working sessions for all beginning and some advanced language courses.
The Institute of Polymer Science is housed in Ayer Hall with space and facilities for research and instruction. The laboratories include experimental facilities for electron tunneling spectroscopy, pulsed continuous wave and high resolution NMR, and Mossbauer spectroscopy; magnetic susceptibility and Shubnikov-de Haas measurements. The experimental projects in progress include studies in surface physics and thin films, diffusion measurements and high resolution NMR in polymers, molecular spectroscopy, solid state physics and computer-assisted instruction. Theoretical projects in progress include critical phenomena and phase transitions, renormalization group, supersymmetry, polymer physics and solid state physics. Studies of physical properties of polymer materials utilize the extensive facilities of the Department of Polymer Science and the Institute of Polymer Science.

The Department of Political Science supervises a computer-assisted telephone interviewing laboratory available to the campus research community. The laboratory consists of 18 IBM PC microcomputers connected via a network to two IBM PC/AT system servers. Each interview station is acoustically insulated from other stations and has specialized telephone and automatic dialing equipment. The survey facility is used for grant and contract research covering both the local community and the state. When not required for survey projects, the computer network is used for a variety of classroom exercises and student research projects.

The Department of Polymer Science and the Institute of Polymer Science have extensive facilities for synthesizing, characterizing and investigating the physical properties of polymers. In addition, excellent facilities for studies on polymer processing are available. The total value of major instrumentation and equipment housed in the department and institute laboratories exceeds $3.5 million.

The Department of Psychology laboratory resources include undergraduate laboratories and advanced computer controlled laboratories for the study of human information processing (e.g., signal detection, automobile driving, motion sickness, attention, concept formation, perceptual style, latent and differences and memory). Research areas for the study of small-group behavior and a psychology clinic complete with videotape capabilities for the study of counseling process and outcome are also available. The department owns several IBM-XT PCs for on-line collection of data and control of experiments; the perceptual laboratory includes an eye scan and eye track apparatus. The department is associated with the Institute for Life-Span Development and Gerontology, including emphasis in adult development, gerontology and women's studies.

The Department of Sociology facilities include a five-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. In addition, a computer-assisted telephone interviewing (CATI) system laboratory is used for student training in an annual Akron area survey. The anthropology laboratories contain hominid fossil casts, archaeological collections and a variety of equipment used in archaeological research.

The Department of Urban Studies has a microcomputer laboratory equipped with five IBM personal computer networks connected to a central PC equipped with a 30 megabyte hard disk. Both color graphics and letter-quality printers are available. Students are trained in software useful for public administration and urban planning administration, as well as statistical software packages such as SPSS-X PC. The statistics laboratory is housed with the microcomputer lab. Moderns can connect with the PCs to the IBM mainframe providing a full range of mainframe computer applications.

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, an information management laboratory and a word processing laboratory in the Office Administration program. A new computer laboratory with an IBM System I computer with 16 terminals is maintained for the Data Processing program. All business technologies are served with a 32-unit IBM PC laboratory.

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

The Engineering and Science Technologies are served with a Hewlett-Packard laboratory to provide hands on programming and computer-assisted drafting experiences. The Drafting Technology program maintains a technical computation laboratory which provides all students in the Engineering and Science technologies the opportunity to develop basic computer programming skills.

The Electronic Technology program provides a circuits laboratory, electronics laboratory, control system laboratory, digital circuits and system laboratory equipped with IBM personal computers 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 special laboratory for the study of chemical analysis and instrumentation methods is also available.

College of Education

The offices, laboratories and other facilities of the College of Education are located in Zook Hall, Carroll Hall, Crouse Hall, the James A. Rhodes Health and Physical Education Building, Memorial Hall and East Hall.

The Department of Educational Foundations is responsible for the core curriculum of social, philosophical and historical foundations of both the undergraduate and the graduate education programs of all departments. Within this department is Educational Media Laboratory, which serves as a resource in teaching education students the selection, production, use and evaluation of audiovisual materials, media and microcomputer technology.

The Department of Health and Physical Education prepares students for careers in teaching, coaching, related recreational fields and related health fields. Within the department, the Human Performance Laboratory is equipped as a teaching and learning center for preservice personnel studying areas such as cardiovascular functions, stress, nutrition and sports medicine. The James A. Rhodes Health and Physical Education Building and Memorial Hall house a gymnasium, weightlifting room and several laboratories for education in physical skills.

The Department of Secondary Education houses the Microteaching Laboratory, which is managed by department faculty. The laboratory offers several rooms for simulated teaching with videotaping and feedback to facilitate students' self-assessment of teaching behaviors. The facility serves all departments in the college.

The Center for Economic Education serves as an instructional site for preservice teachers, college faculty and area schools. Workshops, seminars, materials, and visiting experts provide in-service training in economic issues. An extensive inventory of educational media includes

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.
books, periodicals, lesson outlines, games, films, videotapes, and computer software which address economic education.

The Department of Counseling and Special Education operates the Materials Resources Center, which serves as a repository of curricular aids for both the preservice teacher and those in the classrooms. Kvam’s Kinder Camp, located several miles from the campus, provides an instructional opportunity for teacher education students while serving the needs of handicapped children in the Akron area during the summer. The Clinic for Child Study and Family Therapy, housed in this department, offers support and therapy for the public while providing a clinical teaching and research setting for University students and faculty. Several therapy and counseling rooms offer viewing from an adjoining room for practicum students’ supervision and feedback.

The Department of Educational Administration operates the Center for the Study of Higher Education, which provides support for those seeking advanced study. The department hosts biannual conferences for northeast Ohio educational administrators and houses the regional office for the Ohio School Boards Association.

The Department of Elementary Education uses those strategies appropriate for the K-8 child in the teaching-learning situation as the basis for its broad offering of courses in the disciplines of reading, mathematics, social studies, science, and art. A reading center, mathematics lab, and art lab facilitate the instruction of preservice teachers. The University Nursery Center, directed by department faculty, provides day care for children while serving as an experiential learning site for teacher education students.

College of Engineering

The Department of Chemical Engineering possesses a variety of modern research equipment. The Particle and Catalyst Characterization Laboratory has a Micrometrics surface area analyzer, a flow BET unit, a temperature programmed chemisorption and desorption unit, and a mercury intrusion porosimeter. There is also a particle shape and image analyzer byshape technology.

The Chemical Reaction Engineering laboratories have a continuous high pressure catalytic reactor which is controlled by an on-line computer working in a real-time, multitasking mode to evaluate results. A slurry-reactor, micro-pilot plant operates in a three-phase catalytic mode and is ideal for carrying out various fundamental and engineering studies on three-phase catalytic reactors. A gas chromatograph/mass spectrometer is available for product stream analysis.

The Applied Colloid and Surface Science Laboratory has a state-of-the-art laser light scattering facility including a Lexel argon-ion laser, a vibration isolated optical bench, a Brookhaven correlation and probability analyzer, and an IBM PC-based data acquisition system.

The focal point of the undergraduate laboratories is the Corning Glass plant six-inch distillation unit which includes a 12-plate bubble-cap column and an eight-foot high packed-bed column. The unit is 24 feet high. There is also a pilot plant with a five-gallon agitated reactor and a packed-column stripping facility.

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 lifting sump enables the student to visualize water flow in streams and rivers. Models of bridges and dams can be studied; the water tank enables a student to study the effect of waves on lakeshore erosion, harbors, breakwaters, and offshore structures. The mobile bed tank is used to demonstrate erosion and sediment deposition patterns around bridges, piers and culvert 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 seismc 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.

The Department of Electrical Engineering maintains a broad range of measurement, electronics, control/robotics computer, digital electronics, signal processing, microwave/ transmission line, optics and machinery laboratories.

Measurement and Electronics Laboratories: Students learn to do basic electrical measurement and to design simple electronic circuits and instruments. The equipment includes oscilloscopes, transistor curve tracers, and an assortment of voltmeters, ammeters and wattmeters.

Control/Robotics Laboratories: There are analog computers for control system simulation and programming, and digital computers for interfacing with the controlled systems. A variety of robotic devices and systems are also available for robotic control and robotic vision study.

Computer Laboratory: A number of personal computers are available for instructional and research purposes.

Digital Electronics Laboratory: We have several Intel and Hewlett-Packard microcomputer development systems for digital prototype design, emulation and debugging work.

Signal Processing Laboratory: There are computer systems for digitizing, computing and signal reconstruction capabilities. An anechoic chamber and a key digital sonograph are also available for signal recording and analysis.

Microwave/Transmission Line Laboratory: Students perform the experiments on the basics of wave guide, transmission line property and wave propagation.

Optics Laboratory: There is an optics table, laser and holograph apparatus.

Machine Laboratory: Students learn the operating principles of generator and motors, and perform motion control experiments; the laboratory is equipped with an assortment of motors, generators and motor starters.

The Department of Mechanical Engineering maintains laboratories in the Auburn Science and Engineering Center and in Simmons Hall for both undergraduate and graduate instruction and research. These laboratories include a thermal and fluid science laboratory with internal combustion and gas turbine engines, a supersonic wind tunnel and a subsonic wind tunnel, a heat transfer laboratory with thermal conductivity, radiation and temperature measurement systems, a gas laser and various heat exchangers; a measurements laboratory with a full complement of transducers, calibration standards, signal conditioners, analog recording devices and microprocessor-based digital data acquisition systems; a mechanical laboratory with a new instron uniaxial testing machine with computer control, several hardness testers, photoelastic strain measuring equipment and a full range of strain gage instrumentation for static and dynamic measurements; a mechanical design laboratory with major software packages for computer-aided design and with computer graphics terminals connected to the College’s Prime 860 computer, a systems and controls laboratory with microprocessor, analog computers, and digital control equipment for process control and robotics; and a vibration and acoustics laboratory with electro-mechanical shakers, sound pressure level instrumentation and frequency spectrum analyzers for modal analysis.

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) infrared, small angle light scattering, polarized light microscopy, optical benches and a refractometer. Rheo-
logical/mechanical testing facilities include capillary, elongational and sandw1ch rheometers, mechanical testing machines and an oscillating disk rheometer.

College of Fine and Applied Arts

The Department of Art provides students with a solid background in art history supported by a collection of over 60,000 slide and an auditorium classroom setting. The department's studios and classrooms are housed in a contemporary 67,000 square foot building which features a ceramics studio with pottery wheels and kins, a metalsmith/jewelry laboratory offering casting and fabricating equipment, photographic tools and darkrooms, 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 program has student labs complete with traditional metal type, state-of-the-art computer typesetting systems, Art-0-Graph plotters, typeosters, lettering guides, plate makers, black-and-white color slat cameras, advertising photo studio and laboratories, color proof systems and two offset lithography presses. The computer graphics area utilizes two turn-key graphic systems with video graphic input and still film recorders plus Apple II computers set up for graphic use to keep current with new trends in the field. Emily Davis Gallery, Perkins Gallery and the Guzzetta Hall Atrium Gallery display staff-curated national and regional exhibitions, as well as student and faculty work. On a continuous basis, on occasion, the galleries also host traveling exhibitions. The art gallery maintains a program of catalog publications.

The Department of Speech has computer-based classes and equipment for construction with wood, metal, clay, plaster, stone and foundry work including bronze and aluminum. The graphic design/commercial art program has student labs complete with traditional metal type, state-of-the-art computer typesetting systems, Art-0-Graph plotters, typeosters, lettering guides, plate makers, black-and-white color slat cameras, advertising photo studio and laboratories, color proof systems and two offset lithography presses. The computer graphics area utilizes two turn-key graphic systems with video graphic input and still film recorders plus Apple II computers set up for graphic use to keep current with new trends in the field. Emily Davis Gallery, Perkins Gallery and the Guzzetta Hall Atrium Gallery display staff-curated national and regional exhibitions, as well as student and faculty work. On a continuous basis, on occasion, the galleries also host traveling exhibitions. The art gallery maintains a program of catalog publications.

The Department of Communication features a television classroom/studio equipped with color cameras, lights, audio and video control boards, slide and film chain, video and audio tape recorders and character/title generator. Portable video and audio equipment is available for location use. A multitrack audio recording facility is located in Guzzetta Recital Hall. Radio facilities located in WAUP-FM, include control boards, turntables, tape machines, mixers, studios and newsrooms. A multimedia production/editing laboratory-classroom supports classroom instruction. News and other writing classes have access to a typing lab and a computer text editing VDT system.

The Department of Communicative Disorders provides pre-professional and professional training to students who wish to become speech-language pathologists and/or audiologists. The department houses the Speech and Hearing Center, which functions as a practice training arm as well as a service agency for persons in the Akron community who have speech, language or hearing problems.

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 multipurpose lecture/laboratory area designed for demonstration and study in the areas of home management, equipment, home economics, home nutrition, consumer education, housing, interiors, home furnishings and community involvement.

The Department of Music, Theatre and Dance utilizes Guzzetta 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 IU worth of equipment is available to complement instrumentation for the marching and symphony bands and the University Orchestra. The department also owns two harpsichords, a harp, a nine-stop tracker organ, a Mohler practice organ, a computer-based instructional laboratory of 10 Apple computers with sound synthesizers, an electronic piano laboratory and 1:1 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 their annual season of eight to ten productions. Home base is at 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. The conventional prosenium theatre is the home of both theatre productions and dance performances, as is the multipurpose E. J. Thomas Performing Arts Hall where two departmental productions are presented each year. The Ballet Center, formerly the Firestone Conservatory, houses extensive facilities 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.

College of Nursing

The College of Nursing, housed in Mary Gladwin Hall, has a Multipurpose Learning Resource Laboratory where nursing practice is simulated through organized and independent activities. Typical equipment found in hospitals, health agencies and the home are available for students to practice simple and complex nursing techniques. The laboratory features a hospital setting, study carrels, computers, a graduate research room and the Center for Nursing, which is the research, education and practice arm for the study of Family-Health Nursing.

Students in the College of Nursing have their clinical experience in hospitals, health departments, visiting nurse services and many local health-care agencies. The entire community thus becomes an interactive learning center for the College of Nursing.

Computer Center

The Computer Center is at the west end 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 U and a 370/158, for general computing. The 370/158 is scheduled to be replaced by an IBM 3090/200 computer in January 1987. A variety of peripheral equipment is attached to these computers including magnetic tape drives, disk drives and remote terminals. A DEC VAX 11/785 has recently been installed to aid research conducted in the computer science and engineering fields. An IBM 4361 computer in a VMS environment supports the computer courses. There is also a PRIME 850 computer which is dedicated for support of the College of Engineering Graphics Laboratory.

An IBM 3861 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, PASCAL, GPSS, CICS, SPSS, APL, ADEPT, as well as some lesser known, e.g., SNOBOL, FORTRAN, WATFIV, ASSIST, XPL, LISP, C, 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, Tektronics graphics terminal and a variety of general purpose terminals which interact with the computer under the VSPC online system.

The Academic Systems Section assists the student and faculty member 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 packaged programs for specific departments.
Student Services

The Office of Student Services exists to provide whatever help a student needs to develop academically, personally and socially. Special services are also available to the nontraditional adult student who wishes to return to or continue studies in higher education. Several facilities provide various forms of help to students.

STUDENT DEVELOPMENT

This office provides a wide range of resources, programs and professional counseling to assist the student with individual growth through involvement in campus organizations. The office provides leadership and skill-building workshops for all students throughout the year. These workshops enhance the student’s ability to participate effectively within and accept responsibility for group activities.

The office maintains current information about all campus organizations and their activities and will help a student explore the wide range of opportunities that can enrich both his University experience and his individual development.

STUDENT FINANCIAL AID AND EMPLOYMENT

This office serves students who may need financial assistance to attend the University. Six professional staff members provide information on available aid programs.

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

CAREER PLANNING AND PLACEMENT

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

For the graduating student, on-campus interviews with representatives of businesses, industries, branches of the government and military services, and elementary and secondary education can be scheduled through this office. Information on administration or teaching careers in higher education is also available. Other services to registrants include direct job referrals, the maintenance and distribution of students’ credential files, the availability of company literature, and counseling in career planning.

Both students and alumni may take advantage of the facilities and services of this office, and 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, identify and assess their interests, values, 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 to help them:
  - reassess their interests, aptitudes, needs, educational and experiential backgrounds as well as their desired lifestyle 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 individualized approach provides 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 self-assessment 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.

- OCIS — On-line Career Information System.
  OCIS 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 advancement and consultation.
  Information and consultation is available about various career fields and their requirements, as well as about job outlooks, salaries, job hunting skills and University of Akron alumni follow-ups.

- 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

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 concentrate on such areas as increasing self-awareness and personal growth, improving grades, improving relations with others, developing communications and listening skills, adjusting to midlife 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 vocationai testing is offered in conjunction with counseling. Such tests cover such areas as vocational interests, aptitudes, achievement, personality and assessment of learning disabilities.

STUDENT HEALTH SERVICES

Health service facilities are immediately adjacent to the residence halls. 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 that 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 the 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 1.8 million items: books, periodicals, government documents, curricular materials, microforms, maps, records, manuscripts and other archival materials. The library receives more than 5,000 magazines, journals, newspapers and other serial publications, such as annual reports, proceedings of conferences and society publications.

Through the library's memberships in the Center for Research Libraries, the Northeast Ohio Major Academic Libraries consortium, the Online Computer Library Center (OCLC) and the Ohio Network of American History Research Centers, access to vast resources is greatly increased for University students, faculty and staff.
University identification cards function as library cards. Photocopy services and equipment for use in making paper copies from microforms are available in the main library and the sciences and technology department. A machine for making a duplicate microfiche copy is available in the main library, where group study rooms and typing facilities are also available.

**Learning Resources**

Learning Resources Services are grouped into three units: Media Services, the Computer-Based Education Center, and the Center for Community and Public Television (CCTV). Learning resources facilities have several locations on campus. The media services administrative offices, classroom services unit and film-ordering and scheduling section are in the Bierce Library. 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 glacelin Hall 207, Qinn 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 hardware and audiovisual 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 (filmstrips, slides, etc.) that can supplement 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 non-broadcast, educational videotapes that support classroom instruction and provide general information, along with films, slide/sound sequences, audiotapes 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 CCTV produces cultural, public affairs and sports programs. Many of these programs are produced 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 CCTV 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 educational course ware. The division also provides consultation on educational projects. The CBE Center supplies course ware for both on-campus and off-campus users. For over a decade, the center has supported a CBE network that provides course ware 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 and healthful living accommodations for the non-commuting student. The residence hall program is committed to providing a living experience that 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. Currently the dorm system includes 16 facilities housing approximately 2,200 students from 17 states and several foreign countries.

Living in each hall is a trained hall director 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. 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 residence halls have coin-operated washers and dryers as well as lounge and study areas. A resident may 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 $2,652 per year ($1,326 per semester). Housing is also available during the summer on a limited basis. The charges are: per night, $6.50; per session, $208; and for the entire summer school period, $416. 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 that provides a variety of social activities for residence hall students. RHPB's seven standing committees - major events, musical entertainment, technical and special features - sponsor an 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 (590 AM) is the residence hall radio station. 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.

University Residence Halls

<table>
<thead>
<tr>
<th>Residence Hall</th>
<th>Number of Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulger Hall (men)</td>
<td>476</td>
</tr>
<tr>
<td>365 E. Buchtel Avenue</td>
<td></td>
</tr>
<tr>
<td>Caliuccl Hall (men &amp; women)</td>
<td>441</td>
</tr>
<tr>
<td>200 E. Exchange Street</td>
<td></td>
</tr>
<tr>
<td>Grant Residence Center</td>
<td>413</td>
</tr>
<tr>
<td>Highrise (women) 151 Wheeler Street</td>
<td></td>
</tr>
<tr>
<td>Townhouses (men and women) Sherman and Grant Streets</td>
<td></td>
</tr>
<tr>
<td>Orr Hall (women)</td>
<td>118</td>
</tr>
<tr>
<td>189 S. College St.</td>
<td></td>
</tr>
<tr>
<td>Paginy Hall (women)</td>
<td>92</td>
</tr>
<tr>
<td>269 E. Buchtel Ave.</td>
<td></td>
</tr>
<tr>
<td>Sister-McFawn (women)</td>
<td>122</td>
</tr>
<tr>
<td>211 E. Center St.</td>
<td></td>
</tr>
<tr>
<td>Spaniul Hall (women)</td>
<td>306</td>
</tr>
<tr>
<td>190 S. College St.</td>
<td></td>
</tr>
<tr>
<td>Torrey Hall (men)</td>
<td>56</td>
</tr>
<tr>
<td>282 Torrey St.</td>
<td></td>
</tr>
<tr>
<td>Brown Street Hall (men)</td>
<td>136</td>
</tr>
<tr>
<td>Brown Street</td>
<td></td>
</tr>
</tbody>
</table>

Private Residence Halls

<table>
<thead>
<tr>
<th>Residence Hall</th>
<th>Number of Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Hall (women)</td>
<td>106</td>
</tr>
<tr>
<td>503-505 Vine Street</td>
<td></td>
</tr>
<tr>
<td>Concord Hall (women)</td>
<td>35</td>
</tr>
<tr>
<td>369 Sharan Street</td>
<td></td>
</tr>
<tr>
<td>Glenville House (men)</td>
<td>50</td>
</tr>
<tr>
<td>476 Orchard Street</td>
<td></td>
</tr>
<tr>
<td>Sharan Hall (men)</td>
<td>50</td>
</tr>
<tr>
<td>417 Sharan Street</td>
<td></td>
</tr>
<tr>
<td>Sumner Hall (women)</td>
<td>40</td>
</tr>
<tr>
<td>430 Sumner Street</td>
<td></td>
</tr>
</tbody>
</table>

HOURLY PRE-SCHOOL

The University of Akron Nursery Center provides a variety of child-care programs, all of them open to the general public as well as to students, faculty and staff. 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.

The Nursery Center, which is open between 7:40 a.m. and 6 p.m. Monday through Friday during the fall and spring semesters, offers an hourly pre-school for children three to five years old. The center also offers half-day pre-school sessions, which run from 8 a.m. until noon or from noon until 4 p.m. Full-day sessions are available for up to 45 hours of child care per week during the center's normal operating hours.

A summer program is also offered for school-aged children from three to 12 years old during the center's summer hours, from 6:45 a.m. until 6 p.m. Hourly, half-day and full-day care can be provided.

Fees for the Nursery Center services are the same during both the academic year and the summer session. Hourly pre-school care is $1.90 per hour, for half-day sessions, $35 per week, and for the full-day program, $60 for up to 45 hours of child care. Parents who have enrolled one child in the full-time program may enroll a second child for half the regular fee. Registration is handled on a per-semester basis for all parents, and space is allotted 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 preparation 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 all 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

Experiences obtained through social life and extracurricular activities add an important dimension of learning to formal course work.

Eligibility for participation in an officially registered extracurricular activity is 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.

Co-curricular 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. Participation in these activities provides an opportunity to make new acquaintances and contacts with various people in the University and community; they also provide the chance to broaden classroom learning experiences, develop skills that will be marketable in the search for a career position, introduce the student to additional interests and teach him leadership and human relations skills.

Listed here 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 students to develop the ability to face the public through such live audience performances 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 communications 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 FM). Also available is experience at the residence hall station, WRHA (590 AM). In addition to speaking and broadcasting opportunities, forensics and debate teams compete locally and nationally.

A University student interested in music may audition for membership in the renowned 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, in the form of the Experimental Dance Ensemble, which is intimately associated with the world-renowned Ohio Ballet.

SPORTS

The University aims to provide a diversified program in intramural and intercollegiate club 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 15 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 and riflery. 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 that 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 offered.

PERSONAL INTEREST ORGANIZATIONS

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

Some of the most prominent, broadly appealing 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, which offers enrichment for black student involvement; Black History Month, orientation programs for the black student; African Awareness Week and other cultural programs; the Resident Hall Program Board, which schedules entertaining activities such as coffeehouses, dances, films and video entertainment in order to fill resident students' leisure time.

Students at The University of Akron have the opportunity to hold positions on the all-campus activities board; the University Program Board. UBPs is open to interested students and is 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 Buchtelite is a student newspaper issued twice weekly during the regular academic year. This is the campus “voice” with news, columns and photographs concerning campus events. Copies of each edition are distributed to students free of charge at various locations 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 that the yearbook summarizes.

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 1986

Athletics

Cheerleaders
Chinese Martial Arts
Karate Club (Tae Kwon Do)
Ski Club
Ski Team
Tuttle Tennis Club

Communications and Publications

Amateur Radio Club
The Buchtelite (newspaper)
Forensics Union
Tel-Buch (yearbook)
WHRK Radio
Women in Communications

Departmental Organizations

Accounting Association
Administrative Management Society
American Chemical Society
American Institute of Aeronautics and Astronautics
American Institute of Chemical Engineers
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 Studentenclub
Economics Association
Electronics Club
Financial Management Association
Fire Protection Society

Geography Club
Geology Club
Hospitality Club
Institute of Electrical and Electronic Engineers
Instrument Society of America
International Business Club
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
Society for Students in Construction
Society of Physics Students
Society of Plastics Engineers
Student Art League
Student Dietetic Association
Student Social Work League

Evening College

Alpha Sigma Lambda
Chi Sigma Nu
Evening Student Council
Gamma Beta

Graduate Student Groups

Association of Chemistry Graduate Students
Chinese Student Association
Chi Sigma Iota
Graduate Student Government
Industrial/Organizational Psychology
Graduate Students
International Graduate Students Organization

Association of College Honor Societies

Alpha Alpha Alpha (social work)
Alpha Epsilon Rho (broadcasting)
Alpha Kappa Delta (sociology)
Alpha Lambda Delta (freshmen women)
Eta Kappa Nu (electrical engineering)
Kappa Delta Pi (education)
Kappa Omicron Phi (home economics)
Mortar Board (seniors-scholarship, leadership, service)
Omicron Delta Kappa (student activities)
Phi Alpha Theta (history)
Phi Eta Sigma (freshmen men)
Phi Sigma Alpha (arts and sciences)
Pi Delta Phi (French)
Sigma Delta Pi (Spanish)
Tau Beta Pi (engineering)

Other Honor Societies

Beta Gamma Sigma (business administration)
Delta Phi (German)
Financial Management Association
Mu Kappa Tau (marketing)
National Honor Society
Phi Theta Kappa (Community and Technical College)
Pi Lambda Theta (education)
Pi Mu Epsilon (mathematics)

Professional Fraternities

Alpha Epsilon Pi (criminal justice)
Beta Alpha Psi (accounting)
Delta Nu Alpha (transportation)
Delta Sigma Pi (business)
Kappa Kappa Psi (music)

Recognition Societies

Gamma Theta Upsilon Alpha (geography)
Honors Club
Pi Sigma Epsilon (marketing)
Tau Beta Sigma (band)

Law Groups

ARETE
Black 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

Arnold Air Society — Army ROTC
Pathfinders — 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
Bass Choir
Chamber Orchestra
Concert Band
Jazz Ensemble
Jazz Combo
Percussion Ensemble
Marching Band
University Orchestra
University Sirens Drum Band
Symphony Band
Wind Ensemble
Woodwind Choir
Theatre Guild

Personal Interest

Associated Student Government
Association of Arab Students
Association of College Entrepreneurs
Black Greek Council
Black United Students (BUS)
Chess and Go Club
College Republicans
Contemporary Students Organization
Future Physicians Club
Future Secretaries Association
Gay-Lesbian Task Force
Hellenic Club
Indian Students’ Association
International Affairs Society
International Association of Business Communicators
International Students Club
Issue Awareness Association
Korean Student Association
Mahajan Student Association
Minority Business Students Association
Nigerian Students’ Union
Office Education Association
Ouing Club
Pakistani Club
Public Relations Student Society of America (PRSSA)
Rainbow Coalition
Residence Hall Council
Residence Hall Honorary
Residence Hall Program Board
Senior Class Board
Sorority
Student Toastmasters
Turkish-American Students’ Association
United for Life
University Gaming Society
University Program Board
Vietnamese Student Association

Religious Organizations

Alpha Omega Christian Fraternity
American Friends Service Committee
Baha’i Club
Baptist Student Union
Christian Science Organization
Ecumenical Christian Association
Gospel Chorus
Great Commission Students
Interarsity Christian Fellowship
Kappa Phi Club
True Vine Campus Ministry
University Christian Outreach
(formerly Bread of Life)

Social Fraternities

Delta Tau Delta
Kappa Alpha Psi
Lambda Chi Alpha
Phi Beta Sigma
Phi Delta Theta
Phi Gamma Delta
Phi Kappa Psi
Phi Sigma Nu
Pi Kappa Alpha
Pi Kappa Phi
Sigma Nu
Sigma Tau Gamma
Tau Kappa Epsilon
Theta Chi

Social Sororities

Alpha Delta Pi
Alpha Gamma Delta
Alpha Kappa Alpha
Alpha Phi
Chi Omega
Delta Gamma
Delta Sigma Theta
Kappa Kappi Gamma
Theta Phi Alpha
Zeta Phi Beta
Panhellenic Association
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 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. Variations in degree requirements for different majors may cause variations in recommended high school courses. 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 those areas. Developmental courses do not count as degree credit; however, they do count toward full-time status.

CLASSIFICATION
OF STUDENTS

The University of Akron classifies its 26,000 students according to their needs, goals 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, is eligible to enroll in graduate-level credit courses.
- 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 he is an auditor at the time of registration. Audit status may be denied if space is not available. An auditor is expected to do all prescribed course work except the writing of 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 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 processed. 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 the 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, either by calling (216) 375-7110 or writing the Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the nonrefundable 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 the payments being made.
- Send a student transcript to the Office of Admissions at the time of application. This record must be received before any admission action can be taken by the University.
- Take entrance tests. Arrangements may be made through the student's high school to take the ACT or SAT (The University’s Counseling and Testing Center also serves as a testing site for the ACT (est.)). 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 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 placement test results. If a student is not recorder-
English placement test is deemed necessary to comply with this policy, the student must take the appropriate placement test(s) by the completion of the first term of attendance. To arrange for the mathematics test, contact the Testing Bureau, Simmons Hall 181, 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 375-7066 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 advising 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 his 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, either by calling (216) 375-7100 or by writing the Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the nonrefundable 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 the payment is being made.
- If the student is under 25 years of age, the student must request a transcript from his 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 to the University, the student will receive directions concerning academic counseling. All freshmen receive academic advising through Academic Advising Services of the University College. Evening students at the same level will be advised by the Evening College.

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, either by calling (216) 375-7100 or writing the Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the nonrefundable 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 the payment is being made.
- A transfer applicant must request the official transcripts from the records office of all institutions previously attended. They 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. 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 adviser 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. If a mathematics or English placement test is deemed necessary to comply with this policy, the student must take the appropriate placement test(s) by the completion of the first term of attendance. Arrange for the mathematics test by contacting the Testing Service, Simms Hall 161, 375-7084; arrange for the English test by contacting the Department of Developmental Programs (Carroll Hall 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 student in the Graduate School 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, either by calling (216) 375-7100 or writing the Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the nonrefundable 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 the payment is being made.
- A postbaccalaureate student must request the registrar of the institution(s) from which he 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 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 advising 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 all 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 nonrefundable 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 sent by the student. 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 1985-86 academic year, approximately 700 students with citizenship other than the United States attended the University. These students represent 67 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. If your request is by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325, USA. Fill it out and return it with the nonrefundable 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 include an autobiographical essay 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 records will be processed completely before the July 1 application 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 $8,100 per year for undergraduate study to cover 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 the results of his 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 he can be admitted.

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 newly admitted student has with the University comes during an orientation period, held prior to the beginning of each semester, which provides the student a great deal of information about the University and what is expected from the student. The student will meet many of the University’s administrative officers and faculty members and discuss specific problems with an upper-college student. Thus, the student has 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 in each term thereafter, a student meets individually with a counselor to discuss progress, to review the areas of success as well as the problems which have been encountered in previous terms and to determine what courses the student’s academic record calls for in future terms. 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 required forms and pay the appropriate fees to register officially for classes.

The student may elect to register by mail or in person. Details about these options are described in the Schedule of Classes published every academic period and available upon request from the student’s advising agency: the Office of Academic Advising Services, the Evening College or the degree-granting college. A nonrefundable late registration fee is assessed students enrolling after the official open registration period.

CLASS ATTENDANCE

A student is expected to attend all meetings of a class for which he is 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 dean and instructor. A student dropped from a course receives an “F” which counts as work attempted whenever grade-point ratio calculations are made.

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 student’s official schedule may be made only with the permission of the dean of 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 adviser 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 his adviser. After the midpoint of a course, a student must have the written approval of both the course instructor and the adviser. 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.

Transfer Credit

Course work taken at an institution of higher education in the United States 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 Secondary Schools (WASC-Si); Western Association of Schools and Colleges - Accrediting Commission for Junior Colleges (WASC-Jr.) as designated in Accredited Institutions of Postsecondary Education - Programs/Candidates as published by 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 as well as the time period during which the courses were taken, will be listed on The University of Akron official academic record.

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 a 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.

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**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 departmental 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisite</th>
<th>Approved for Bypassed Credit</th>
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<td>University College</td>
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<td>Community &amp; Technical</td>
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<td>Buchtel College of Arts Sciences</td>
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**GRADING POLICIES**

### Credit/Noncredit Option

(undergraduate and postbaccalaureate only)

A student who takes a course on a “credit” or “noncredit” (“CR/NC”) basis, and who earns a grade equivalent of “A” through “C-,” shall receive 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.

*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.*
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 for 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 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:

- To secure a grade ("A-F") or a grade of "NC" or "AUD," a student may repeat a course in which the previously received grade was "D," "D+," "D-," "C-," "D," "D-," "C+" 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 this 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. Summer grade reports are mailed for 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>
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<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>
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<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>0.00</td>
</tr>
<tr>
<td>NC (Noncredit)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The following grades may also appear on the term grade report or on the official academic record. There are no grade points associated with these grades:

I — Incomplete: Indicates that the student has done passing work in the course but that some part of the work is, for good and acceptable reason, not complete at the end of the term. Failure to make up the omitted work satisfactorily by the end of the following term, not including summer sessions, converts the "I" to an "F". When the work is satisfactorily completed within the allotted time the "I" is converted to whatever grade the student has earned.

IP — In Progress: 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 student's dean have for special reasons 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.

NGRT — No Grade Reported: Indicates that, at the time grades were processed for the current issue of the record, no grade had been reported by the instructor.

INVI — Invalid: Indicates the grade reported by the instructor for the course was improperly noted and thus un-acceptable for proper processing.

Importance of Grades

Grades determine whether a student is either eligible or ineligible to remain at the University. 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.

If instructors wish to extend 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. If 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.
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 after December 1981 who is being awarded an initial baccalaureate degree and who has completed 60 or more credits at the University, the degree will be designated with high distinction between 3.40 and 3.59

For a student who entered the University after December 1981 who is being awarded an initial associate degree and who has completed 30 or more credits at the University, the degree will be designated with distinction between 3.00 and 3.49

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 designated with distinction between 3.00 and 3.49

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 designated with distinction between 3.00 and 3.49

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 initial baccalaureate degree or 16 credits which have not counted toward the initial associate degree.
- Earn the above credits in residence at the University.

Change of Requirements

To accomplish its objectives better, 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 if a change in rules affecting degree requirements is unduly hard on 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>College</th>
<th>Degree Granted</th>
<th>Min. Grade-Point Average</th>
<th>Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arts and Sciences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td></td>
<td>128</td>
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</tr>
<tr>
<td>Bachelor of Science</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Cybernetics</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Geography/Geography</td>
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<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Labor Economics</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Political Science/Justice</td>
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</tr>
<tr>
<td>Bachelor of Science in Political Science/Public Policy Management</td>
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<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Medical Technology</td>
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<td>128</td>
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</tr>
<tr>
<td><strong>Engineering</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science in Engineering</td>
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<td>136</td>
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</tr>
<tr>
<td>Bachelor of Science in Chemical Engineering</td>
<td></td>
<td>136</td>
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<tr>
<td>Bachelor of Science in Civil Engineering</td>
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<td>2.00</td>
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<tr>
<td>Bachelor of Science in Electrical Engineering</td>
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<tr>
<td>Bachelor of Science in Mechanical Engineering</td>
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<tr>
<td>Bachelor of Construction Technology</td>
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</tr>
<tr>
<td><strong>Education</strong></td>
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<td></td>
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</tr>
<tr>
<td>Bachelor of Arts in Education</td>
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<tr>
<td>Bachelor of Science in Education</td>
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<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Technical Education</td>
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<tr>
<td><strong>Business Administration</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Finance</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Marketing</td>
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<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Industrial Management</td>
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<td>2.00</td>
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<tr>
<td>Bachelor of Science in Accounting</td>
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<td>128</td>
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</tr>
<tr>
<td><strong>Fine and Applied Arts</strong></td>
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</tr>
<tr>
<td>Bachelor of Arts</td>
<td></td>
<td>128</td>
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<tr>
<td>Bachelor of Arts in Business and Organizational Communication</td>
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<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Dietetics</td>
<td></td>
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<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Foods and Nutrition</td>
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<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Textiles and Clothing</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Family and Child Development</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Communicative Disorders</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Theatre Arts</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Mass Media and Communication</td>
<td></td>
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<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Communication and Rhetoric</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Dance</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Music</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Fine Arts</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts/Social Work</td>
<td></td>
<td>128</td>
<td>2.00</td>
</tr>
<tr>
<td><strong>Nursing</strong></td>
<td></td>
<td>131</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Nursing</td>
<td></td>
<td>131</td>
<td>2.00</td>
</tr>
</tbody>
</table>

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

### Community and Technical

<table>
<thead>
<tr>
<th>Degree Granted</th>
<th>Min. Grade-Point Average</th>
<th>Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate of Arts</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business in Business Management Technology</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Associate of Applied Business in Public Policy Management</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Associate of Applied Business in Visual Communications</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Associate of Applied Business in Performing Arts</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business in Technical Theatre</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business in Technical Communication</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Associate of Applied Business in Technical Rhetoric</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business in Technical Dance</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business in Technical Music</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business in Technical Fine Arts</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business in Technical Social Work</td>
<td></td>
<td>64</td>
</tr>
</tbody>
</table>

### Wayne General and Technical College

<table>
<thead>
<tr>
<th>Degree Granted</th>
<th>Min. Grade-Point Average</th>
<th>Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate of Arts</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Science</td>
<td>64</td>
<td>2.00</td>
</tr>
<tr>
<td>Associate of Applied Business</td>
<td>64</td>
<td>2.00</td>
</tr>
</tbody>
</table>

### 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, 3300 represents the Buchtel College of Arts and Sciences, 300 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:

- **First-year-level courses**
  - 100-199
- **Second-year-level courses**
  - 200-299
- **Third-year-level courses**
  - 300-399
- **Fourth-year-level courses**
  - 400-499
- **Master's-level courses**
  - 500-599
- **J.D.-level courses**
  - 600-799
- **Doctoral-level courses**
  - 800-999

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 as follows:

<table>
<thead>
<tr>
<th>Commuting Residents of Ohio</th>
<th>Residents of Ohio Living on Campus</th>
<th>Non-Ohio Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Tuition and Fees (regular load)</td>
<td>$1,783.60</td>
<td>$1,783.60</td>
</tr>
<tr>
<td>Books (average costs)</td>
<td>300.00</td>
<td>300.00</td>
</tr>
<tr>
<td>Room and Board</td>
<td>$2,083.60</td>
<td>$4,735.60</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 the assessment. Each registration is later audited by the University auditor, and appropriate additional charges or refunds will be made.

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

Fees

- **Instructional Fee (all students):**
  - Undergraduate
    - 1-13 credits: $54.60 per credit
    - 14-16 credits: $709.60 per semester
    - 17-19 credits: $709.60 + $54.60 per credit
    - Over 16 credits:
  - Graduate and Professional (Law)
    - One or more credits: $73.60 per credit
  - Graduate and Professional (Non-Law)
    - One or more credits: $59 per credit

- **Tuition Surcharge:**
  - (Nonresidents of Ohio pay the surcharge in addition to the instructional fee)
    - Undergraduate
      - One or more credits: $70.40 per credit
    - Graduate and Professional (Law)
      - One or more credits: $59 per credit

- **General Fee:**
  - Undergraduate: $14 per credit to a maximum of $162 per semester
  - Graduate and Professional (Law) (Maximum general fee for two combined summer sessions is $169)
    - 1-14 credits: $6.50 per credit
    - 15 credits and over: $64.50 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>Course Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>220:250</td>
<td>Community and Technical College</td>
<td>6</td>
<td>$15</td>
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<tr>
<td>220:124</td>
<td>Design in Commercial Art</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>220:140</td>
<td>Typography and Lettering</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>220:221</td>
<td>Advertising Photography</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>220:222</td>
<td>Advertising Layout Design</td>
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<td>$5</td>
</tr>
<tr>
<td>220:243</td>
<td>Publication Design</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>220:245</td>
<td>Designing for Production</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>220:246</td>
<td>Packaging Design</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>220:121</td>
<td>Fundamentals of Food Preparation I</td>
<td>4</td>
<td>$25</td>
</tr>
<tr>
<td>220:122</td>
<td>Fundamentals of Food Preparation II</td>
<td>4</td>
<td>$25</td>
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<tr>
<td>220:123</td>
<td>Meat Technology</td>
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<td>$15</td>
</tr>
<tr>
<td>220:233</td>
<td>Restaurant Operations and Management</td>
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<td>$25</td>
</tr>
<tr>
<td>220:175</td>
<td>Business Machines</td>
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<tr>
<td>220:140</td>
<td>Typewriting for Non-Secretarial Majors</td>
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<tr>
<td>220:150</td>
<td>Beginning Typewriting</td>
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<td>220:151</td>
<td>Intermediate Typewriting</td>
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<tr>
<td>220:117</td>
<td>Shorthand Principles</td>
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<tr>
<td>220:173</td>
<td>Shorthand Retester and Transcription</td>
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<td>220:244</td>
<td>Information Management</td>
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<td>Advanced Typewriting</td>
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<td>220:554</td>
<td>Legal Typewriting</td>
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<tr>
<td>220:274</td>
<td>Legal Dictation and Transcription</td>
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<tr>
<td>220:277</td>
<td>Legal Office Procedures</td>
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<td>220:280</td>
<td>Word Processing Concepts</td>
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<td>220:281</td>
<td>Machine Transcription</td>
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<tr>
<td>220:286</td>
<td>Keyboarding on Word Processing Equipment</td>
<td>3</td>
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<tr>
<td>220:287</td>
<td>Word Processing Application</td>
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<td>220:130</td>
<td>Medical Assisting Techniques I</td>
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<td>220:231</td>
<td>Medical Assisting Techniques II</td>
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<td>220:232</td>
<td>Medical Assisting Techniques III</td>
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<td>270:121</td>
<td>Surgical Assisting Procedures I</td>
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<td>Roentgenogram Assessment</td>
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<td>Introduction to Respiratory Therapy</td>
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<tr>
<td>270:122</td>
<td>Pulmonary Rehabilitation</td>
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<td>270:223</td>
<td>Advanced Respiratory Therapy</td>
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<tr>
<td>270:224</td>
<td>Pulmonary Rehabilitation and the Respiratory Therapy Department</td>
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<tr>
<td>280:100</td>
<td>Basic Chemistry</td>
<td>3</td>
<td>$5</td>
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<tr>
<td>280:101</td>
<td>Introductory Chemistry</td>
<td>3</td>
<td>$5</td>
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<tr>
<td>280:102</td>
<td>Introductory and Analytical Chemistry</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>280:121</td>
<td>Organic Principles</td>
<td>4</td>
<td>$5</td>
</tr>
<tr>
<td>280:151</td>
<td>Basic Physics: Mechanics</td>
<td>3</td>
<td>$5</td>
</tr>
<tr>
<td>280:152</td>
<td>Basic Physics: Electricity and Magnetism</td>
<td>2</td>
<td>$5</td>
</tr>
<tr>
<td>280:153</td>
<td>Basic Physics: Heat, Light and Sound</td>
<td>2</td>
<td>$5</td>
</tr>
<tr>
<td>280:201</td>
<td>Quantitative Analysis</td>
<td>4</td>
<td>$5</td>
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<td>280:202</td>
<td>Instrumental Methods</td>
<td>4</td>
<td>$5</td>
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<tr>
<td>280:250</td>
<td>Elements of Physical Chemistry</td>
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<td>$5</td>
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<tr>
<td>280:260</td>
<td>Compounding Methods</td>
<td>2</td>
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<td>280:270</td>
<td>Natural and Synthetic Organic Polymers</td>
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<td>280:213</td>
<td>Electronics I</td>
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<tr>
<td>280:225</td>
<td>Electronics II</td>
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<td>280:227</td>
<td>Measurements</td>
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<td>Digital Circuits I</td>
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<td>280:238</td>
<td>Digital Circuits II</td>
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<td>Machinary and Controls</td>
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<td>280:251</td>
<td>Communications Circuits</td>
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<tr>
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<td>Electronic Design and Construction</td>
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<tr>
<td>280:270</td>
<td>Survey of Electronics I</td>
<td>3</td>
<td>$5</td>
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### BUDGET COLLEGE OF ARTS AND SCIENCES

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Department of Special Programs and ICE
(Grade change based on number of Continuing Education Units)
One CEU (10.0 contact hours) $35
Transcript fee $ 2

Miscellaneous Fees:
ACT Test $15
ACT Special Testing $25
Education Administration Battery $15
Miller Analogies Test $22
Transfer fee $4

Fees:
Undergraduate and postbaccalaureate $25 Locker fee ($3 refundable)
Graduate Late Application Fee $25

Admission Application Fee:
Nonrefundable

Special Fees:
Late Registration Fee Charged to student who has not completed registration and pays fees before close of registration or by final day of payment $25

Miscellaneous Fees:
Private lessons in band instrument, organ, piano, violin, and voice (in addition to normal instructional fees) $140
One-hour lesson per week (undergraduate and graduate) $70
One-one-hour lesson per week (undergraduate and graduate) $140

Copyrights:
Graduation Fee (nonrefundable) $30
Each Juris Doctor degree $40
Graduate Late Application Fee $10

Minor Application Fee and/or Second Major Application Fee $ 5
Room and Board

Residence hall facilities are available for the housing of a limited number of undergraduates. The current total cost of housing accommodations and food service is $1,326 per semester or $2,652 per year. All students who live in the residence halls must participate in the provided 20 meals per week board plan.

A student living off campus may participate in the residence hall board program, the current rate being $530 per semester.

Veterans Expenses

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

A non-disabled veteran must pay fees at the time of registration. The non-disabled veteran will receive direct payment from the V.A. after enrollment has been certified under the provision of USC Title 38.

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

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

Auditors

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

Student Health and Accident Insurance

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

THE UNIVERSITY OF AKRON

RESIDENCY REQUIREMENTS

Payment of nonresident 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 12-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be subject 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 12 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 12 consecutive months immediately preceding his or her enrollment in an institution of higher education who is not receiving, and has not directly or indirectly received in the preceding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.

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 (the loan program is only available to residents of that state or nation).


Fees and Expenses

• Parking Fees:
  - Student enrolled for 9 or more credits per semester: $36
  - Student enrolled for 6 or fewer credits per semester: $17.50
  - Summer session student, per session: $17.50
  - Workshop participant: $17.50
  - Department of Nuclear Courses:
    - 7 weeks: $6 per course
    - 15 weeks: $12 per course
  - Off-campus Instruction Student: up to $50
  - Temporary Permit (per week): $2.50

  $35.50 per week or $5.00 per day.
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 and 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 while a resident of Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as Ohio remains the state of such person’s domicile.

3. 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 migratory worker in the state of Ohio and his or her dependents shall be considered residents of Ohio 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 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 12 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 12 consecutive months of residency, must apply to the institution he or she attends 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 or in the preceding 12 consecutive months has been provided directly or indirectly by persons or entities who are not residents of Ohio for all other legal purposes, such person shall be reclassified as a resident. 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 nonresident 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 orders 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 designates official withdrawal from all credit courses or on or before the second day of the enrolled term.
The University reserves the right to cancel a course should there be insufficient enrollment. 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 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%

- Refunds for course sections which have not been scheduled consistent with either the standard 16-week fall/spring semester or the two-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 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.

### Amount of Refund—Noncredit

- In full loss $5
  - upon written request of the student who is officially withdrawn from any course before the first class meeting.
- In part:
  - Courses of 6 to 11 weeks:
    - After the first class meeting: 60%
    - After the second class meeting: 30%
    - After the third class meeting: 0%
  - Courses of 12 weeks or more:
    - After the first class meeting: 60%
    - After the second class meeting: 45%
    - After the third class meeting: 30%
    - After the fourth class meeting: 0%
- No refund will be granted on courses of less than six weeks.

Refunds will be determined by the date (postmark of written request) of formal withdrawal, unless proof is submitted that circumstances beyond the control of the student prevented filing of the formal withdrawal earlier. In this case, the refund will be determined from the date of the last attendance in class. Refunds will be mailed within six weeks after the beginning of the session.

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.

### RESIDENCE HALL REFUNDS

#### Refund/Release and Forfeiture Policy

A contract for housing accommodations and food services at The University of Akron is subject to the following refund provisions:

- A full refund of any prepaid fees and release of any financial liability therefore under the following circumstances: graduation of the student from The University of Akron; academic dismissal of the student from The University of Akron: non-attendance or complete withdrawal by the student from The University of Akron 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).

- A partial refund of prepaid fees according to the refund schedule below, and release of financial liability for subsequent semesters covered by the contract term, in the event the student completely withdraws from The University of Akron after the start of the contract term. In such instances, the student shall not be liable for further forfeiture.

- A partial refund of prepaid fees according to the refund schedule below, and release of financial liability for subsequent semesters covered by the contract term, in the event the student is 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 ensure 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 will 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 Education Opportunity Grant
The Supplemental Educational Opportunity Grant (SEOG) is a federal grant that is awarded by the school to the student attending. The amount of the grant is determined by the school attended and is based on the need and the costs of attending. Entering freshman 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 nonprofit 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 adjust 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 of Financial Aid. The student must be a continuing half-time student and have a 2.00 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. In Ohio, it is called the Ohio Student Loan. The application for the loan can be made at a bank, savings and loan or credit union. The loan must be repaid beginning six months after ceasing 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. The loan amount is based on need and is 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.

Army Reserve Officers' Training Corps Scholarship
The Army Reserve Officers' Training Corps has competitive four-year scholarships available to high school seniors. Additionally, competitive three- and two-year scholarships are available to students who are attending the University, whether or not the student is enrolled in Reserve Officers' Training Corps when applying for the scholarship. These scholarships provide full tuition, laboratory, and incidental fees, a flat-rate payment for textbooks, and $100 per month (tax-free) allowance for up to 10 months of the scholarship year for each year of the scholarship.

State Programs

Ohio Instructional Grant (OIG)
The OIG is available to an eligible student who is an Ohio resident and 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 who 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. All 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.
Applying 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 as follows:

- Family income.
- Family assets.
- Family size.
- Number of family members 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.
- Has not or will not live with one or both parents of adoptive parent(s) for more than six weeks in the calendar year in which aid is received as well as the prior calendar year.
- Has not or will not receive financial support or more than $750 from one or both of the student's parents or adoptive parent(s) in the calendar year in which aid is received as well as the prior calendar year.

The University requires that independent student (and spouse, if applicable) complete the student section of the Financial Aid Form (FAF). In addition to completing the FAF, if the independent student is 22 years of age or under, the student's parent(s) must sign an Independent Student Status Certification to document the student's self-supporting status. The Independent Student Status Certification may be obtained through the Office of Student Financial Aid. This form must be completed each year for which financial aid is desired.

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 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 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 may 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
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
Undergraduate Academic Programs

Section 4
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 considering 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 the additional study required for the baccalaureate degree. Emphasis is placed on advanced training in the student's field of specialization, broadened knowledge of related technical fields, extended general education and basic management training.

The programs are available in electronic technology and mechanical technology. It is intended that 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 Technology degree are as follows:

- 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 125 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.

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1100-106 Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>1100-112 English Composition</td>
<td>4</td>
</tr>
<tr>
<td>1100-330 Western Cultural Traditions</td>
<td>4</td>
</tr>
<tr>
<td>1100-351 Western Cultural Traditions</td>
<td>4</td>
</tr>
<tr>
<td>1100-400 Digital Systems</td>
<td>4</td>
</tr>
<tr>
<td>2860-350 Advanced Circuits</td>
<td>4</td>
</tr>
<tr>
<td>2860-351 Industrial Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>2860-352 Digital Systems</td>
<td>4</td>
</tr>
<tr>
<td>2860-353 Control Systems</td>
<td>4</td>
</tr>
<tr>
<td>2860-400 Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>2860-406 Communications Systems</td>
<td>3</td>
</tr>
<tr>
<td>2890-410 Technology Project</td>
<td>1</td>
</tr>
<tr>
<td>2900-020 Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500-331 Production and Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>6500-333 Computer Programming Electives*</td>
<td>2</td>
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<tr>
<td>6500-334 Technical Electives</td>
<td>5</td>
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</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 2890 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.

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1100-112 English Composition</td>
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<td>2860-406 Communications Systems</td>
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<td>2</td>
</tr>
<tr>
<td>6500-334 Technical Electives</td>
<td>5</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 2980 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 2460 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 have the following:

- 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 work taken at The University of Akron.
- 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 the 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 light microscope and special studies which determine a patient's diagnosis.

2740: Medical Assisting Technology

This program provides students with the background to perform receptionist, record keeping, and general office duties and to assist physicians in examining patients, performing simple laboratory tests, and helping with treatment in physicians' offices, clinics, and hospital outpatient departments.

2740 — Medical Assisting Technology

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<th>Credits</th>
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<td>1</td>
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</table>

2760: Radiologic Technology

This program prepares graduates to perform radiologic examinations under a physician's direction for diagnosis and treatment of physical diseases and injuries. Although the University is authorized to offer the associate degree in radiologic technology, this degree program is not fully operational on campus at this time but is offered in conjunction with area hospital schools of radiology. A student who satisfactorily completes an accredited program in radiologic technology at a hospital school having an affiliation with the University may earn the associate degree by completing additional courses at the University. The student then receives a block of credit for the hospital program that is applicable only to the associate degree in radiologic technology.

The degree requirements for the student are as follows:

2760 — Radiologic Technology

<table>
<thead>
<tr>
<th>Credits</th>
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<tr>
<td>1</td>
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<tr>
<td>3</td>
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<tr>
<td>2</td>
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</tbody>
</table>

*limited enrollment program, contact college for details.
Radiology schools at the following hospitals are affiliated with the University:

- Akron City Hospital
- Children's Hospital Medical Center of Akron
- Akron General Medical Center
- Barberton Citizens Hospital
- St. Thomas Hospital Medical Center (Akron)
- Robinson Memorial Hospital (Ravenna)

Applications for admission to these programs should be made directly to the hospital school.

### 2770: Surgical Assisting Technology*

This program trains people to prepare equipment and assist the physician and other members of the surgical team with patient care and related services in the hospital operating room.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>1100 106</td>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>2020 121</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>2020 130</td>
<td>Introduction to Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>2020 240</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>2020 242</td>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>2740 120</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>2740 230</td>
<td>Pharmacology in Medical Assisting</td>
<td>3</td>
</tr>
<tr>
<td>2770 100</td>
<td>Introduction to Surgical Assisting Technology</td>
<td>4</td>
</tr>
<tr>
<td>2770 121</td>
<td>Surgical Assisting Procedures</td>
<td>2</td>
</tr>
<tr>
<td>2770 131</td>
<td>Clinical Application I</td>
<td>2</td>
</tr>
<tr>
<td>2770 222</td>
<td>Surgical Assisting Procedures II</td>
<td>4</td>
</tr>
<tr>
<td>2770 232</td>
<td>Surgical Assisting Procedures II</td>
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</tr>
<tr>
<td>2770 233</td>
<td>Clinical Application III</td>
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</tr>
<tr>
<td>2770 241</td>
<td>Surgical Anatomy</td>
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</tr>
<tr>
<td>2770 242</td>
<td>Surgical Laboratory Procedures</td>
<td>3</td>
</tr>
<tr>
<td>2770 243</td>
<td>Introduction to Medicine</td>
<td>2</td>
</tr>
<tr>
<td>2770 244</td>
<td>Medical History and Physical Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>2770 245</td>
<td>Roentgenogram Assessment</td>
<td>1</td>
</tr>
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### 2790: 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.

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### Associate Studies

#### 2020: Arts

Through basic course work and general education, this program is intended to produce a socially intelligent individual, one who understands effective social values as well as scientific facts.

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#### 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.

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*Deadline for application to the program is March 15.

1. Two of the following are required: 1100 221, 2 3 4.
2. See “The University College, Section 4 of this Bulletin for a female course options.
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
- **1100 105**  Introduction to Public Speaking
- **2020 121**  English
- **2020 222**  Technical Report Writing
- **2020 245**  Human Relations
- **2030 247**  Variety of Basic Economics
- **2270 101**  Introduction to Labor Studies
- **2270 111**  Collective Bargaining I
- **2270 122**  Legal Framework for Collective Bargaining
- **2270 133**  Business Legislation and Economic Security
- **2270 125**  Problems in Labor Studies
- **2420 170**  Business Mathematics
- **2420 211**  Basic Accounting I
- **2465 141**  Safety Procedures
- **3705 100**  Government and Politics in the United States

12 Electives

Business Technology

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
- **1100 105**  Introduction to Public Speaking
- **1100 106**  Effective Oral Communication
- **2020 121**  English
- **2020 222**  Technical Report Writing
- **2020 247**  Variety of Basic Economics
- **2420 170**  Business Mathematics
- **2420 211**  Basic Accounting I
- **2420 212**  Basic Accounting II
- **2540 263**  Business Communications
- **2420 280**  Essentials of Law

**Culinary Arts**

- **1100**  Physical Education
- **1100 105**  Introduction to Public Speaking
- **1100 106**  Effective Oral Communication
- **2020 121**  English
- **2020 222**  Technical Report Writing
- **2020 247**  Survey of Basic Economics
- **2280 125**  Safety and Sanitation
- **2285 121**  Fundamentals of Food Preparation I
- **2285 112**  Food and Beverage Cost Control
- **2285 237**  Systems Management and Personnel
- **2285 243**  Food Equipment and Plant Operations

### Hotel/Motel Management

- **1100**  Effective Oral Communication
- **1100 105**  Introduction to Public Speaking
- **1100 106**  Effective Oral Communication
- **2020 121**  English
- **2020 222**  Technical Report Writing
- **2020 247**  Survey of Basic Economics
- **2280 122**  Fundamentals of Food Preparation II
- **2285 123**  Most Technology
- **2285 150**  Wine and Beverage Service
- **2285 232**  Dining Room Service and Training
- **2285 233**  Restaurant Operations and Management
- **2285 240**  Systems Management and Personnel

### Marketing and Sales Emphasis

**2520 202**  Retailing Fundamentals
**2520 212**  Principles of Salesmanship

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
- **1100 105**  Introduction to Public Speaking
- **1100 106**  Effective Oral Communication
- **2020 121**  English
- **2020 222**  Technical Report Writing
- **2020 247**  Survey of Basic Economics
- **2285 121**  Fundamentals of Food Preparation I
- **2285 122**  Fundamentals of Food Preparation II
- **2285 123**  Most Technology
- **2285 150**  Wine and Beverage Service
- **2285 232**  Dining Room Service and Training
- **2285 233**  Restaurant Operations and Management
- **2285 240**  Systems Management and Personnel

**Accounting**

- **1100**  Physical Education
- **1100 106**  Effective Oral Communication
- **2020 121**  English
### Data Administration

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### 2430: Real Estate

**Course Description:** 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.

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<td>2402.217</td>
<td>Business Mathematics</td>
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<tr>
<td>2402.202</td>
<td>Personnel Practices</td>
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</tr>
<tr>
<td>2402.211</td>
<td>Basic Accounting I</td>
<td>3</td>
</tr>
</tbody>
</table>

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*Course is not transferable to College of Business Administration.

**Prerequisites are 2420.104.211**
2400: Data Processing

This program prepares individuals for careers in electronic data processing as computer programmers or programmer/analysts.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2400.201</td>
<td>Administrative Office Supervision</td>
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<tr>
<td>2400.203</td>
<td>Survey of Finance</td>
<td>3</td>
</tr>
<tr>
<td>2400.210</td>
<td>Essentails of Law</td>
<td>3</td>
</tr>
<tr>
<td>2400.215</td>
<td>Real Estate Principles</td>
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<tr>
<td>2400.220</td>
<td>Real Estate Law</td>
<td>2</td>
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<tr>
<td>2400.225</td>
<td>Real Estate Financing</td>
<td>2</td>
</tr>
<tr>
<td>2400.230</td>
<td>Valuation of Residential Property</td>
<td>2</td>
</tr>
<tr>
<td>2400.240</td>
<td>Real Estate Brokerage</td>
<td>2</td>
</tr>
<tr>
<td>2400.250</td>
<td>Real Estate Project</td>
<td>2</td>
</tr>
<tr>
<td>2440.120</td>
<td>Introduction to Information Processing</td>
<td>2</td>
</tr>
<tr>
<td>2520.212</td>
<td>Principles of Salesmanship</td>
<td>4</td>
</tr>
<tr>
<td>2540.119</td>
<td>Business English</td>
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<td>2540.263</td>
<td>Business Communications</td>
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<td>2540.267</td>
<td>Electives</td>
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<td>2540.268</td>
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<td>11</td>
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<tr>
<td>2540.269</td>
<td>Core Program</td>
<td>15</td>
</tr>
</tbody>
</table>

2520: Marketing and Sales Technology

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

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<thead>
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<th>Course Title</th>
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<td>1100.105</td>
<td>Introduction to Public Speaking</td>
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<tr>
<td>1100.107</td>
<td>Technical Report Writing</td>
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<tr>
<td>2090.121</td>
<td>Business Communications</td>
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<td>Human Relations</td>
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<tr>
<td>2090.241</td>
<td>Survey of Basic Economics</td>
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</tr>
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<td>2400.201</td>
<td>Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>2400.211</td>
<td>Business Mathematics</td>
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</tr>
<tr>
<td>2400.220</td>
<td>Principles of Salesmanship</td>
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</tr>
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<td>2400.225</td>
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<td>2400.239</td>
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</tr>
<tr>
<td>2440.267</td>
<td>Programming Electives</td>
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</tr>
</tbody>
</table>

Options

- Fashion*  
  - 1400.121  Textiles                          3  
  - 1400.317  History of Costumes                3  
  - 1400.419  Clothing Communication             3  
  - 1400.439  Fashion                           3  
  - 1400.459  Technical Electives               3  

- Retailing  
  - 2400.202  Personnel Practices                3  
  - 2400.203  Survey of Finance                  3  
  - 2400.212  Introduction to Information Processing 2  
  - 2520.203  Fundamentals of Industrial Distribution 3  
  - 2520.263  Technical Electives               4  

2540: Office Administration

Prepares 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>1100.121</td>
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<tr>
<td>2090.121</td>
<td>Business Mathematics</td>
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<td>2540.119</td>
<td>Business English</td>
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<td>2540.215</td>
<td>Business Machines</td>
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<td>2540.150</td>
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<td>2540.151</td>
<td>Intermediate Typing</td>
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<tr>
<td>2540.171</td>
<td>Shorthand Principles</td>
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<tr>
<td>2540.277</td>
<td>Shorthand and Transcription</td>
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<tr>
<td>2540.279</td>
<td>Information Management</td>
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<td>2540.286</td>
<td>Business Communications</td>
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<td>2540.287</td>
<td>Advanced Dictation and Transcription</td>
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<td>2540.289</td>
<td>Option Requirements</td>
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Options

Executive Secretarial Science

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<th>Course Title</th>
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<td>Personnel Practices</td>
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</tr>
<tr>
<td>2400.211</td>
<td>Basic Accounting I</td>
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</tr>
<tr>
<td>2400.247</td>
<td>Survey of Basic Economics</td>
<td>3</td>
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<td>2540.121</td>
<td>Office Problems</td>
<td>3</td>
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<tr>
<td>2540.233</td>
<td>Advanced Typing</td>
<td>4</td>
</tr>
<tr>
<td>2540.276</td>
<td>Executive Dictation and Transcription</td>
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<td>2540.261</td>
<td>Machine Transcription</td>
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<tr>
<td>2540.266</td>
<td>Keyboarding on Word Processing Equipment</td>
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International Secretarial Science

<table>
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<th>Course Title</th>
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<td>Office Problems</td>
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<td>2540.263</td>
<td>Advanced Typing</td>
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<td>2540.276</td>
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<td>2540.277</td>
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<td>2540.278</td>
<td>Beginnino Foreign Language</td>
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Legal Secretarial Science

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<td>2090.247</td>
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<td>2540.281</td>
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Office Information Management

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<td>Effective Oral Communication</td>
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<td>2090.128</td>
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<td>2540.121</td>
<td>Personnel Practices</td>
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<tr>
<td>2540.247</td>
<td>Survey of Business Economics</td>
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<td>2540.248</td>
<td>Introduction to Business</td>
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<td>2540.250</td>
<td>Business Mathematics</td>
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<td>2540.252</td>
<td>Personnel Practices</td>
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</tbody>
</table>

*Not required to take 2400.211.

**Associate degree courses may be applied toward a four-year business education degree.
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.

### Word Processing

<table>
<thead>
<tr>
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<th>Course Name</th>
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<td>2420.104</td>
<td>Introduction to Business</td>
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<tr>
<td>2420.117</td>
<td>Business Mathematics</td>
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<td>2420.118</td>
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<td>Basic Office Systems</td>
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<td>Beginning Typewriting</td>
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<td>2440.151</td>
<td>Intermediate Typewriting</td>
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<td>2440.241</td>
<td>Information Management</td>
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<td>2440.253</td>
<td>Advanced Typewriting</td>
<td>3</td>
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<td>2440.263</td>
<td>Business Communications</td>
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<td>2440.264</td>
<td>Word Processing Concepts</td>
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<tr>
<td>2440.281</td>
<td>Machine Transcription</td>
<td>3</td>
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<td>2440.286</td>
<td>Keyboarding on Word Processing Equipment</td>
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</tr>
<tr>
<td>2520.287</td>
<td>Word Processing Applications</td>
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</tbody>
</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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education</td>
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<tr>
<td>1100.105</td>
<td>Introduction to Public Speaking</td>
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<tr>
<td>or</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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### Core Program

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<tr>
<td>2020.222</td>
<td>Technical Report Writing</td>
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<td>2840.101</td>
<td>Introductory Chemistry</td>
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<tr>
<td>2840.102</td>
<td>Introductory and Analytical Chemistry</td>
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<td>2840.105</td>
<td>Chemical Calculations I</td>
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<td>2840.106</td>
<td>Chemical Calculations II</td>
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<td>Organic Principles</td>
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<tr>
<td>2840.151</td>
<td>Basic Physics. Mechanics</td>
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<tr>
<td>2840.152</td>
<td>Basic Physics: Electricity and Magnetism</td>
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<tr>
<td>2840.153</td>
<td>Basic Physics: Heat, Light and Sound</td>
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<tr>
<td>2840.201</td>
<td>Qualitative Analysis</td>
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<td>2840.202</td>
<td>Instrumental Methods</td>
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<td>2840.255</td>
<td>Literature of Science and Technology</td>
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<td>2840.270</td>
<td>Natural and Synthetic Organic Polymers</td>
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<tr>
<td>or</td>
<td>Option Requirements</td>
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</tr>
</tbody>
</table>
Th1s program educates the student in the areas of analysis, design and management of the resources, facilities and people involved in industrial processes.

### Options

#### Environmental
- 2040.151 Technical Computations
- 3100.130 Principles of Microbiology
- 3370.200 Environmental Geology
- Technical Electives
  - (3100-426 Applied Aquatic Ecology recommended)

#### Forensic
- 2220.100 Introduction to Criminal Justice
- 2220.210 Criminal Case Management
- 2940.151 Technical Computations
- Technical Electives

#### Geology
- 2020.132 Mathematical Analysis II
- 2940.151 Technical Computations
- Technical Electives

#### Industrial
- 2020.132 Mathematical Analysis II
- 2940.151 Technical Computations
- Technical Electives

#### Rubber and Plastics
- 2020.132 Mathematical Analysis II
- 2940.151 Technical Computations
- Technical Electives

#### 2860: Electronic Technology

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

- 1100 —— Physical Education
- 2020.121 English
- 2020.132 Mathematical Analysis II
- 2940.151 Technical Computations
- Technical Electives

#### 2880: Manufacturing Technology

Through the study of basic technical subjects and through concentration on work measurement, safety procedures, plant setup 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
- 1100 —— Physical Education
- 2020.121 English
- 2020.132 Mathematical Analysis II
- 2880.222 Technical Report Writing
- 2020.233 Mathematical Analysis III

#### Industrial Supervision Option

- 1100 —— Physical Education
- 2020.121 English
- 2020.132 Mathematical Analysis II
- 2940.211 Basic Accounting I
- 2980.130 Work Measurement Procedures I
- 2980.141 Safety Procedures
- 2980.200 Manufacturing Profitability
- 2980.211 Computer-Aided Manufacturing II
- 2980.232 Labor-Management Relations
- 2980.241 Quality Control Procedures
- 2980.247 Technology of Machine Tools
- 2980.248 Technical Electives

- 2020.121 Introduction to Manufacturing Management
- 2980.130 Work Measurement Procedures I
- 2980.141 Safety Procedures
- 2980.200 Manufacturing Profitability
- 2980.232 Labor-Management Relations
- 2980.241 Quality Control Procedures
- 2980.247 Technology of Machine Tools
- 2980.248 Technical Electives

#### 2920: Mechanical Technology

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

- 1100 —— Physical Education
- 2020.121 English
- 2020.132 Mathematical Analysis II
- 2940.151 Technical Computations
- Technical Electives

- 2020.240 Human Relations
- 2840.100 Basic Chemistry
- 2840.120 Basic Physics-Mechanics
- 2880.100 Introduction to Manufacturing Management
- 2980.130 Work Measurement Procedures I
- 2980.141 Safety Procedures
- 2980.200 Manufacturing Profitability
- 2980.232 Labor-Management Relations
- 2980.241 Quality Control Procedures
- 2980.247 Technology of Machine Tools
2940: Drafting Technology

This program is designed to give the student in-depth knowledge of various types of drafting. It will prepare the individual to compile detailed drawings based on rough sketches, specifications, and calculations made by engineers, architects, and designers.

1100 — Physical Education 1
1100.106 Effective Oral Communication 3
2020.121 English 4
2020.131 Mathematical Analysis I 4
2020.222 Technical Report Writing 3
2020.240 Human Relations 3
2900.121 Technical Drawing I 3
2900.122 Technical Drawing II 3
2900.247 Technology II: Machine Tools 3
2900.150 Drafting Design Problems 2
2900.151 Technical Computations 1
2900.160 Manufacturing and Construction Processes 2
2900.170 Surveying Drafting 3
2900.200 Advanced Drafting 3
2900.210 Computer Drafting 3
2900.230 Mechanical Systems Drafting 3
2900.240 Electrical Electronic and Instrumentation Drafting 3
2900.250 Architectural Drafting 3
2900.260 Drafting Technology Project 3
2900.250 Structural Drawing 2
3330.340 Cartography 3

General Electives:
2010.241 Man and Technology 2
2010.242 American Urban Society 3
2010.247 Survey of Basic Economics 3
2010.251 Work Relationships 3
2010.254 The Black American 2

2980: Surveying and Construction Technology

(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
2020.121 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
2940 — Basic Physics (elective) 2
2940.151 Basic Physics: Mechanics 3
2900.121 Technical Drawing I 3
2900.151 Technical Computations 1
2900.222 Construction Surveying 3
2900.231 Building Construction 2
2900.232 Construction 2
2900.233 Construction Administration 2
2900.234 Elements of Structures 3
2900.237 Materials Testing I 2
2900.238 Materials Testing II 2
2900.241 Strength of Materials 3
2900.245 Cost Analysis and Estimating 3
2900.250 Structural Drafting 2
General Electives 9

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
2940 — Basic Physics (elective) 2
2940.151 Basic Physics: Mechanics 3

Public Service Technology

2200: Educational Technology

This program prepares individuals for employment as elementary aides, 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 Human Relations 3
2020.242 American Urban Society 3
2500.140 Typing for Non-Secretarial Majors 2
3400 — Modern University Mathematician 3
3750.100 Introduction to Psychology 3
5100.150 Introduction to Professional Education 3
5100.250 Human Development and Learning 3
5100.410 Audio-Visual Education 2
5550.211 First Aid 2
5850.295 Education Technician Field Experience 5
Option Requirements 26
Electives 1

Options

Child Development††

1100 — Physical Education 1
1100.106 Effective Oral Communication 3
2010.121 English 4
2010.230 Introduction to Technical Mathematics and elective (one) 4
or
2010.131 Mathematical Analysis 4
2010.240 Human Relations 3
2010.242 American Urban Society 3
2200.245 Infant/Toddler Day-Care Programs 3
2200.250 Observing and Recording Children’s Behavior 3
2540.140 Typing for Non-Secretarial Majors 2
3750.100 Introduction to Psychology 3
5100.150 Introduction to Professional Education 3
2020.247 Survey of Basic Economics 3
5100.250 Human Development and Learning, and Elective (one) 4
or
3750.130 Developmental Psychology 4
5100.310 Educational Media and Technology 3
5200.360 Nursery School Laboratory 3
5550.211 First Aid 2
3850.295 Field Experience 5
5400.321 Early Childhood Nutrition 3
7400.265 Child Development 3

†A "2+2" program is available for students interested in earning an Associate of Applied Science degree in child development option, and the Bachelor of Arts in Child Development. Students must select Math Analysis I, Survey of Basic Economics, and Developmental Psychology in the associate degree program in order to obtain the bachelor’s degree with 132 credits.

††May substitute 2200.130, 3 credits. Child development and library students may substitute 2200.170, 3 credits.

Must complete 7400.255, 275, or 2200.360 before taking 5850.295. 7400.290 can be taken concurrently. See coordinator the previous semester.
2210: 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>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education**</td>
<td>3</td>
</tr>
<tr>
<td>1100·106</td>
<td>Effective Oral Communication**</td>
<td>3</td>
</tr>
<tr>
<td>2020·121</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>2020·240</td>
<td>Human Relations**</td>
<td>3</td>
</tr>
<tr>
<td>3750·100</td>
<td>Introduction to Psychology**</td>
<td>3</td>
</tr>
<tr>
<td>2020·242</td>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>2210·104</td>
<td>Introduction to the Deal</td>
<td>4</td>
</tr>
<tr>
<td>2701·225</td>
<td>Speech and Language of Deaf Child and Adult</td>
<td>4</td>
</tr>
<tr>
<td>7100·271</td>
<td>Language of Signs**</td>
<td>3</td>
</tr>
<tr>
<td>2220·240</td>
<td>Criminal Case Management</td>
<td>3</td>
</tr>
<tr>
<td>2220·250</td>
<td>Library Media Services</td>
<td>3</td>
</tr>
<tr>
<td>1100·106</td>
<td>Effective Oral Communication**</td>
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</tr>
<tr>
<td>2010·121</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>2010·131</td>
<td>Mathematical Analysis I</td>
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</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>2200·242</td>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>2210·100</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>2210·102</td>
<td>Criminal Law for Police</td>
<td>3</td>
</tr>
<tr>
<td>2210·104</td>
<td>Evidence and Criminal Legal Process</td>
<td>3</td>
</tr>
<tr>
<td>2210·106</td>
<td>Justice Process**</td>
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<tr>
<td>2210·200</td>
<td>Social Values and Criminal Justice</td>
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<tr>
<td>2220·210</td>
<td>Criminal Justice Theory and Practice</td>
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<td>2220·220</td>
<td>Dynamics of Vice Crime and Substance Abuse</td>
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<td>2220·250</td>
<td>Criminal Case Management</td>
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</tr>
<tr>
<td>2840·100</td>
<td>Basic Chemistry**</td>
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<td>Introduction to Sociology**</td>
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<tr>
<td>3850·100</td>
<td>General Electives**</td>
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</tr>
<tr>
<td>3850·100</td>
<td>Technical Electives**</td>
<td>3</td>
</tr>
</tbody>
</table>

2221: 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>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education**</td>
<td>1</td>
</tr>
<tr>
<td>1100·106</td>
<td>Effective Oral Communication**</td>
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</tr>
<tr>
<td>2020·121</td>
<td>English</td>
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</tr>
<tr>
<td>2020·131</td>
<td>Mathematical Analysis I</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>2210·100</td>
<td>Introduction to Security</td>
<td>3</td>
</tr>
<tr>
<td>2220·104</td>
<td>Evidence and Criminal Legal Process</td>
<td>3</td>
</tr>
<tr>
<td>2220·240</td>
<td>Dynamics of Vice Crime and Substance Abuse</td>
<td>3</td>
</tr>
<tr>
<td>2220·250</td>
<td>Criminal Case Management</td>
<td>3</td>
</tr>
<tr>
<td>2220·260</td>
<td>Material and Operations for Public Services</td>
<td>3</td>
</tr>
<tr>
<td>2220·270</td>
<td>Spanish and Language of DeafChild and Adult</td>
<td>4</td>
</tr>
<tr>
<td>3850·100</td>
<td>Introduction to Sociology**</td>
<td>4</td>
</tr>
<tr>
<td>2840·100</td>
<td>Basic Chemistry**</td>
<td>3</td>
</tr>
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<td>3850·100</td>
<td>General Electives**</td>
<td>3</td>
</tr>
<tr>
<td>3850·100</td>
<td>Technical Electives**</td>
<td>3</td>
</tr>
</tbody>
</table>

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>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education**</td>
<td>1</td>
</tr>
<tr>
<td>1100·105</td>
<td>Introduction to Public Speaking**</td>
<td>3</td>
</tr>
<tr>
<td>2010·121</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>2010·131</td>
<td>Mathematical Analysis I</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>2210·104</td>
<td>Introduction to Fire Protection**</td>
<td>3</td>
</tr>
<tr>
<td>2230·102</td>
<td>Fire Safety in Building Design and Construction</td>
<td>3</td>
</tr>
<tr>
<td>2230·140</td>
<td>Fire Investigative Methods</td>
<td>3</td>
</tr>
<tr>
<td>2230·202</td>
<td>Fire Suppression Methods</td>
<td>3</td>
</tr>
<tr>
<td>2230·240</td>
<td>Fire Hazards Recognition</td>
<td>3</td>
</tr>
<tr>
<td>2230·250</td>
<td>Fire Detection and Suppression Systems I</td>
<td>3</td>
</tr>
<tr>
<td>2230·260</td>
<td>Hazardous Materials</td>
<td>3</td>
</tr>
<tr>
<td>2230·254</td>
<td>Fire Codes and Standards</td>
<td>3</td>
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<tr>
<td>2230·256</td>
<td>Fire Protection for Business and Industry</td>
<td>3</td>
</tr>
<tr>
<td>2230·270</td>
<td>Administration and Supervision for Public Services</td>
<td>3</td>
</tr>
<tr>
<td>2940·101</td>
<td>Basic Physics Mechanics</td>
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<tr>
<td>3850·111</td>
<td>First Aid</td>
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<tr>
<td>3850·100</td>
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<td>3</td>
</tr>
<tr>
<td>3850·100</td>
<td>Technical Electives**</td>
<td>3</td>
</tr>
</tbody>
</table>
2260: Community Services Technology
This program prepares individuals for employment supportive of social work or other professional community service personnel providing social services for individuals, families, groups, and communities.

### Options

#### Alcohol Services

- **2260.261** Alcoholism Treatment
- **2260.262** Basic Helping Skills in Alcohol Problems
- **2260.290** Special Topics: Alcohol Services

#### Gerontology

- **2260.231** Community Services for Senior Citizens
- **2260.232** Resident Activity Coordination

### Volunteer Programming

- **2260.290** Fundamentals of Volunteer Management
- **2260.291** Recruitment and Interviewing of Volunteers
- **2260.274** Infant/Toddler Day-Care Programs
- **2260.106** Juvenile Justice Process
- **2260.230** Community-Built Residential Services
- **2260.240** Drug Use and Abuse
- **2260.274** Drug Treatment
- **2260.290** Special Topics in Community Services Technology
- **240.140** Typing for Non-Secretarial Majors

### Social Services Emphasis

- **1100.105** Introduction to Public Speaking
- **1100.106** Effective Oral Communication
- **1100.112** English Composition
- **200.121** Psychology
- **2260.222** Technical Report Writing
- **2020.240** Human Relations
- **2020.292** American Urban Society
- **2020.247** Survey of Basic Economics
- **2260.254** The Black American
- **2260.106** Introduction to Community Services
- **2260.150** Introduction to Gerontological Services
- **2260.260** Alcohol Use and Abuse
- **2260.274** Techniques of Community Work
- **2260.279** Technical Experience: Community and Social Work
- **3750.105** Introduction to Psychology
- **3750.104** Introduction to Sociology
- **7750.270** Poverty in the United States
- **7750.276** Gerontology Electives

For students who wish to pursue a baccalaureate degree in social work in a "2+2" arrangement...

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- **2260.261** Alcoholism Treatment
- **2260.262** Basic Helping Skills in Alcohol Problems
- **2260.290** Special Topics: Alcohol Services

#### Gerontology

- **2260.231** Community Services for Senior Citizens
- **2260.232** Resident Activity Coordination

### Volunteer Programming

- **2260.290** Fundamentals of Volunteer Management
- **2260.291** Recruitment and Interviewing of Volunteers
- **2260.274** Infant/Toddler Day-Care Programs
- **2260.106** Juvenile Justice Process
- **2260.230** Community-Built Residential Services
- **2260.240** Drug Use and Abuse
- **2260.274** Drug Treatment
- **2260.290** Special Topics in Community Services Technology
- **240.140** Typing for Non-Secretarial Majors

### Social Services Emphasis

- **1100.105** Introduction to Public Speaking
- **1100.106** Effective Oral Communication
- **1100.112** English Composition
- **200.121** Psychology
- **2260.222** Technical Report Writing
- **2020.240** Human Relations
- **2020.292** American Urban Society
- **2020.247** Survey of Basic Economics
- **2260.254** The Black American
- **2260.106** Introduction to Community Services
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- **3750.104** Introduction to Sociology
- **7750.270** Poverty in the United States
- **7750.276** Gerontology Electives

For 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., Associate 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 10 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 current Wayne College Bulletin.
University College

Marion A. Ruebel, Ph.D., Dean
Thomas Vukovich, Ph.D., Assistant Dean
Martin Mckoski, Ph.D., Director, Developmental Programs
David C. Riode, 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 select the student for the proper curriculum 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 a 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 result 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 determined 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 advisor 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:101</td>
<td>Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>1100:102</td>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>1100:103</td>
<td>English Composition</td>
<td>3</td>
</tr>
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<td>1100:114</td>
<td>Institutions in the United States</td>
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</tr>
<tr>
<td>1100:125</td>
<td>Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>1100:131</td>
<td>Western Culture Traditions</td>
<td>3</td>
</tr>
<tr>
<td>1100:132</td>
<td>Eastern Civilizations</td>
<td>3</td>
</tr>
<tr>
<td>1100:133</td>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>1100:134</td>
<td>Varsity Track</td>
<td>3</td>
</tr>
</tbody>
</table>

*The six required credits in the social science area may also be met through one of the following courses:
A. Completion of a minimum of four courses totaling 12 credits selected from two of the following four two semester offerings:
- 1100:232 Introduction to American Politics, three credits. A student majoring in political science is required to take this course as one of their areas of emphasis.
- 1100:221 American Government, three credits. A student majoring in business administration is required to take this course as one of their areas of emphasis.
- 1100:222 Principles of Microeconomics, three credits. A student majoring in business administration is required to take this course as one of their areas of emphasis.
- 1100:223 Principles of Macroeconomics, three credits. A student majoring in business administration is required to take this course as one of their areas of emphasis.
- 1100:224 Introduction to Sociology, four credits.
- 1100:225 United States History Since Civil War, four credits.
- 1100:226 Government and Politics in United States, four credits.
- 1100:227 Introduction to Economics, four credits.
* Ph.D. in Social Anthropology, six credits.
* Ph.D. in Geography and Technical College major. Any completion of the following five courses (total of nine credits):
  - 1100:228 Human Relations, three credits.
  - 1100:229 American Women, three credits.
  - 1100:230 American Indians, three credits.
  - 1100:231 Survey of Basic Economics, three credits.

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. Personal counseling and advising for those who are preparing to enter the college environment are available through the Center for Developmental Programs.

ACADEMIC ADVISING SERVICES

This office is responsible for the academic counseling and advising of all freshmen- and sophomore-level students. The劝ciders 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. Personal counseling helps the student adjust to a number of choices, academic achievement, study habits, outside work loads and other circumstances which have an effect on successful work. Counseling can all be matters for concern in this kind of counseling.

Personal counseling is the type of counseling which aids when problems of personnel nature seem to be obstructing academic careers or personal lives.
Developmental 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 undergraduates 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>
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<td>3100.130</td>
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<td>7400.133</td>
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<tr>
<td>Microbiology</td>
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<td>Anatomy and Physiology</td>
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<tr>
<td>Anatomy and Physiology</td>
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<tr>
<td>Chemistry</td>
<td>3</td>
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<tr>
<td>Introduction to Psychology</td>
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<td>Developmental Psychology</td>
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<tr>
<td>Introduction to Sociology</td>
<td>4</td>
</tr>
<tr>
<td>Nutrition Fundamentals</td>
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</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 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 prior to 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 these semester credits.

Supplemental Courses

All GMC scholarship cadets are required, and non-scholarship cadets encouraged, to demonstrate proficiency or successfully complete a course in English composition. One year 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 26
  - If not on scholarship status, be designated for pilot or navigator training be able to complete all commissioning requirements prior to age 26
  - If not on scholarship status and not qualified for flying training be able to complete commissioning requirements prior to age 26

Additional Qualifications for Professional Officer Course

- Be at least 17 years of age
- For the four-year program cadets, 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 (APQT)
- 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 as active duty after commissioning, or, if accepted for a flying training program, agree to serve for 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 $114 per month. In addition, all scholarship cadets receive $100 monthly non-taxable subsistence allowance.

Four-year scholarships are available for an applicant in scientific engineering and some non-technical 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
- College 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 non-taxable subsistence allowance of $100 per month.

Uniforms and Textbooks

All AFROTC uniforms and textbooks are provided by the Air Force both for on-campus courses and for field training.

1600: MILITARY SCIENCE

The University of Akron Reserve Officer Training Corps (ROTC) was established in 1919, making it one of the oldest in the country. The main goals 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 arts; provide some technical training in basic military skills; and develop an understanding of the relationship between the student's basic degree field and its application in one of 47 management fields in the United States Army.

Programs

Four-Year Program

A full-time student enrolled in The University of Akron or Wayne General Technical College may enroll in the Army four-year program. Freshmen and sophomores enroll in the basic military course Military Science I and II (MS I, MS II) of the four-year program for two credits per semester. MS I and II classes are held three hours each week, to include a mandatory one-hour leadership laboratory, and cover studies in marksmanship, leadership fundamentals, rappelling, cross-country skiing, small unit operations, Leadership Assessment Program, and Army organization. Enrollment 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. 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 may lead to a commission. Advanced course studies are held four hours per week to include a mandatory one-hour leadership laboratory, for three semester credits. The material includes: advanced leadership, application of tactics, ethics and professionalism, 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 $1,200 per school year. Upon commissioning, 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 just prior to or after the MS II year, 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 the following:

- 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 III and IV).
- Completion of advanced summer camp
- Agree to fulfill service obligation as follows:

ROTC

Advanced Course: Serve as a commissioned officer in active duty, in the Army Reserve or in the Army National Guard. 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

Claiborne 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 its 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 of combination of courses can ensure 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 degree 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 the original name was retained in the College of Liberal Arts which was subsequently renamed the Buchtel College of Arts and Sciences. Then, and now, the liberal arts goal has been to offer broad training to the college student so that 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:

Humanities Division

It is concerned with the intellectual traditions that have formed man and with their application to the present and future growth of the human being by affording insights into contemporary life and by promoting the development of the individual as a creative, critical and articulate person through the study of the classics, languages, literature and philosophy.

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 Cytotechnology, Bachelor of Science in Medical Technology.
Social Sciences Division: Bachelor of Arts, Bachelor of Science in Geography/Geography, 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:
  - 360/400-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 advisor 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 attempted in the major field at The University of Akron.
- Attaining a minimum grade point average of 2.00 in all work in the major field, including transfer credits.
- 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 or 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 on a 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 transfers to the college, the head of the student’s major department or designate becomes the academic adviser.

A student who desires a broader education than the departmental major offers may elect a divisional major and qualify in the general area of the humanities, natural sciences or social sciences. The exact requirements for these majors will be found on the following pages. As soon as the student contemplating a divisional major is transferred to the college, the chairman of the student’s major division 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:151</td>
<td>Introduction to Professional Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:210</td>
<td>Human Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5100:350</td>
<td>Educational Measurement and Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>5100:450</td>
<td>Problems in Education</td>
<td>2</td>
</tr>
<tr>
<td>5200:295</td>
<td>Introduction to Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>5300:275</td>
<td>Exploratory Experience</td>
<td>1</td>
</tr>
<tr>
<td>5310:330</td>
<td>Principles of Teaching in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>5310:335</td>
<td>Content Planning in Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>5310:345</td>
<td>Human Relations in Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>5300:335</td>
<td>Managing Classroom Behavior at the Secondary Level</td>
<td>1</td>
</tr>
<tr>
<td>5300:337</td>
<td>Exploratory Experience</td>
<td>1</td>
</tr>
<tr>
<td>5320:411</td>
<td>Instructional Strategies Secondary Education</td>
<td>4</td>
</tr>
<tr>
<td>5300:445</td>
<td>Microcomputer Applications in Secondary Classroom</td>
<td>1</td>
</tr>
<tr>
<td>5300:455</td>
<td>Career Options in Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>5300:467</td>
<td>Student Teaching Seminar</td>
<td>1</td>
</tr>
<tr>
<td>5300:465</td>
<td>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.

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**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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:112</td>
<td>Principles of Biology</td>
<td>8</td>
</tr>
<tr>
<td>3100:211</td>
<td>General Genetics</td>
<td>3</td>
</tr>
<tr>
<td>3100:217</td>
<td>General Ecology**</td>
<td>3</td>
</tr>
<tr>
<td>3100:316</td>
<td>Vertebrate Biology**</td>
<td>3</td>
</tr>
<tr>
<td>3100:711</td>
<td>Cell Biology**</td>
<td>3</td>
</tr>
<tr>
<td>3350:384</td>
<td>Techniques and Instrumentation Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>3150:332</td>
<td>Principles of Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>3100:314</td>
<td>Vertebrate Analysis</td>
<td>2</td>
</tr>
<tr>
<td>3150:210</td>
<td>Organic Chemistry and Biochemistry I and II</td>
<td>8</td>
</tr>
<tr>
<td>3150:265</td>
<td>Organic Chemistry</td>
<td>10</td>
</tr>
<tr>
<td>3450:471</td>
<td>Elementary Functions I and II</td>
<td>6</td>
</tr>
<tr>
<td>3450:172</td>
<td>Modern University Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>3450:121</td>
<td>Modern University Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>3470:251</td>
<td>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 organismal biology which have been approved by the department.

**Areas of Specialization**

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

**Botany**

- Mycology | 4

- Plant Morphology | 4

- Plant Physiology | 3

- Plant Biotaxonomy | 2

**Ecology**

- Conservation of Biological Resources | 4

- Freshwater Ecology | 3

- General and Comparative Physiology | 4

- Specialized Wuling | 3

- Specialized Water Studies | 3

- Introductory Physical Geology | 4

- Analytical Geometry-Calculus I and II | 8

- Statistics | 6

- FORTAN Programming and/or one of the following:
  - Microbiology | 4
  - Applied Aquatic Ecology | 3
  - Aquatic Ecology | 4
  - Mycology | 4
  - Physiology | 4
  - Quantitative Analysis | 3
  - Invertebrates Zoology | 3
  - General Entomology | 4

*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.

‡Required by B.S. in cytotechnology.
A foreign language and Microbiology are required. For state certification requirements, see the College of Education and the Buchtel College of Arts and Sciences. **Preparation for High School Teaching.** *Section 4* of this Bulletin. A foreign language is not required.

**Microbiology**

- Microbiology, 4 credits
- Bacterial Physiology, 3 credits
- Vertebrate Zoology, 4 credits
- Immunology, 4 credits

**Zoology**

- A minimum of 13 credits from the following:
  - Ichthyology, 4 credits
  - Vertebrate Zoology, 2 credits
  - Vertebrate Zoology, 4 credits
  - Immunology, 6 credits

**Elective**

- Histology I, 3 credits
- Radiation Biology, 3 credits
- Laboratory Techniques and Instrumentation, 12 credits
- Human Physiology, 2 credits
- Biochemistry, 6 credits

**Zoology**

- A minimum of 13 credits from the following:
  - Ichthyology, 4 credits
  - Vertebrate Zoology, 2 credits
  - Vertebrate Zoology, 4 credits
  - Immunology, 6 credits

**Elective**

- Histology I, 3 credits
- Radiation Biology, 3 credits
- Laboratory Techniques and Instrumentation, 12 credits
- Human Physiology, 2 credits
- Biochemistry, 6 credits

**High School Teaching**

For state certification requirements, see the College of Education and the Buchtel College of Arts and Sciences. **Preparation for High School Teaching.** *Section 4* of this Bulletin. A foreign language is not required.

**Microbiology**

- Microbiology, 4 credits
- Bacterial Physiology, 3 credits
- Vertebrate Zoology, 4 credits
- Immunology, 4 credits

**Zoology**

- A minimum of 13 credits from the following:
  - Ichthyology, 4 credits
  - Vertebrate Zoology, 2 credits
  - Vertebrate Zoology, 4 credits
  - Immunology, 6 credits

**Elective**

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For state certification requirements, see the College of Education and the Buchtel College of Arts and Sciences. **Preparation for High School Teaching.** *Section 4* of this Bulletin. A foreign language is not required.

**Microbiology**

- Microbiology, 4 credits
- Bacterial Physiology, 3 credits
- Vertebrate Zoology, 4 credits
- Immunology, 4 credits

**Zoology**

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  - Ichthyology, 4 credits
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  - Vertebrate Zoology, 4 credits
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**Elective**

- Histology I, 3 credits
- Radiation Biology, 3 credits
- Laboratory Techniques and Instrumentation, 12 credits
- Human Physiology, 2 credits
- Biochemistry, 6 credits

**Bachelor of Science in Medical Technology**

- See Bachelor of Science for additional requirements.

**Bachelor of Arts**

- The General Studies and the second year of a foreign language.
- At least 12 credits in the humanities or social sciences, including at least two of the following:
  - Western Science to 1800
  - Western Science since 1800
  - Western Technology
  - Philosophy of Science
- At least 24 credits in the biological sciences which must include:
  - Principles of Biology
  - General Genetics
  - General Ecology
  - Cell Biology
  - Principles of Microbiology (with permission)
  - Evolutionary Biology
- At least one year of chemistry, including, preferably, some biological chemistry

**Bachelor of Science in Chemistry**

- The General Studies and the second year of a foreign language.
- At least 45 departmental credits including:

**Bachelor of Science**

- The General Studies and the second year of a foreign language.
- At least 45 departmental credits including:
Bachelor of Arts

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

- Chemistry:
  - 3150:132 Principles of Chemistry I 4
  - 3150:133 Principles of Chemistry II 3
  - 3150:134 Qualitative Analysis 2
  - 3150:263 Organic Chemistry Lecture I 2
  - 3150:264 Organic Chemistry Laboratory II 2
  - 3150:265 Organic Chemistry Laboratory I 2
  - 3150:313 Physical Chemistry Lecture I 3
  - 3150:314 Physical Chemistry Lecture II 2
  - 3150:315 Physical Chemistry Laboratory I 2
  - 3150:316 Physical Chemistry Laboratory II 2
  - 3150:423 Quantitative Analysis 3
  - 3150:425 Quantitative Analysis Laboratory 2
  - 3150:427 Analytical Chemistry Lecture 3
  - 3150:428 Analytical Chemistry Laboratory 2
  - 3150:472 Advanced Inorganic Chemistry 3

- At least two advanced courses:
  - 3150:401 Biochemistry Lecture I 3
  - 3150:402 Biochemistry Lecture II 3
  - 3150:405 Biochemistry Laboratory 2
  - 3150:415 Chemical Instrumentation 3
  - 3150:416 Instrumental Methods of Analysis 3
  - 3150:421 Qualitative Organic Analysis 4
  - 3150:463 Advanced Organic Chemistry 3
  - 3150:499 Research Problems 2
  - 3650:481 Methods of Mathematical Physics I 3
  - 5940:407 Polymer Science 4

- Mathematics:
  - 3450:235 Differential Equations 3

- Physics:
  - 3650:291 2 Elementary Classical Physics I and II 4

- Recommended:
  - 4100:206 FORTRAN (Science and Engineering) 2

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:

- satisfactory completion of 60 credits with a grade-point average of at least 2.00 ("C") in the major requirements;
- be on schedule in the student's curriculum;
- receive 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></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:

- Work performance as evaluated by the employer.
- A written work report and its approval by the department head and the cooperative education staff.
- Cooperative Work Period Summary form.
3200: Classics
3200: Classics. 3210: Greek. 3220: Latin

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.
- 3200.199 Mythology 3
- 3200.313 Archeology of Greece 3
- 3200.314 Archeology of Rome 3
- 3200.961 Literature of Greece 3
- 3200.362 Literature of Rome 3
- Two of the following courses:
  - 3405.305 Greek
  - 3400.306 Rome
  - 3400.307 The Eastern Roman Empire (324-1453) 3
- Electives in Classics 6
- Language courses must be above the 200 level in order to be included in the total of 39 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 as 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.

Classical Civilization

- The General Studies and the second year of a foreign language.
- Three of the following courses:
  - 3400.304 The Ancient Near East 3
  - 3400.305 Greece 3
  - 3400.306 Rome 3
  - 3400.307 The Eastern Roman Empire (324-1453) 3
- Electives in Classics 6

It is strongly recommended that a major in classical civilization fulfill the foreign language requirement by taking 3210:121/122/223/224 or 3220:121/122/223/224.

3250: Economics

Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 30 departmental credits including:
  - 3250.201 Principles of Macroeconomics
  - 3250.202 Principles of Microeconomics
  - 3250.400 Macroeconomics
  - 3250.410 Microeconomics
  - 3250.420 Mathematical Economics I
- Electives — 15 credits
- Mathematics:
  - 3450.148 Precalculus Mathematics 4
  - 3450.147 Elementary Functions I, II, or equivalent 6
- Statistics (one of the following):
  - 3500.321 Quantitative Business Analysis I and II 6
  - 3470.251 Descriptive Statistics and Problems
  - 3470.252 Distributions
  - 3470.253 Hypothesis Testing

Buchtel College of Arts and Sciences 63

3470.250 Regression and Correlation 1
3470.251 Experimental Design 1
3470.257 Time Series and Index Numbers 1
3470.461 Applied Statistics 4

Electives — 30-32 credits.

Bachelor of Science in Labor Economics

- The General Studies.
- At least 30 departmental credits including:
  - 3250.201 Principles of Macroeconomics
  - 3250.202 Principles of Microeconomics
  - 3250.300 Labor Problems
  - 3250.410 Microeconomics
  - 3250.420 Mathematical Economics I
  - Two of the following:
    - 3250.333 Labor Economics
    - 3250.430 Human Resource Policy
    - 3250.431 Labor and the Government
    - 3250.432 Collective Bargaining
- Electives 9
- Mathematics:
  - 3450.148 Precalculus Mathematics 4
  - 3450.147,8 Elementary Functions I, II, or equivalent 6
- Statistics (one of the following):
  - 3650.321 Quantitative Business Analysis I and II 6
  - 3470.251 Descriptive Statistics and Problems
  - 3470.252 Distributions
  - 3470.253 Hypothesis Testing
  - 3470.257 Time Series and Index Numbers
  - 3470.461 Applied Statistics 4
- At least eight credits in 300/400-level courses geography, history, political science, economics or sociology.
- Electives — 49-52 credits.

Note: 3250.100 Introduction to Economics cannot be used to satisfy the requirements for a major or minor in economics.

3300: English

Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 36 credits in the department including the following course and distribution requirements:
  - Required courses:
    - 3300.301 English Literature I
    - 3300.302 English Literature II
    - 3300.316 Shakespeare: The Mature Plays
    - 3300.341 American Literature I
    - 3300.342 American Literature II
  - Distribution of requirements:
    - One linguistics or English language course. A maximum of four 400-level courses.
      - Of the total number of courses taken for the major, at least two must be in literature written before 1800 and two after. 3300.301/2, 316, 341 and 342 may not be used to meet the requirement. Courses which satisfy the language requirement and the literature before and after 1800 must be taken in the course descriptions.
      - Recommended:
        - 3300.320 Poetry Appreciation
        - 3300— an advanced course in composition 3
  - Electives — 49 credits.

3350: Geography

Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 36 credits in the department including:
  - Required courses:
    - 3350.301 English Literature I
    - 3350.302 English Literature II
    - 3350.316 Shakespeare: The Mature Plays
    - 3350.341 American Literature I
    - 3350.342 American Literature II
  - Distribution of requirements:
    - One linguistics or English language course. A maximum of four 400-level courses.
      - Of the total number of courses taken for the major, at least two must be in literature written before 1800 and two after. 3300.301/2, 316, 341 and 342 may not be used to meet the requirement. Courses which satisfy the language requirement and the literature before and after 1800 must be taken in the course descriptions.
      - Recommended:
        - 3350.320 Poetry Appreciation
        - 3350— an advanced course in composition 3
  - Electives — 49 credits.
Bachelor of Science in Geography/Cartography

- Completion in the Community and Technical College of the surveying option in the associate degree program in surveying and construction technology or the associate degree program in drafting technology.
- Completion of General Studies requirements.
- Completion of at least 47 credits of 300/400-level courses in addition to the General Studies requirements.
- At least nine credits of coursework which will introduce students to a foreign culture. Such courses shall be selected by the student with the approval of the adviser in the Department of Geography. Such courses may be chosen from foreign language courses offered in any of the following departments: anthropology, classics, non-U.S. history and modern languages. Foreign language is strongly recommended.
- At least 30 credits in geography including the following: **

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:442</td>
<td>Thematic Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350:444</td>
<td>Map Compilation and Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>3350:447</td>
<td>Introduction to Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:488</td>
<td>Automated Computer Mapping</td>
<td>3</td>
</tr>
<tr>
<td>3350:491</td>
<td>Advanced Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:492</td>
<td>Introduction to Geographic Research</td>
<td>3</td>
</tr>
<tr>
<td>3350:506</td>
<td>Field Research Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

3370: Geology

Bachelor of Science

Engineering Geology

- The General Studies and the second year of a foreign language.
- At least 39 departmental credits including the following: **

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3370:151</td>
<td>Introductory Physical Geography</td>
<td>4</td>
</tr>
<tr>
<td>3370:152</td>
<td>Introductory Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370:230</td>
<td>Geologic Methods and Non-Silicate Mineralogy</td>
<td>3</td>
</tr>
<tr>
<td>3370:231</td>
<td>Sedimentology and Stratigraphy</td>
<td>3</td>
</tr>
<tr>
<td>3370:351</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370:446</td>
<td>Exploration Geology</td>
<td>3</td>
</tr>
<tr>
<td>3370:496</td>
<td>Geology Field Camp</td>
<td>6</td>
</tr>
<tr>
<td>3370:506</td>
<td>Geology Electives From List</td>
<td>9</td>
</tr>
</tbody>
</table>

- Non-Geology Required Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150:123</td>
<td>Principles of Chemistry I and II</td>
<td>3</td>
</tr>
<tr>
<td>3450:221,23</td>
<td>Analytic Geometry-Calculus I and II</td>
<td>12</td>
</tr>
<tr>
<td>3450:235</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>3510:291</td>
<td>Elementary Classical Physics I and II</td>
<td>8</td>
</tr>
<tr>
<td>3510:313</td>
<td>Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>3510:436</td>
<td>Electricity and Magnetism</td>
<td>3</td>
</tr>
</tbody>
</table>

- Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 44 departmental credits including the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3370:101</td>
<td>Introductory Physical Geography</td>
<td>4</td>
</tr>
<tr>
<td>3370:102</td>
<td>Introductory Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370:219</td>
<td>Geology Field Camp</td>
<td>6</td>
</tr>
</tbody>
</table>

- Non-Geology courses required for majors:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3510:122</td>
<td>Principles of Chemistry I</td>
<td>7</td>
</tr>
<tr>
<td>3450:221,23</td>
<td>Analytic Geometry-Calculus I and II</td>
<td>12</td>
</tr>
<tr>
<td>3450:235</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>3650:115</td>
<td>Elementary Classical Physics I and II</td>
<td>8</td>
</tr>
<tr>
<td>3650:133</td>
<td>Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>3650:436</td>
<td>Electricity and Magnetism</td>
<td>3</td>
</tr>
</tbody>
</table>

- Bachelor of Arts

- At least seven credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3510:122</td>
<td>Principles of Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>3650:133</td>
<td>Principles of Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>3650:171,2</td>
<td>Elementary Classical Physics I and II</td>
<td>4</td>
</tr>
</tbody>
</table>

*Unofficial geology advisor may approve substitution of 3650:261.2.
**3400: History**

**Bachelor of Arts**
- The General Studies and the second year of a foreign language (French, German or Russian suggested).
- A minimum of 32 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-level history courses.

**3450: Mathematics**

**Bachelor of Science**
**Bachelor of Arts**
- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including *:
  - 3450:211 Introduction to Linear Algebra 3
  - 3450:212 Advanced Calculus I 6
  - 3450:311 Abstract Algebra 3
  - 3450:312 Linear Algebra 3
  - 3450:427 Introduction to Topology 3
  - 3450:445 Theoretical Statistics I 3

**Applied Mathematics**
- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including *:
  - 3460:211 Analytic Geometry-Calculus I, II and III 16
  - 3460:222 Analytic Geometry-Calculus II 12
  - 3460:311 Abstract Algebra 3
  - 3460:321 Linear Algebra 3
  - 3460:427 Introduction to Numerical Analysis 3
  - 3460:438 Mathematical Models 3
  - 3460:451 Theoretical Statistics I 3
  - Mathematics Electives 7

**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>School</td>
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<tr>
<td>2</td>
<td>School</td>
<td>School</td>
<td>School</td>
</tr>
<tr>
<td>3</td>
<td>School</td>
<td>Work</td>
<td>School</td>
</tr>
<tr>
<td>4</td>
<td>School</td>
<td>School</td>
<td>Work</td>
</tr>
<tr>
<td>5</td>
<td>School</td>
<td>School</td>
<td>School</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:
- 34 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.

**Registration**
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 and 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.

**3460: Computer Science**

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

**Core curriculum**:
- 3460:209 Computer Programming I 3
- 3460:210 Computer Programming II 3
- 3460:306 Assembly Language Programming 3
- 3460:307 Applied Systems Programming 3
- 3460:316 Introduction to Data Structures 3
- 3460:418 Introduction to Discrete Structures 3
- 3460:410 Structured Programming 3
- 3461:426 Operating Systems 3

**Options**

**Mathematics**
- Other required courses:
  - 3450:221 Analytic Geometry-Calculus I 4
  - 3450:222 Analytic Geometry-Calculus II 4
  - 3450:223 Analytic Geometry-Calculus III 4
  - 3460:427 Introduction to Numerical Analysis 3
  - 3460:291 Introduction to FORTRAN Programming 2
  - 3470:431 Applied Statistics 4
Select one of the following two courses:

3450:312 Linear Algebra 3
3450:428 Numerical Linear Algebra 3

Electives — approved upper-level computer science courses — 12 credits.

**Business**

- Other required courses:
  - 3450:201 Principles of Microeconomics 3
  - 3450:202 Principles of Macroeconomics 3
  - 3450:215 Concepts of Calculus I 4
  - 3450:216 Concepts of Calculus II 4
  - 3450:115 Linear Programming 1
  - 3460:302 Programming Applications with COBOL 3
  - 3460:475 Data Base Management 3
  - 3470:461 Applied Statistics 4
  - 6200:301 Accounting I 4
  - 6200:302 Accounting II 4

*Select two of the following three courses:

6300:371 Business Finance 3
6550:301 Management Principles and Concepts 3
6600:300 Marketing Principles 3

- Electives — approved upper-level computer science courses — 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
  3450:312 Linear Algebra 3
  3450:452,2 Advanced Calculus II, III 6
  3470:451,2 Theoretical Statistics II 6
  3470:461 Applied Statistics 4
  3470:466 Experimental Design 4
  3470:469 Mathematics Electives 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**

3520: 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

**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
    - 3650:431 Quantum Physics I 3
  - Highly recommended courses for all students:
    - 3650:432 Mechanics II 3
    - 3650:437 Electromagnetism II 3
    - 3650:445 Quantum Physics II 3
    - 3650:451 Advanced Laboratory I, II 4
    - 3650:481 Methods of Mathematical Physics I, II 5
  - Physics electives 13
- **Mathematics**
  - 3450:225 Differential Equations 3
  - 3450:221.2,3 Analytic Geometry-Calculus I, II and III 12
- **Chemistry**
  - 3150:323 Principles of Chemistry I, II 7
- **Computer Science**
  - 4100:306 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 Electronics 3
    - 3650:322 Intermediate Laboratory I 2
    - Physics Electives 11

*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 of 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.

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**For Spanish majors some distribution among languages, literature and culture courses is required. Consult an advisor.
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 in the bachelor's degree programs to prepare in 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 scheduled sequence of professionally oriented industrial employment (totalling 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
- 3700.201 Introduction to Political Science
- 3700.310 International Political Institutions
- 3700.461 The Supreme Court and Constitutional Law
- Political Science Electives

**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 "

**Areas of Specialization**

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

A suggested program of 32 credits including the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650.312</td>
<td>Physics Laboratory Techniques</td>
<td>2</td>
</tr>
<tr>
<td>3650.436</td>
<td>Methods of Applied Physics</td>
<td>3</td>
</tr>
<tr>
<td>4200.505</td>
<td>Materials Science</td>
<td>2</td>
</tr>
<tr>
<td>4300.203</td>
<td>Introduction to Mechanics of Solids</td>
<td>3</td>
</tr>
<tr>
<td>4400.231.2</td>
<td>Circuits I, II</td>
<td>6</td>
</tr>
<tr>
<td>4400.333.4</td>
<td>Circuits III, IV</td>
<td>6</td>
</tr>
<tr>
<td>4500.125</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>4500.310</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Biophysics (Bachelor of Science or Bachelor of Arts degree)**

A suggested program of 20 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100.111.2</td>
<td>Principles of Biology</td>
<td>8</td>
</tr>
<tr>
<td>3100.211</td>
<td>General Genetics</td>
<td>3</td>
</tr>
<tr>
<td>3101.214</td>
<td>Organic Evolutions</td>
<td>5</td>
</tr>
<tr>
<td>3102.311</td>
<td>Cell Biology</td>
<td>2</td>
</tr>
<tr>
<td>3103.480</td>
<td>Ramadhan Biology</td>
<td>3</td>
</tr>
<tr>
<td>3150.263.4</td>
<td>Organic Chemistry</td>
<td>6</td>
</tr>
</tbody>
</table>

**Chemical Physics (Bachelor of Arts or Bachelor of Science degree)**

A suggested program of 20 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150.763.4</td>
<td>Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>3150.313.4</td>
<td>Physical Chemistry Lecture I, II</td>
<td>6</td>
</tr>
<tr>
<td>3150.315.6</td>
<td>Physical Chemistry Laboratory I, II</td>
<td>4</td>
</tr>
<tr>
<td>3650.471</td>
<td>XMR Spectroscopy</td>
<td>2</td>
</tr>
</tbody>
</table>

**Computer Physics (Bachelor of Science degree recommended)**

A suggested program of 21 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4400.231.2</td>
<td>Circuits I, II</td>
<td>6</td>
</tr>
<tr>
<td>4400.333.4</td>
<td>Circuits III, IV</td>
<td>6</td>
</tr>
<tr>
<td>4450.306</td>
<td>Assembler Programming</td>
<td>3</td>
</tr>
<tr>
<td>4450.407</td>
<td>Systems Programming</td>
<td>3</td>
</tr>
<tr>
<td>4450.410</td>
<td>Computer Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

**Geophysics (Bachelor of Science or Bachelor of Arts degree)**

A suggested program of 18 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3370.101</td>
<td>Introduction to Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370.102</td>
<td>Introductory Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370.205</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370.441</td>
<td>Fundamentals of Geophysics</td>
<td>3</td>
</tr>
<tr>
<td>3370.446</td>
<td>Exploration Geophysics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Polymer Physics (Bachelor of Science degree recommended)**

A suggested program of 24 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150.263.4</td>
<td>Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>3150.313.4</td>
<td>Physical Chemistry Lecture I, II</td>
<td>6</td>
</tr>
<tr>
<td>3840.491</td>
<td>Introduction to Elastomers</td>
<td>2</td>
</tr>
<tr>
<td>3940.402</td>
<td>Introduction to Plastics</td>
<td>2</td>
</tr>
<tr>
<td>3940.411.2</td>
<td>Molecular Structure and Physical Properties of Polymer I, II, II</td>
<td>7</td>
</tr>
</tbody>
</table>

**Physics/Astronomy/Astronomy Pre-Graduate School (Bachelor of Science degree recommended)**

A suggested program of 34 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650.321</td>
<td>Physics Laboratory Techniques</td>
<td>2</td>
</tr>
<tr>
<td>3650.331.2</td>
<td>Astrophysics I, II</td>
<td>6</td>
</tr>
<tr>
<td>3650.404</td>
<td>Energy and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>3650.320</td>
<td>Optics</td>
<td>3</td>
</tr>
<tr>
<td>3650.492</td>
<td>Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>3650.437</td>
<td>Electromagnetism II</td>
<td>3</td>
</tr>
<tr>
<td>3650.438</td>
<td>Methods of Applied Physics</td>
<td>3</td>
</tr>
<tr>
<td>3650.471</td>
<td>Methods of Mathematical Physics I, II</td>
<td>6</td>
</tr>
<tr>
<td>7650.399</td>
<td>Undergraduate Research</td>
<td>1-6</td>
</tr>
</tbody>
</table>

- Electives — 45 credits.

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*See department head for possible substitutions.
Bachelor of Science in Political Science/
Public Policy Management

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

Political Science:
- 3700.105 Government and Politics in the United States 4
- 3700.107 Introduction to Political Science 3
- 3700.370 The American Bureaucracy 4
- 3700.395 International Government and Politics 3
- 3700.441 Policy Process 3
- 3700.442 Methods of Policy Analysis 3
- 3700.480 Policy Problems 3

The student will take an additional nine credits in either of the following two areas:

Domestic Public Policy
- 3700.210 State and Local Government and Politics 3
- 3700.340 American Political Parties 3
- 3700.341 The American Congress 3

International Public Policy
- 3700.250 International Relations 1
- 3700.350 American Foreign Policy 3
- 3700.370 Money and Banking 4
- 3700.371 International Organizations 3
- 3700.380 Urban Politics and Policies 4

The student will take an additional 18 credits from the following:
- 3700.403 International Organizations 3
- 3700.404 Comparative Policy Problems 4
- 3700.410 Comparative Policy Studies 3
- 3700.420 Issues and Approaches to Comparative Politics 3

Electives
- 3700.380 Electives appropriate for preparation for careers in law, government service, or by transfer, must complete course work in the department including:
- 3700.380 Electives - 45 credits

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.

3750: Psychology

Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 30 credits in the department including:
  - 3750.120 Introduction to Psychology 2
  - 3750.110 Quantitative Methods in Psychology 3
  - 3750.120 Introduction to Experimental Psychology 4

Electives — 45 credits

The student should consult with a faculty adviser to plan a program of psychology electives geared to the student's educational objectives.

3850: Sociology

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
  - 3850.301.1 Methods of Social Research I 2
  - 3850.403 History of Sociological Thought 3
  - 3850.404 Contemporary Sociological Theories 3

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
  - 3850.301.2 Methods of Social Research I and II 6
  - 3850.403 History of Sociological Thought 3
  - 3850.404 Contemporary Sociological Theories 3
  - 3870.150 Cultural Anthropology 4

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
  - 3850.301.1 Methods of Social Research I and II 6
  - 3850.302 Social Inequality 3
  - 3850.330 Criminology 3
  - 3850.403 History of Sociological Thought 3

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 2250.260 Administration and Supervision in the Public Service. The appropriate course work will be determined by the student's sociology/law enforcement advisor, in consultation with the coordinator of the Criminal Justice Technology program.

Sociology/Corrections
- The General Studies and the second year of a foreign language.
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:**
- 18 credits

**English:**
- 18 credits

**History:**
- 18 credits

**Modern Languages:**
- 18 credits

**Philosophy:**
- 18 credits

**Creative and Dramatic Arts:**
- 18 credits

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

Natural Sciences
The divisional major provides for a broad background in science with concentration in selected areas. It is an appropriate major for those preparing for admission to professional programs in medicine, dentistry or veterinary science or for those desiring a Liberal Arts degree with a general emphasis in science. Additional course work is often necessary for those planning graduate studies in a particular science discipline. The natural sciences division consists of the departments of biology, chemistry, geology, mathematical sciences, physics and polymer science. The divisional major must include:

- The General Studies.
- A minimum of 64 credits in the division and/or engineering; at least 27 of which must be in division courses at the 300/400 level.
- At least 27 credits from one of the departments of the natural sciences division.
- At least 18 credits in at least two of the following disciplines: biology, chemistry, engineering, geology, mathematics or computer science or statistics, physics, polymer science.
- 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 15 credits in each of any three of the following six fields: economics, geography, history, political science, psychology and sociology-antropology.

By field, the 15-credit requirement must include:

**Economics:**
- Any course from 3250:100 Introduction to Economics (must include 3250:201 Principles of Macroeconomics and 3250:202 Principles of Microeconomics)
- 15 credits

**Geography:**
- 15 credits

**History:**
- Minimum of eleven credits at the 300/400 level
- 15 credits

**Political Science:**
- At least seven credits at the 300/400 level
- 15 credits

**Psychology:**
- At least seven credits at the 300/400 level
- 15 credits

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:**
- 15 credits

**Comparative Politics:**
- 15 credits

**International Politics:**
- 15 credits

**Political Theory:**
- 15 credits

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

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*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.

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

**Introduction**

The Northeastern Ohio Universities College of Medicine (NEOUCOM) is a consortium composed of The University of Akron, Kent State University, Youngstown State University and the College of Medicine offering a six-year B.S./M.D. program in which students obtain a baccalaureate degree in two years, summers included, and are then directly promoted to NEOUCOM's medical school for a final four years, obtaining a Doctor of Medicine degree.

The University of Akron admits a restricted number of carefully selected students into its B.S./M.D. program. These students usually pursue a natural science divisional major in the Buchtel College of Arts and Sciences, although other majors may be elected. Upon successful completion of the baccalaureate degree requirements, and with favorable faculty recommendations, satisfactory grade-point average and MCAT scores, students are promoted to NEOUCOM's Rootstown campus as medical students. A few students may need to complete their baccalaureate degree program on the University of Akron campus during the summers of the third through fifth years.

**Requirements**

- **The General Studies**

- **Courses to meet the natural sciences divisional major requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:111,2</td>
<td>Principles of Biology</td>
<td>8</td>
</tr>
<tr>
<td>3100:211</td>
<td>General Genetics</td>
<td>3</td>
</tr>
<tr>
<td>3100:365</td>
<td>Histology I</td>
<td>3</td>
</tr>
<tr>
<td>3100:466,7</td>
<td>Developmental Anatomy</td>
<td>8</td>
</tr>
<tr>
<td>310:132,3</td>
<td>Principles of Chemistry I, II</td>
<td>7</td>
</tr>
<tr>
<td>3150:134</td>
<td>Qualitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td>3150:263,4</td>
<td>Organic Chemistry Lecture I, II</td>
<td>6</td>
</tr>
<tr>
<td>3150:265</td>
<td>Organic Chemistry Laboratory I</td>
<td>2</td>
</tr>
<tr>
<td>3150:401,2</td>
<td>Biochemistry Lecture I, II</td>
<td>6</td>
</tr>
<tr>
<td>3450:211,2</td>
<td>Calculus for Life Sciences I, II</td>
<td>6</td>
</tr>
<tr>
<td>3470:251,2,3,5</td>
<td>Statistics modules</td>
<td>4</td>
</tr>
<tr>
<td>3650:261,2</td>
<td>Physics for Life Sciences I, II</td>
<td>8</td>
</tr>
<tr>
<td>3650:267,8</td>
<td>Calculations (optional but recommended)</td>
<td>2</td>
</tr>
</tbody>
</table>

- **Additional courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1880:201</td>
<td>Medical Seminar and Practicum I</td>
<td>3</td>
</tr>
<tr>
<td>2780:300</td>
<td>Special Topics</td>
<td>1</td>
</tr>
<tr>
<td>3100:190,1</td>
<td>Health Care Delivery Systems</td>
<td>2</td>
</tr>
<tr>
<td>3200:290,1</td>
<td>Health Care Delivery Systems</td>
<td>2</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Humanities distribution requirement:**

  - 16 credits of approved humanities as approved by the Humanities in Medical Education Committee.
  - Additional credits as required to make a minimum of 128 credits.

*Some students elect with prior permission of their adviser and the Dean of the University College, alternative courses in lieu of the Western Cultural Traditions and Eastern Civilizations General Studies requirements to make a minimum of 12 credits.

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*Deadline for application to program is December 15.*
College of Engineering

Louis A. Hif, Jr., P.E., Ph.D., Dean
Glenn A. Atwood, P.E., Ph.D., Assistant Dean

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 1½ 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 B.S. in chemical, civil, electrical and mechanical engineering; Bachelor of Science in Engineering; and 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 becoming involved with inorganic and organic chemicals, rubber and plastics, detergents, petroleum products, metals, pharmaceuticals, dyes and foods 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)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150:123,3</td>
<td>Principles of Chemistry I, II</td>
<td>7</td>
</tr>
<tr>
<td>3200:125</td>
<td>Qualitative Analysis</td>
<td></td>
</tr>
<tr>
<td>3450/221,2,3</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</td>
<td>Advanced Mathematics Elective</td>
<td>2</td>
</tr>
<tr>
<td>3650/291,2</td>
<td>Elementary Classical Physics I, II</td>
<td>8</td>
</tr>
</tbody>
</table>

**Advanced chemistry**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150:263,4</td>
<td>Organic Chemistry I, II</td>
<td>6</td>
</tr>
<tr>
<td>3150:266</td>
<td>Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>3150:31,3,4</td>
<td>Physical Chemistry I, II</td>
<td>6</td>
</tr>
</tbody>
</table>

**Engineering core**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4100:206</td>
<td>FORTRAN (Science and Engineering)</td>
<td>2</td>
</tr>
<tr>
<td>4200:120</td>
<td>Engineering Fundamentals</td>
<td>1</td>
</tr>
<tr>
<td>4200:305</td>
<td>Materials Science</td>
<td>2</td>
</tr>
<tr>
<td>4300:201</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>4400:320</td>
<td>Basic Electrical Engineering</td>
<td>4</td>
</tr>
<tr>
<td>4600:120</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
</tbody>
</table>

**Chemical engineering**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:200</td>
<td>Material and Energy Balances</td>
<td>4</td>
</tr>
<tr>
<td>4200:225</td>
<td>Equilibrium Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>4300:321</td>
<td>Transport Phenomena I</td>
<td>3</td>
</tr>
<tr>
<td>4200:322</td>
<td>Transport Phenomena II</td>
<td>3</td>
</tr>
<tr>
<td>4200:330</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4200:351</td>
<td>Fuels and Thermal Operations</td>
<td>3</td>
</tr>
<tr>
<td>4200:352</td>
<td>Transport Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>4200:353</td>
<td>Mass Transfer Operations</td>
<td>3</td>
</tr>
<tr>
<td>4200:435</td>
<td>Process Analysis and Control</td>
<td>4</td>
</tr>
<tr>
<td>4200:441</td>
<td>Process Economics and Design</td>
<td>4</td>
</tr>
<tr>
<td>4200:442</td>
<td>Plant Design</td>
<td>4</td>
</tr>
<tr>
<td>4200:454</td>
<td>Operations Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

**Electives:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Advanced Chemistry or Polymer Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Chemical Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Free Electives, advisor approved</td>
<td>3</td>
</tr>
</tbody>
</table>

**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 airport 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 consulting, manufacturers, construction companies, utilities and for government bodies of all levels. Many civil engineers own their own businesses.

(an ABET accredited engineering program)

**General Studies — 28 credits.**

**Natural science:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150:132,3</td>
<td>Principles of Chemistry I, II</td>
<td>7</td>
</tr>
<tr>
<td>3570:101</td>
<td>Introductory Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3450/221,2,3</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>3470:461</td>
<td>Applied Statistics</td>
<td>4</td>
</tr>
<tr>
<td>3650/291,2</td>
<td>Elementary Classical Physics I, II</td>
<td>8</td>
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</tbody>
</table>

**Engineering core:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4100:206</td>
<td>FORTRAN (Science and Engineering)</td>
<td>2</td>
</tr>
<tr>
<td>4200:305</td>
<td>Materials Science</td>
<td>2</td>
</tr>
<tr>
<td>4300:130</td>
<td>Introduction to Engineering</td>
<td>0</td>
</tr>
<tr>
<td>4300:211</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>4300:202</td>
<td>Introduction to Mechanics of Solids</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>4400:320</td>
<td>Basic Electrical Engineering</td>
<td>4</td>
</tr>
<tr>
<td>4600:165</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>4600:203</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>4600:305</td>
<td>Thermal Science</td>
<td>2</td>
</tr>
<tr>
<td>4600:310</td>
<td>Fluid Mechanics</td>
<td>3</td>
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**Civil engineering:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4300:200</td>
<td>Surveying</td>
<td>4</td>
</tr>
<tr>
<td>4300:306</td>
<td>Theory of Structures</td>
<td>3</td>
</tr>
<tr>
<td>4300:313</td>
<td>Soil Mechanics</td>
<td>2</td>
</tr>
<tr>
<td>4300:314</td>
<td>Geophysical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4300:323</td>
<td>Water Supply and Wastewater Disposal</td>
<td>2</td>
</tr>
<tr>
<td>4300:341</td>
<td>Hydraulics</td>
<td>2</td>
</tr>
<tr>
<td>4300:361</td>
<td>Transportation Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4300:380</td>
<td>Engineering Materials Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>4300:401</td>
<td>Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>4300:403</td>
<td>Reinforced Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td>4300:448</td>
<td>Hydraulics Laboratory</td>
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</tr>
<tr>
<td>4300:449</td>
<td>Construction Administration</td>
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**At least one of the following:**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>4300:436</td>
<td>Environmental Engineering Design</td>
<td>7</td>
</tr>
<tr>
<td>4300:472</td>
<td>Water Quality Monitoring</td>
<td>3</td>
</tr>
<tr>
<td>4300:443</td>
<td>Applied Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>4300:445</td>
<td>Hydrology</td>
<td>3</td>
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</table>

**Electives:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Technical Electives</td>
<td>10</td>
</tr>
</tbody>
</table>

**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. Various 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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150:132,3</td>
<td>Principles of Chemistry I, II</td>
<td>7</td>
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<tr>
<td>3450/221,2,3</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</td>
<td>Mathematics Elective</td>
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</tr>
<tr>
<td>3650/291,2</td>
<td>Elementary Classical Physics I, II</td>
<td>8</td>
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<tr>
<td>3650:301</td>
<td>Elementary Modern Physics</td>
<td>3</td>
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**Engineering core:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4100:206</td>
<td>FORTRAN (Science and Engineering)</td>
<td>2</td>
</tr>
<tr>
<td>4200:305</td>
<td>Materials Science</td>
<td>2</td>
</tr>
<tr>
<td>4300:201</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>4300:202</td>
<td>Introduction to Mechanics of Solids</td>
<td>3</td>
</tr>
<tr>
<td>4400:203</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>4409:101</td>
<td>Introduction to Electrical Engineering</td>
<td>1</td>
</tr>
<tr>
<td>4600:125</td>
<td>Engineering Graphics</td>
<td>2</td>
</tr>
<tr>
<td>4600:307</td>
<td>Thermal Science</td>
<td>2</td>
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</table>

**Electrical engineering:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>4400:171,2</td>
<td>Circuits I, II</td>
<td>5</td>
</tr>
<tr>
<td>4400:325</td>
<td>Circuits I, II</td>
<td>3</td>
</tr>
<tr>
<td>4400:343</td>
<td>Electrical Measurements</td>
<td>4</td>
</tr>
<tr>
<td>4400:353</td>
<td>Electromagnetic Fields I</td>
<td>4</td>
</tr>
<tr>
<td>4400:359</td>
<td>Transmission Lines and Networks</td>
<td>3</td>
</tr>
<tr>
<td>4400:361</td>
<td>Physics of Electronic Devices</td>
<td>3</td>
</tr>
<tr>
<td>4400:362</td>
<td>Electronic Circuits</td>
<td>4</td>
</tr>
<tr>
<td>4400:363</td>
<td>Switching and Logic</td>
<td>4</td>
</tr>
<tr>
<td>4400:371</td>
<td>Control Systems I</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></td>
<td>Technical Electives</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Free Electives, advisor approved</td>
<td>2</td>
</tr>
</tbody>
</table>
4600: Mechanical Engineering

The mechanical engineering program emphasizes the fundamentals which place the graduate in a strong position either to pursue further education, formally or informally, or to begin a career in government or industry.

The mechanical engineer is employed in a variety of industries in different capacities. Specific positions include management, design, analysis, sales, production and plant engineering. The typical mechanical engineering design problems may involve any one or possibly all of these areas in the design of a complex system.

The curriculum in construction technology is designed to produce a graduate with a strong fundamental knowledge of construction technology. Among the many subtopics included in these areas 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 curriculum is designed to emphasize fundamentals which will place the graduate in a strong position either 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:
  - 3150:123 Principles of Chemistry I, II 7
  - 1450:221-222 Analytical Geometry-Calculus I, II, III 12
  - 3450:235 Differential Equations 3
  - 3451:2 --- Mathematics Elective 2
  - 3650:291-292 Elementary Classical-Physical I, II 8
  - 3650:293-294 Physics-Computations I, II 2
- Engineering core:
  - 4300:201 Statics 3
  - 4100:202 Introduction to Mechanics of Solids 3
  - 4400:320 Basic Electrical Engineering 4
  - 4600:175 Engineering Graphics 2
  - 4600:165 Mechanical Engineering Orientation 1
  - 4600:203 Dynamics 3
  - 4600:300-303 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
  - 4600:400 Thermal System Components 3
  - 4600:401 Design of Energy Systems 2
  - 4600:431 Vibration 5
  - 4600:440 System Dynamics and Control 4
  - 4600:460 Concepts of Design 3
  - 4600:465 Design of Mechanical Systems 2
  - 4600:494 Mechanical Engineering Laboratory 2
  - 4600:493 Measurements Laboratory 2
- Electives:
  - Technical Electives (includes three credit design) 9
  - Free Electives, adviser approval 3

4980: Construction Technology

The curriculum in construction technology is designed to produce a graduate with a strong fundamental knowledge of technology, combined with management ability and a familiarity with business, economics and personnel management. The program is designed to provide graduates for employment at all levels of the construction industry and allied support industries.

The program is a "two-plus-three" arrangement with the Community and Technical College and includes one full year of on-the-job experience. All students must meet the requirements of both the associate and baccalaureate programs. Transferees from other programs where the course content compares favorably may be admitted to the program.

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
College of Education

Constance Cooper, Ed.D., Dean
Don Birdsall, 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 by 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 effective 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 actual and reacting with students.
- The ability to use the acquisition of inquiry techniques appropriate to generalizing knowledge and decisions, and practice in using them to inquire into educational problems in rational, desirable 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.

COLLEGE REQUIREMENTS

Admission

To be admitted to the College of Education, the student must be able to meet the following criteria:

- 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 advised 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 126 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, supervision and evaluation 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 both an individual and group basis and the prescriptive 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 fields. 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:

*Music majors, before assignment for student teaching, are required to pass the General Musichipship 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. These three of six must be in biological sciences to meet certification requirements.

†The elementary education major is responsible for completing 300 field and clinical hours in addition to student teaching. It is 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 the methods course and laboratory concurrently.

• General Studies - 39 credits **
• Pre-professional education:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350.108 Introduction to Geography</td>
<td>5</td>
</tr>
<tr>
<td>3350.350 Anglo-American History</td>
<td>3</td>
</tr>
<tr>
<td>3750.100 Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>7100.191 Design</td>
<td>2</td>
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<tr>
<td>One of the following three courses:</td>
<td></td>
</tr>
<tr>
<td>3400.201 United States History to Civil War</td>
<td>4</td>
</tr>
<tr>
<td>3400.202 United States History since Civil War</td>
<td>4</td>
</tr>
<tr>
<td>3700.100 Government and Politics in the United States</td>
<td>4</td>
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</table>

• Professional education:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100.150 Introduction to Professional Education</td>
<td>3</td>
</tr>
<tr>
<td>5100.250 Human Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5100.310 Educational Media and Technology</td>
<td>3</td>
</tr>
<tr>
<td>5100.350 Educational Measurement and Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>5100.450 Problems in Education</td>
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</table>

• Elementary education:

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>5200.141 Handcrafts</td>
<td>2</td>
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<tr>
<td>5200.286 Children’s Literature</td>
<td>3</td>
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<tr>
<td>5200.321 Art for the Grades</td>
<td>2</td>
</tr>
<tr>
<td>5200.330 Science Elementary Grades †</td>
<td>2</td>
</tr>
<tr>
<td>5200.330 Teaching of Language Arts</td>
<td>5</td>
</tr>
<tr>
<td>5200.336 Teaching Elementary School Mathematics †</td>
<td>3</td>
</tr>
<tr>
<td>5200.337 Teaching of Reading †</td>
<td>3</td>
</tr>
<tr>
<td>5200.338 Teaching of Social Studies †</td>
<td>3</td>
</tr>
<tr>
<td>5200.339 Principles of Diagnostic Teaching of Reading †</td>
<td>3</td>
</tr>
<tr>
<td>5200.350 Multicultural Education: Concepts and Practices</td>
<td>3</td>
</tr>
<tr>
<td>5200.360 Comprehensive Musicship for the Elementary Classroom Teacher</td>
<td>3</td>
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<tr>
<td>5550.334 Games and Rhythms—Elementary Grades</td>
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<tr>
<td>5570.101 Personal Health</td>
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Laboratory experience:

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>5200.300 Student Participation</td>
<td>1</td>
</tr>
<tr>
<td>5200.350 Student Participation</td>
<td>1</td>
</tr>
<tr>
<td>5200.345 Science for Elementary Grades—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200.346 Teaching Elementary School Mathematics—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200.347 Teaching of Reading—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200.348 Teaching of Social Studies—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200.349 Principles of Diagnostic Teaching of Reading—Laboratory</td>
<td>1</td>
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<tr>
<td>5200.495 Student Teaching</td>
<td>6</td>
</tr>
<tr>
<td>5200.496 Student Teaching</td>
<td>6</td>
</tr>
</tbody>
</table>

• 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:

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>5200.336 Early Elementary Education I</td>
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</tr>
<tr>
<td>5200.337 Early Elementary Education II</td>
<td>3</td>
</tr>
<tr>
<td>5200.440 Early Elementary Education—Laboratory I†</td>
<td>1</td>
</tr>
<tr>
<td>5200.441 Early Elementary Education II—Laboratory II†</td>
<td>1</td>
</tr>
<tr>
<td>7400.265 Ohio Development</td>
<td>3</td>
</tr>
</tbody>
</table>

• 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200.310 Introduction to Early Childhood Education</td>
<td>2</td>
</tr>
<tr>
<td>5200.311 Curriculum for Preschool Learning Centers</td>
<td>2</td>
</tr>
<tr>
<td>5200.312 Introduction to Early Childhood Education—Laboratory I†</td>
<td>1</td>
</tr>
<tr>
<td>5200.313 Curriculum for Preschool Learning Centers—Laboratory II†</td>
<td>1</td>
</tr>
</tbody>
</table>
Certification of 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
    - 5200:150 Introduction to Professional Education
    - 5200:250 Human Development and Learning
    - 5200:310 Educational Media and Technology
    - 5200:350 Educational Measurement and Evaluation
    - 5200:450 Problems in Education
    - 5200:451 Elementary Education
  - Elementary Education
    - 5200:141 Handicrafts
    - 5200:296 Children's Literature
    - 5200:301 Art for the Grades
    - 5200:333 Science for Elementary Grades
    - 5200:335 Teaching of Language Arts
    - 5200:366 Teaching Elementary School Mathematics
    - 5200:367 Teaching of Reading
    - 5200:368 Teaching of Social Studies
    - 5200:393 Principles of Diagnostic Teaching of Reading
    - 5200:345 Science for Elementary Grades—Laboratory
    - 5200:346 Teaching Elementary School Mathematics—Laboratory
    - 5200:347 Teaching of Reading—Laboratory
    - 5200:348 Teaching of Social Studies—Laboratory
    - 5200:349 Principles of Diagnostic Teaching of Reading—Laboratory
    - 5200:350 Multicultural Education Concepts, Programs and Practices
    - 5200:355 Comprehensive Musicianship for the Elementary Classroom Teacher
    - 5200:495 Student Teaching
    - 5200:496 Student Teaching
    - 5550:334 Games and Rhythms—Elementary Grades
    - 5570:101 Personal Health
  - If certification for teaching kindergarten is desired, the following courses must be scheduled as follows:
    - 5200:330 Early Elementary Education I
    - 5200:331 Early Elementary Education II
    - 5200:341 Early Elementary Education II—Laboratory
  - Student teaching is required in this program if evidence of teaching experience under the original certificate is lacking or it is deemed advisable by the dean of the college, the director of student teaching and the head of the Department of Elementary Education. A 2.50 grade-point average in professional course work is required to enroll.
  - Completion of the above credits does not necessarily constitute qualification for the Bachelor of Science in Elementary Education at The University of Akron. To qualify for the degree, certain additional requirements must be met.

Certification of 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)
- 7500:107 Class Voice
- 7501:124 Applied Voice
- 7500:151.2 Music Theory I and II
- 7500:154.5 Music Literature I and II
- 7500:281 Keyboard Harmony I
- 7500:300 General Music
- 7500:341 Wind—PerCUSSION Instrument Techniques
- 7500:356 Music Teaching Handicapped
- 7501:110 Class Guitar
- 7500:497 Independent Study
- 7510 — Music Organization

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 5200:311 Instructional Techniques in Secondary Schools; and must meet the requirements in the field of 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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:485</td>
<td>Seminar in English: Introduction to Bilingual Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>5630:482</td>
<td>Characteristics of Culturally Different Youth</td>
<td>3</td>
</tr>
<tr>
<td>5630:484</td>
<td>Principles of Bilingual Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>5630:485</td>
<td>Field experience of bilingual classroom/ settings</td>
<td>3</td>
</tr>
<tr>
<td>5630:487</td>
<td>Techniques for Teaching English as a Second Language in the Bilingual Classroom</td>
<td>4</td>
</tr>
</tbody>
</table>

### 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):
  - 5100:125 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
  - 5100:401 Problems in Education — 2
  - 5300:210 Principles of Teaching in the Secondary School — 3
  - 5300:275 Exploratory Experience — 1
  - 5300:311 Instructional Techniques Secondary Education — 4
  - 5300:325 Content Reading in Secondary School — 3
  - 5300:375 Exploratory Experience — 1
  - 5300:445 Microcomputer Literacy for Secondary Teachers — 2
  - 5300:485 Classroom Dynamics — 2
  - 5300:495 Student Teaching — 8

- **Courses in teaching field(s) and electives as determined by the department.**

*Student teaching in both fields is required.

### 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 Code</th>
<th>Field Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>Business Education</td>
<td>57-60</td>
</tr>
<tr>
<td>59</td>
<td>Business Education</td>
<td>49-52</td>
</tr>
<tr>
<td>60</td>
<td>Communications</td>
<td>60</td>
</tr>
<tr>
<td>55</td>
<td>Consumer Homemaking and Multi-Area Vocational</td>
<td>55</td>
</tr>
<tr>
<td>55</td>
<td>Data Processing</td>
<td>55</td>
</tr>
<tr>
<td>61</td>
<td>Family Life Education</td>
<td>60</td>
</tr>
<tr>
<td>71</td>
<td>Science</td>
<td>71-72</td>
</tr>
<tr>
<td>52</td>
<td>Selling and Merchandising</td>
<td>52-55</td>
</tr>
<tr>
<td>60</td>
<td>Social Studies</td>
<td>60</td>
</tr>
</tbody>
</table>

### Special Fields K-12

- **Art** — as determined by Department of Art — 50
- **Health Education** — as determined by Department of 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

### Specific Subjects by Field

<table>
<thead>
<tr>
<th>Field</th>
<th>First Credits</th>
<th>Second Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>52</td>
<td>33</td>
</tr>
<tr>
<td>Bookkeeping Basic Business</td>
<td>52</td>
<td>30-32</td>
</tr>
<tr>
<td>Chemistry</td>
<td>52</td>
<td>22</td>
</tr>
<tr>
<td>Consumer Homemaking Vocational</td>
<td>52</td>
<td>30</td>
</tr>
<tr>
<td>Earth Science</td>
<td>50</td>
<td>43</td>
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<tr>
<td>Economics</td>
<td>37</td>
<td>22</td>
</tr>
<tr>
<td>English</td>
<td>37</td>
<td>31</td>
</tr>
<tr>
<td>General Science</td>
<td>36</td>
<td>27</td>
</tr>
<tr>
<td>Geography</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Health Education</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Home Economics</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Home Economics — Non-Vocational</td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Mathematics</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Physics</td>
<td>51</td>
<td>43</td>
</tr>
<tr>
<td>Political Science</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Sales Communication</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Social Psychology</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Sociology</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Speech and Theatre (K-12)</td>
<td>43</td>
<td>33</td>
</tr>
<tr>
<td>Speech and Theatre Arts</td>
<td>35</td>
<td>31</td>
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<tr>
<td>Stenography and Typing</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>Visual Art</td>
<td>49</td>
<td></td>
</tr>
</tbody>
</table>

### 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 bachelor's degree program is intended to produce instructors primarily for teaching subjects within a technical specialty and is not

†Many fields require more than the minimum. Please see the department for specific program.
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.

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**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, hand-capped 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.

1830.201 Man and the Environment 2
1830.401 Seminar in Environmental Studies 2
5560.450 Outdoor Education: Curriculum Application 4
5560.452 Outdoor Education: Methods and Materials 3
5560.454 Resident Outdoor Education 2
5560.455 Outdoor Pursuits 4
5560.460 Practicum in Outdoor Education 2
5560.497 Independent Study 1:2

**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.

- Requirements:

  5110.130 Principles of Microbiology 3
  5110.232 Human Anatomy and Physiology 4 each
  5110.132 Human Anatomy and Physiology 4 each
  5550.140 Concepts in Health and Fitness 3
  5550.201 Kinesiology 2
  5550.202 Physiology of Exercise 3

*Certification through the State of Ohio.

**Certification through department or the University.

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**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.
  5610.201 Student Participation: EMR/LD 1
  5610.446 Developmental Characteristics of Behaviorally Disordered Individuals 3
  5610.495 Student Teaching 4-6
  Electives 5

- **Plan B:** Dual Certification — educable and moderately-severely-profoundly retarded.
  5610.203 Student Participation: EMR/TMR 1
  5610.454 Educational Adjustment for Moderate, Severe and Profound Mentally Retarded Individuals 3
  5610.468 Intermediate Programming for MS/SPR Individuals 3
  5610.469 Working with Parents of MS/SPR Individuals 3
  5610.495 Student Teaching 8
  Electives 1

- **Plan C:** Dual Certification — educable retarded and orthopedically handicapped.
  5610.202 Student Participation: EMR/CH 1
  5610.445 Developmental Characteristics of Orthopedically Handicapped Individuals 3
  5610.495 Student Teaching 8
  Electives 5

In addition, the student must complete the following:

- **General Studies — 39 credits.**

- **Professional education:**

  5100.150 Introduction to Professional Education 3
  5100.250 Human Development and Learning 3
  5100.310 Educational Media and Technology 3
  5100.350 Educational Measurements and Evaluation 2
  5100.450 Problems in Education 2
  5300.310 Principles of Secondary Education 3
  5310.403 Student Teaching Seminar 1
  5310.495 Student Teaching EMR 8

*Chosen in consultation with special education advisor.

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Related competency studies:

5200:335 Teaching the Language Arts  
5200:336 Teaching of Elementary School Mathematics  
5200:337 Teaching of Reading  
7700:430 Aspects of Normal Language Development

Choose one of the following:

5550:211 First Aid  
5510:101 Personal Health

Choose two of the following:

5200:321 Art for the Grades  
5200:365 Comprehensive Musicianship for the Elementary Classroom Teacher  
5550:334 Games and Rhythms — Elementary Grades

Special education studies:

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  
5610:451 Educational Adjustment for Intermediate-Level Exceptional Individuals  
5610:452 Educational Adjustment for Secondary-Level Exceptional Children  
5610:456 Classroom Behavior Management for Exceptional Children  
5610:457 Clinical Teaching Practicum: Children with Learning Problems†

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.

†Final course before student teaching, advanced permission required.
College of Business Administration

James W. Dunlap, Ph.D., Dean
Kenneth E. Mast, D.B.A., Assistant Dean
E. Lee Wilson, M.B.A./C.M.A., Assistant to the 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 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 done the following:

• 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, the Bachelor of Science in Business Administration/Marketing, and the Bachelor of Science in Business Administration/Advertising.

*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:
  - 3220.206 Principles of Microeconomics 3
  - 3220.207 Principles of Macroeconomics 3
  - 6500.202 Accounting 3

Two sequential courses in psychology or sociology, or two courses chosen from psychology, sociology and/or cultural anthropology (minimum 6)

One of the following three options:

**Option One**
- 3240.111 Modern University Mathematics 4
- 3240.121 Modern University Mathematics 3
- 3450.228 Mathematics of Finance 3

**Option Two**
- 3450.138 Mathematics of Finance 1
- 3450.149 Precalculus Mathematics 3
- 3450.221 Analytic Geometry-Calculus I 4

**Option Three**
- 3450.138 Mathematics of Finance 1
- 3450.147 Elementary Functions I II 6
- 3450.149 Precalculus Mathematics 4
- 3450.225 Coordinates of Calculus I 4

The following core program in business administration:
- 6200.305 Accounting Information Processing 3
- 6200.320 Legal Environment of Business 3
- 6301.201 Business Law II 6
- 6400.321 Management Principles and Concepts 3
- 6500.322 Quantitative Business Analysis I and II 6
- 6600.300 Marketing Principles 3
- 6600.305 International Business 3

The three major fields of employment for accountants are public, private, and governmental accounting. Regardless of the areas of concentration, standards, ethics and the mastery of accounting concepts and procedures are essential. 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 for 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>6200.301</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200.317</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>6200.318</td>
<td>Intermediate Accounting II</td>
<td>4</td>
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<tr>
<td>6200.430</td>
<td>Taxation I</td>
<td>4</td>
</tr>
<tr>
<td>6200.440</td>
<td>Auditing</td>
<td>4</td>
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<tr>
<td>6200.454</td>
<td>Information Systems</td>
<td>3</td>
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</table>

Six additional credits 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>6200.120</td>
<td>Advanced Accounting</td>
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</tr>
<tr>
<td>6200.439</td>
<td>Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>6200.460</td>
<td>Controllership Problems</td>
<td>3</td>
</tr>
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</table>

At least three credits from:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
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<tr>
<td>6400.420</td>
<td>Advanced Accounting</td>
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<tr>
<td>6400.425</td>
<td>Current Developments in Accounting</td>
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<td>6200.431</td>
<td>Taxation II</td>
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<td>6200.460</td>
<td>Controllership Problems</td>
<td>3</td>
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<tr>
<td>6200.470</td>
<td>Government and 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.

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.

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>6200.305</td>
<td>Accounting Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>6200.320</td>
<td>Legal Environment of Business</td>
<td>3</td>
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<tr>
<td>6400.321</td>
<td>Business Law II</td>
<td>6</td>
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<tr>
<td>6400.322</td>
<td>Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500.322</td>
<td>Quantitative Business Analysis I and II</td>
<td>6</td>
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<tr>
<td>6600.300</td>
<td>Marketing Principles</td>
<td>3</td>
</tr>
<tr>
<td>6800.305</td>
<td>International Business</td>
<td>3</td>
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</tbody>
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These are prebusiness administration requirements.

**6400: Finance**

Courses in the Department of Finance are designed to develop a student's ability to gather, organize, and utilize financial data. This requires that the student be familiar with the institutional setting in which firms operate and, within this framework, 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 nonprofit firms where the emphasis is on the use and sources of financial funds. The area of management of financial institutions offers opportunities to those who choose careers in commercial banking and other lending 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.

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<td>6200.301</td>
<td>Cost Accounting</td>
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<tr>
<td>6200.317</td>
<td>Intermediate Accounting I</td>
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<tr>
<td>6200.318</td>
<td>Intermediate Accounting II</td>
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<tr>
<td>6200.430</td>
<td>Taxation I</td>
<td>4</td>
</tr>
<tr>
<td>6200.440</td>
<td>Auditing</td>
<td>4</td>
</tr>
<tr>
<td>6200.454</td>
<td>Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>6400.420</td>
<td>Advanced Accounting</td>
<td>3</td>
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<tr>
<td>6400.439</td>
<td>Taxation II</td>
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<tr>
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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.
The finance major must complete four required major courses with a minimum grade of "C" (2.00) in each required course:

- Core:
  - 6400.338 Financial Intermediaries
  - 6400.343 Investments
  - 6400.479 Advanced Business Finance
  - 6400.373 Financial Statement Analysis
  - or 6200.317 Intermediate Accounting I

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:

- 6400.400 Real Estate Principles: A Value Approach
- 6400.401 Real Estate Investment
- 6400.402 Property Appraisal
- 6400.403 Real Estate Finance
- 6400.318 Risk Management and Insurance
- 6400.351 Financial Decision Making
- 6400.417 Life and Health Insurance
- 6400.419 Property and Liability Insurance
- 6400.352 Personal Financial Planning
- 6400.436 Commercial Bank Management
- 6400.447 Security Analysis
- 6400.476 Commercial and Consumer Credit Management
- 6400.481 International Business Finance
- 6400.497 Honors Project
- 6200.301 Cost Accounting
- 6200.318 Intermediate Accounting II
- 6200.450 Controllership Problems
- 6200.330 Taxation I

Total credits for a finance major — eight courses with 24 to 27 credit hours minimum depending on how many four credit courses taken.

**6500: Management**

The University of Akron was one of the first institutions of higher learning to establish an industrial management curriculum. Important factors in the decision to establish such a program were the location of the University in a major industrial area and the recognition of an emerging educational need.

The emphasis on education for management is the result of several factors. First, managers are becoming increasingly aware of the 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 required basic understanding for effectively managing facilities, equipment and personnel in a variety of activities such as transportation, warehousing, research or institutional management. Also, the graduate has the fundamental preparation to undertake advanced study leading to a master's degree.

Departmental philosophy decrees that the student entering the field of management will have a solid basic liberal background within the framework of the management curriculum.

To receive the Bachelor of Science in Industrial Management with a major in management, a student must complete the college requirements and an option. The common departmental requirements are as follows:

- 6500.331 Production and Systems Management
- 6500.332 Production and Operations Management
- 6500.541 Personnel Management

And one of the following:

- 6500.471 Management Problems
- 6500.472 Management Problems-Production
- 6500.473 Management Problems-Personnel

The student, then, must select one of the options listed below:

**Production Option**

- 6500.433 Business Operational Planning
- 6500.454 Production Planning and Control

**Personnel Option**

- 6500.342 Personnel Relations
- 6500.443 Advanced Personnel Management

**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
- 6200.356 Accounting Information Processing
- 6500.323 Introduction to Computer Applications for Business
- 6200.460 Controllership Problems
- 6500.331 Production and Systems Management
- 6500.333 Production Operations Management
- 6500.541 Personnel Management
- 6500.433 Business Operational Planning
- 6500.434 Production Planning and Control

Recommended electives:

- 6200.317 Intermediate Accounting I
- 6200.316 Intermediate Accounting II

**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**
- **Retail Marketing**
- **International Marketing**
- **Marketing Communications**
- **Physical Distribution**

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:

- 6500.331 Production and Systems Management
- 6500.332 Production and Operations Management
- 6500.541 Personnel Management
Industrial Marketing Track

Required:
6600.360 Industrial Marketing 3
6600.370 Purchasing 3
6600.380 Sales Management 3
6600.490 Marketing Research 3

Electives:
6600.330 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
6600.445 Forecasting and Quantitative Methods in Marketing 3

International Marketing Track

Required:
6600.385 International Marketing 3
6600.460 Marketing Research 3
6800.405 Multinational Corporations 3

Electives:
3250.450 Comparative Economic Systems 3
3260.461 Principles of International Economics 3
6600.310 Buyer Behavior 3
6600.445 Forecasting and Quantitative Methods in Marketing 3

International Marketing Track

Required:
6600.310 Buyer Behavior 3
6600.350 Advertising and Marketing Communications 3
6600.380 Promotional Campaigns 3
6600.460 Marketing Research 3

Electives:
6600.340 Retail Management 3
6600.380 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:
6600.301 Cost Accounting 3
6600.360 Industrial Marketing 3
6600.370 Purchasing 3
6600.380 Management of Marketing Channels 3
6600.465 Forecasting and Quantitative Methods in Marketing 3

General Marketing Studies Option

Any 18 credits from the 6500 listings, including any 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.

Bachelor of Science Degree in Business Administration/Advertising

This degree shall consist of a minimum of 37 semester credit hours of General Studies courses, 29 semester credit hours of Pre-Business courses (seven credit hours from General Studies are double counted in Pre-Business), 29 semester credit hours in the College of Business Administration/Advertising, 18 semester credit hours of the Advertising Major Core, 12 semester credit hours from the advertising major electives, plus free electives needed to complete the minimum 128 semester credit hours necessary for graduation from the University.

Advertising majors must satisfy the University Social Science requirements and the College of Business Administration Behavioral Science requirements as follows:

3250.201 Principles of Macroeconomics 3
3870.150 Cultural Anthropology 4
3850.100 Introduction to Sociology and 4
6600.310 Buyer Behavior 3

Core for Advertising Majors consists of 18 hours as follows:
6600.350 Advertising and Marketing Communications 3
7100.180 Fundamentals of Graphic Design 3
7600.405 Media Copywriting 3
7600.280 Media Production Techniques 3
6600.425 Advertising Research and Evaluation 3
6600.435 Promotional Campaigns 3

In addition to the 18 semester credit hours in the advertising major core, the student must take an additional 12 credit hours to be selected by the student from a list of prescribed electives.

The grouping of electives suggests that the student may pursue some specific area of interest. However, courses in the form of specific tracks are not required.

Graphic Electives:
7100.286 Commercial Design Theory 3
7100.288 Letterform and Typography 3
7100.287 Advertising Layout Design 3
7100.388 Advertising Production Design 3

Writing Electives:
3300.290 Script Writing 3
3300.390 Professional Writing 3
7600.387 Publicity Writing 3
7600.387 Radio and TV Writing 3

Media Electives:
7600.282 Radio Production 3
7600.289 Television Production 3
7600.385 Publications Production 3
7600.384 Mass Media Communications Research 3

Advertising Management Electives:
6600.403 Communication in Public Relations 3
6600.486 Broadcast Sales and Management 3
6600.340 Retail Management 3
6600.360 Industrial Marketing 3
6600.375 Professional Selling 3
6600.440 Product Planning 3

General Electives:
7600.102 Survey of Mass Communications 3
6600.499 Independent Study, Communications 1-3
6800.499 Independent Study, Marketing 1-3
3500.389 Popular Culture 3

6800: International Business

In its effort to improve student's understanding of international business, the college's departments regularly offer the following undergraduate courses:

6400.323 International Business Law
6400.461 International Business Finance
6500.455 Management of Human Resources
6500.457 International Management
6600.365 International Marketing
6800.305 International Business
6800.405 Multinational Corporations
College of Fine and Applied Arts

Kelvie C. Corner, Ed.D., Acting Dean
John D. Bee, Ph.D., Acting Assistant 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 enhance the communicative functions of human expression.
- To nurture and expand, through the conigration 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 2.50 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 Journalism
- Bachelor of Arts in Communication Disorders
- 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 Media and Communication
- Bachelor of Arts in Theatre Arts
- Bachelor of Arts in 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 — 33 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., painting, 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 topics in history of art course. 7100:100.1 Survey of History of Art (eight credits) included — 38 credits
- Studio art course work to include at least four different areas of emphasis, e.g., painting, photography (7100:975 recommended) — 12 credits
Bachelor of Fine Arts

- General Studies — 39 credits
- Foundations Curriculum in Art
  - 7100:100 Survey of History of Art I (4 credits)
  - 7100:101 Survey of History of Art II (4 credits)
- 7100:121 Three-Dimensional Design (3 credits)
- 7100:131 Introduction to Drawing (3 credits)
- 7100:134 Instrument Drawing (3 credits)
- 7100:144 Two-Dimensional Design or Commercial Design Theory (3 credits)
- 7100:296 Life Drawing (3 credits)
- Electives — 13 credits
- Two advanced-level art history courses (one in graphic design, three credits).
- Senior exhibition: Student must secure a faculty advisor 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
- 7100:222 Introduction to Sculpture (3 credits)
- 7100:231 Drawing I (3 credits)
- 7100:254 Ceramics I (3 credits)
- 7100:354 Ceramics II (3 credits)
- 7100:454 Advanced Ceramics (to be repeated) (15 credits)

Crafts
- Major courses:
  - A minimum of 36 credits in the areas of ceramics, fibers, metalsmithing and enameling include at least nine credits in three of these areas.
  - 7100:221 Design Applications (3 credits)

Drawing
- 7100:131 Introduction to Drawing (3 credits)
- 7100:231 Drawing I (3 credits)
- 7100:282 Architectural Presentations I or Drawing Techniques (3 credits)
- 7100:331 Drawing III (3 credits)
- 7100:253 Advanced Life Drawing (to be repeated) (6 credits)
- 7100:143 Printmaking (3 credits)

Graphic Design
- 2240:222 Advertising Photography (3 credits)
- 7100:151 Introduction to Drawing (3 credits)
- 7100:122 Instrument Drawing (3 credits)
- 7100:231 Drawing II (3 credits)
- 7100:275 Introduction to Photography (3 credits)
- 7100:283 Drawing Techniques (3 credits)
- 7100:284 Introduction to Graphic Design (3 credits)
- 7100:268 Letter Form and Typography (3 credits)
- 7100:366 Packaging Design (3 credits)
- 7100:387 Advertising Layout Design (3 credits)
- 7100:388 Advertising Production and Design (3 credits)
- 7100:470 Typography and Graphic Systems (3 credits)
- 7100:494 Illustration (3 credits)
- 7100:485 Advanced Illustration (may be repeated to nine credits) (3 credits)
- 7100:486 Publication Design (3 credits)

Metalsmithing
- 2500:247 Technology of Machine Tools (3 credits)
- 7100:222 Introduction to Sculpture (3 credits)
- 7100:266 Introduction to Jewelry (3 credits)
- 7100:268 Enameling on Metal (3 credits)
- 7100:283 Drawing Techniques (3 credits)
- 7100:366 Metalsmithing II (3 credits)
- 7100:466 Advanced Metalsmithing (to be repeated) (12 credits)

Painting
- 7100:131 Introduction to Drawing (3 credits)
- 7100:144 Two-Dimensional Design (3 credits)
- 7100:231 Drawing II (3 credits)
- 7100:245 Introduction to Polymer Acrylic Painting (3 credits)
- 7100:246 Introduction to Watercolor Painting (3 credits)
- 7100:247 Introduction to Oil Painting (3 credits)

Photography
- 7100:131 Introduction to Drawing (3 credits)
- 7100:144 Two-Dimensional Design (3 credits)
- 7100:231 Drawing II (3 credits)
- 7100:275 Introduction to Photography (3 credits)
- 7100:274 Art since 1945 (3 credits)
- 7100:275 Photography II (3 credits)
- 7100:276 Photography III (3 credits)
- 7100:475 Advanced Photography (to be repeated) (12 credits)

Printmaking
- 7100:131 Introduction to Drawing (3 credits)
- 7100:231 Drawing II (3 credits)
- 7100:266 Introduction to Screen Printing (3 credits)
- 7100:268 Introduction to Intaglio Printing (3 credits)
- 7100:268 Advanced Printmaking (to be repeated) (3 credits)

Sculpture
- 7100:121 Three-Dimensional Design (3 credits)
- 7100:241 Design Applications (3 credits)
- 7100:242 Introduction to Sculpture (3 credits)
- 7100:231 Drawing II (3 credits)
- 7100:254 Introduction to Ceramics (3 credits)
- 7100:266 Introduction to Metalsmithing (3 credits)
- 7100:322 Intermediate Sculpture II (3 credits)
- 7100:122 Advanced Sculpture (to be repeated) (6 credits)

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 Fine Arts — College of Fine and Applied Arts/Graphics Design Emphasis and Certification in Teacher Education

Bachelor of Arts — College of Fine and Applied Arts/Certification in Teacher Education

Bachelor of Science — College of Education/Certification in Visual Arts for the Elementary School

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 **

*The second year of a foreign language is an optional requirement for the Department of Home Economics and Family Ecology. Please consult with the advisor in the proper degree area for options available.

**The University College's requirement for general studies for the Bachelor of Science in General Studies and the Bachelor of Arts in Foods and Nutrition is 60 credits. The additional three credits come from the use of 3150:129,3160:247 General Chemistry (eight credits) to meet the natural science requirement, and from the use of 3150:100 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.
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 requirements:

- 7400.147 Home Economics Survey 1
- 7400.447 Critical Issues in Home Economics 1

One course to be chosen from each of the following divisions outside the area of specialization:

- Clothing, Textiles and Interiors: 7400.121 Textiles 3
- 7400.159 Family Housing 3
- 7400.419 Clothing Communication 3

- Family and Child Development:
  - 7400.201 Relational Patterns in Marriage and Family 3
  - 7400.265 Child Development 3

- Foods and Nutrition:
  - 7400.133 Nutrition Fundamentals 3
  - 7400.141 Food for the Family 3

- Management:
  - 7400.362 Home Management Theory 3

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**
- 3750.100 Introduction to Psychology 3
- 3750.130 Developmental Psychology 3
- 7400.255 Parenthood: The Parent Role 2
- 7400.301 Consumer Education 3
- 7400.360 Parent Child Relations 3
- 7400.390 Family Relationships in Middle and Later Years 2
- 7400.401 Family Life Patterns in Economically Deprived Home 2
- 7400.404 Adolescence in the Family Context 3
- 7400.422 Advanced Home Management 3
- 7400.440 Family Crisis 3
- 7400.442 Human Sexuality 3
- 7400.445 Public Policy and the American Family 3
- 7400.498 Parenting Skills 3
- 7400.497 Internship in Home Economics 5
- 7750.276 Introduction to Social Welfare 4
- Electives selected in consultation with adviser 13

**Child Development**
- 2200.245 Infant/Toddler Day Care Programs 3
- 2200.250 Observing and Recording Child Behavior 3
- 3750.101 Introduction to Psychology 3
- 3750.130 Developmental Psychology 4
- 5200.360 Nursery School Laboratory 3
- 5880.295 Education Technician Field Experience 5
- 7400.497 Internship in Home Economics 5
- 7400.132 Early Childhood Nutrition 2
- 7400.255 Parenthood: The Parent Role 2
- 7400.275 Play and Creative Expression Act 4
- 7400.290 Administration of Child-Care Centers 3
- 7400.303 Children As Consumers 3
- 7400.360 Parent-Child Relations 3
- 7400.401 Family Life Patterns in Economically Deprived Home 3
- 7400.404 Adolescents in the Family Context 3
- 7400.450 Organization and Supervision of Child-Care Centers 3
- 7400.496 Parenting Skills 3
- 7750.276 Introduction to Social Welfare 4
- Electives selected in consultation with adviser 7

**Child-Life Specialist**
- 3750.150 Introduction to Psychology 3
- 3750.130 Developmental Psychology 4
- 3750.430 Psychological Disorders of Children 4
- 3800.342 Sociology of Health and Illness 3
- 5200.360 Nursery School Laboratory 3
- 5880.640 Developmental Characteristics of Exceptional Individuals 5
- 7400.275 Play and Creative Expression 4
- 7400.290 Administration of Child Care Centers 3
- 7400.295 Direct Experiences in the Hospital 1
- 7400.451 The Child in the Hospital 4

Bachelor of Arts in Foods and Nutrition
- 2440.120 Introduction to Information Processing 2
- 3750.100 Introduction to Psychology 3
- 6500.301 Management Principles and Concepts 3
- 7400.245 Basic Food Theory and Applications 3
- 7400.301 Consumer Education 3
- 7400.313 Introduction to Food Systems Management 3
- 7400.316 Science of Nutrition 4
- 7400.340 Meal Service 3
- 7400.403 Advanced Food Preparation 3
- 7400.416 Quantity Food Preparation 3
- 7400.420 Experimental Foods 3
- 7400.450 Demonstration Techniques 2

Complete one of the following options:

**Business Option:**
- 6600.300 Marketing Principles 3
- 6600.346 Merchandising 3
- 6600.360 Advertising and Marketing Communication 3
- 7600.280 Media Production Techniques 3

**Food Science/Product Development Option:**
- 3100.103 Introduction to Microbiology 3
- 3150.134 Qualitative Analysis 3
- 6600.300 Marketing Principles 3
- 6600.440 Product Planning 3

**General Electives:** 10 credits.

Bachelor of Arts in Textiles and Clothing
- 7400.121 Textiles 3
- 7400.123 Clothing Construction 3
- 7400.158 Introduction to Interior Design and Furnishings 3
- 7400.159 Family Housing 3
- 7400.301 Consumer Education 3
- 7400.305 Advanced Construction and Tailoring 3
- 7400.311 Contemporary Needle Arts 3
- 7400.317 Historic Costume 3
- 7400.339 The Fashion Industry 3
- 7400.419 Clothing Communication 3
- 7400.422 Advanced Home Management and/or Elective in Textiles and Clothing 3
- 7400.449 Design and Drafting 3

Completion of one of the following options:

**Business Option:**
- 6200.201 Accounting I 4
- 2400.211 Basic Accounting I 3
- 6600.300 Marketing Principles 3
- 2520.101 Elements of Distribution 3
- 6600.340 Merchandising 3
- 2520.202 Retailing Fundamentals 4
- 6600.350 Advertising and Marketing Communications 3
- 2520.103 Principles of Advertising 3
- 7100.44 Two-Dimensional Design 3

**Communication Option:**
- 7100.14 Two-Dimensional Design 3
- 7600.190 Public Speaking 2
- 7600.281 Introduction to Radio and Television 2
- 7600.282 Communication Media Radio 2
- 7600.283 Communication Media Television 3
- 7600.284 Communication Media Film 3

**Theatre Costume Option:**
- 7100.14 Two-Dimensional Design 3
- 7100.131 Introduction to Theatre 3
- 7900.100 Introduction to the Theatre 3
- 7900.334 Stage Costume Construction 3
- 7900.335 Introduction to Stage Costume History and Design 3
- 7900.435 Stage Costume Design 3
- 7900.437 Styles in Stage Costume Design 3
- Electives 11

1. 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>
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<tr>
<td>2420:211</td>
<td>Basic Accounting I</td>
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<td>Accounting I</td>
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<tr>
<td>3100:130</td>
<td>Principles of Microbiology</td>
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<tr>
<td>3100:206</td>
<td>Anatomy and Physiology</td>
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<td>3300:203</td>
<td>Nutritional Biochemistry</td>
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<td>3470:251</td>
<td>Descriptive Statistics and Probability</td>
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<td>3470:252</td>
<td>Distributions</td>
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<td>7210:108</td>
<td>Introduction to Psychology</td>
<td>3</td>
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<tr>
<td>5400:351</td>
<td>Consumer Homemaking Methods</td>
<td>4</td>
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<tr>
<td>6500:301</td>
<td>Management Principles and Concepts</td>
<td>3</td>
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<tr>
<td>or</td>
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<tr>
<td>6500:480</td>
<td>Introduction to Health Care Management</td>
<td>3</td>
</tr>
<tr>
<td>6502:341</td>
<td>Personnel Management</td>
<td>3</td>
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<tr>
<td>7400:245</td>
<td>Basic Food Theory and Application</td>
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<td>7400:310</td>
<td>Food Systems Management I</td>
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<tr>
<td>7400:315</td>
<td>Food Systems Management I - Clinical</td>
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<tr>
<td>7400:316</td>
<td>Science of Nutrition</td>
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<tr>
<td>7400:328</td>
<td>Introduction to Nutrition in Medical Science</td>
<td>4</td>
</tr>
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<td>7400:413</td>
<td>Food Systems Management</td>
<td>3</td>
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<tr>
<td>7400:414</td>
<td>Introduction to Community Nutrition</td>
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<tr>
<td>7400:429</td>
<td>Nutrition in Medical Science-Clinical</td>
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<tr>
<td>7400:480</td>
<td>Community Nutrition I</td>
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<td>Community Nutrition I - Clinical</td>
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<td>7400:482</td>
<td>Community Nutrition II</td>
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<td>7400:483</td>
<td>Community Nutrition II - Clinical</td>
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<td>7400:486</td>
<td>Staff Ref.</td>
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</tbody>
</table>

Home Economics Education

Home economics education majors receive training and preparation to each 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. Prerequisite: 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 — 3 credits.
- Core curriculum in music:
  - 7500:151 Theory I — 3 credits
  - 7500:152 Theory II — 3 credits
  - 7500:164 Music Literature I — 2 credits
  - 7500:156 Music Literature II — 2 credits
  - 7500:161 Aural/Oral Music Reading Skills — 4 credits
  - 7500:251 Theory III — 3 credits
  - 7500:252 Theory IV — 3 credits
  - 7500:261 Keyboard Harmony I — 2 credits
  - 7500:262 Keyboard Harmony II — 2 credits
  - 7500:361 Music History I — 3 credits
  - 7500:362 Music History II — 3 credits
  - Performance courses:
    - 7500:157 Student Recital (Fall semester only) — 3 credits
    - 1510 — Music Organization (four semesters) — 4 credits
    - 7501 — Applied Music — 8 credits
  - 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 — 3 credits
  - 7500:152 Music Theory II — 3 credits
  - 7500:251 Music Theory III — 3 credits
  - 7500:252 Music Theory IV — 3 credits
  - 7500:154 Music Literature I — 2 credits
  - 7500:155 Music Literature II — 2 credits
  - 7500:161 Aural/Oral Music Reading Skills — 4 credits
  - 7500:261 Keyboard Harmony I — 2 credits
  - 7500:262 Keyboard Harmony II — 2 credits
  - 7500:264 Beginning Piano Pedagogy — 2 credits
  - 7500:361 Music History I — 3 credits
  - 7500:362 Music History II — 3 credits
  - Other music courses:
    - 7500:365 Conducting — 2 credits
    - 7500:366 Song Literature — 2 credits
    - 7500:371 Analytical Techniques — 2 credits
    - 7500:451 Introduction to Musicology — 2 credits
    - 7500:450 Composition — 2 credits
    - 7500:497 Independent Study (Chamber Music) — 2 credits
  - Elective.
  - Applied music and performance courses:
    - 7500:157 Student Recital (eight semesters) — 3 credits
    - 7510 — Music Organization — 8 credits
    - 7520 — Applied Music — primary instrument (passage to 300 level) — 6 credits
  - Additional music courses:
    - 7500:325 Research in Music — 2 credits
    - 7500:361 Conducting — 2 credits
    - 7500:371 Analytical Techniques — 2 credits
    - 7500:451 Introduction to Musicology — 2 credits
    - 7500:452 Composition — 2 credits

History and Literature

- General Studies — 39 credits.
- Core curriculum in music (B.A.) — 30 credits.
- Performance courses:
  - 7500:157 Student Recital (eight semesters) — 3 credits
  - 7510 — Music Organization — 8 credits
  - 7520 — Applied Music — 6 credits
  - Additional music courses:
    - 7500:325 Research in Music — 2 credits
    - 7500:361 Conducting — 2 credits
    - 7500:371 Analytical Techniques — 2 credits
    - 7500:451 Introduction to Musicology — 2 credits
    - 7500:452 Composition — 2 credits
Performance

- General Studies — 39 credits.
- Core curriculum in music (see B.A.) — 30 credits.
- Additional performance courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510 — Music Organization (eight semesters)
  - 7520 — Applied Music — primary instrument
  - 7520 — Additional study
  - 750:497 Independent Study
  - Electives
  - 14 credits additional academic (7500) music courses as follows
    - 7500:371 Analytical Techniques
    - 7500:471 Counterpoint
    - 7500:325 Research in Music
    - 7500:361 Conducting
    - 7500:451 Introduction to Musicology
    - 7500:452 Composition
    - 7500:454 Orchestration
    - 7500:455 Advanced Conducting: Instrumental or
      - 7500:456 Advanced Conducting: Choral
      - Six credits to be selected in consultation with the student’s advisor and with the approval of the applied music instructor.
      - Electives — six credits.
      - Senior recital (full recital required).**

Theory-Composition

- General Studies — 39 credits.
- Core curriculum in music (see B.A.).
- Additional performance courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510 — Music Organization (eight semesters)
  - 7520 — Applied Music — primary instrument
  - 7520 — Additional study
  - 7500:325 Research in Music
  - 7500:361 Conducting
  - 7500:451 Introduction to Musicology
  - 7500:452 Composition
  - 7500:454 Orchestration
  - 7500:455 Advanced Conducting: Instrumental or
    - 7500:456 Advanced Conducting: Choral
  - 7500:471 Counterpoint
  - 7500:472 Advanced Orchestration
  - Senior recital of original composition.
  - Electives — seven credits.

Jazz Studies:

- General Studies — 39 credits.
- Core curriculum in music (see B.A.).
- Additional music courses:
  - 7500:361 Conducting
  - 7500:371 Analytical Techniques
  - 7500:454 Orchestration
  - 7500:215 Jazz Improvisation I
  - 7500:216 The Music Industry: A Survey of Practices and Opportunities
  - 7500:307 Techniques of Stage Band Performance and Direction
  - 7500:308 Jazz History and Literature
  - 7500:309 Jazz Keyboard Techniques
  - 7500:310 Jazz Improvisation II
  - 7500:311 Jazz Improvisation IV
  - 7500:407 Jazz Arranging and Scoring
  - 7500:497 Independent Study (Practicum in Jazz Studies)

- Additional music courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510 — Music Organization (eight semesters)
  - 7520 — Applied Music — primary instrument
  - 7520 — Additional study
  - 7500:345 String Instruments I
  - 7500:343 General Music
  - 7500:342 Wind/Percussion Techniques
  - 7500:310 Conducting
  - 7500:492 Senior Seminar

- Additional music courses by major:
  - Vocal and Keyboard
    - 7500:340 General Music (second semester)
    - 7500:362 Choral Arranging
    - 7500:456 Advanced Conducting: Choral
    - Approved Electives
  - Instrumental (non-keyboard)
    - 7500:342 Wind/Percussion Techniques (second semester)
    - 7500:454 Orchestration
    - 7500:455 Advanced Conducting: Instrumental
    - Approved Electives
  - String major
    - 7500:255 String Instruments II
    - 7500:454 Orchestration
    - 500:455 Advanced Conducting: Instrumental
    - 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 proficiencies must be attained before assignment to student teaching.

For details of the above music 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.
  - 7600:102 Survey of Mass Communication
  - 7600:115 Survey of Communication Theory
  - 7600:201 Newswriting

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*Passage to the 500 level in the primary applied level required for graduation.
**For those with piano as their major performing instrument 7500:264 is taken in place of 7500:455.
†Required of all performance majors.
‡Passage to the 300 level in the primary applied area is required before graduation.
§Acceptance in the jazz program by permission of coordinator of Jazz Studies.
Bachelor of Arts in Business and Organizational Communication

Bachelor of Arts in Communication and Rhetoric

Bachelor of Arts in Mass Media—Communication

Business and Organizational Communication

Communication and Rhetoric

Mass Media—Communication

Program Description

The social work curriculum is an accredited undergraduate program preparing students for entry-level professional practice in health, mental health, social work, 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.

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 in 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 (WGTC) 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.

**Courses in the Department of Biology are required to fulfill the natural sciences requirement (ST00264S). A B.A. in Communicative Disorders substitutes a series of courses in psychology and related disciplines for the foreign language (see adviser for specific courses).**

**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:

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<th>Course Code</th>
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<th>Credits</th>
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<tr>
<td>7700.110</td>
<td>Introduction to Speech Disorders</td>
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<tr>
<td>7700.111</td>
<td>Introduction to Phonetics</td>
<td>2</td>
</tr>
<tr>
<td>7700.130</td>
<td>Bases and Structure of Languages</td>
<td>3</td>
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<tr>
<td>7700.140</td>
<td>Introduction to Audiology</td>
<td>3</td>
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<tr>
<td>7700.210</td>
<td>Applied Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>7700.211</td>
<td>Introduction to Speech Science</td>
<td>2</td>
</tr>
<tr>
<td>7700.220</td>
<td>Speech and Language Development</td>
<td>3</td>
</tr>
<tr>
<td>7700.240</td>
<td>Aural Rehabilitation</td>
<td>3</td>
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<td>7700.241</td>
<td>Principles of Audiology</td>
<td>3</td>
</tr>
<tr>
<td>7700.250</td>
<td>Observation and Clinical Methods</td>
<td>2</td>
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<td>7700.270</td>
<td>Language of Signs I</td>
<td>3</td>
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<td>Clinical Practicum: Language</td>
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<td>Clinical Practicum: Aural Rehabilitation</td>
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<td>7700.450</td>
<td>Introduction to Speech and Hearing Diagnostics</td>
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</tr>
<tr>
<td>7700.451</td>
<td>Clinical Practicum: Hearing Diagnosis</td>
<td>1</td>
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</table>

- Electives — 22 credits

More than forty percent of the practicing therapists in the fields of Communicative Disorders are working in public school settings. A therapist must be certified by the Ohio State Department of Education in order to work in the public schools. Therefore, it is recommended that undergraduate students complete the requirements for educational certification, except for student teaching which can only be taken at the graduate level. These requirements can be taken as electives. Each student should consult with an advisor about this option. Students enrolling in clinical practicums must have a grade point average of at least 3.0 in major field course work plus grades of "C" or better in specific prerequisite classes for each practicum.

**7750: Social Work**
Bachelor of Arts

- Completion of the General Studies and the second year of a foreign language — 53 credits.*

- Social work courses:
  - 7750.370 Poverty in the United States 3
  - 7750.376 Introduction to Social Welfare 4
  - 7750.401, 2, 3 Social Work Practice I, II, III 9
  - 7750.410 Minority Issues in Social Work Practice 3
  - 7750.421 Field Experience Seminar 2
  - 7750.427 Human Development for Social Workers 3
  - 7750.430 Human Behavior and Social Environment 3
  - 7750.440 Social Work Research I 3
  - 7750.441 Social Work Research II 3
  - 7750.495 Field Experience: Social Agency 8

- Electives should be selected in consultation with an adviser — 25 credits.

Bachelor of Arts (2+2) with C&T [Community Services Technology (Social Service Emphasis)]

- General studies:
  - 1100.301, 2 Western Cultural Traditions 8
  - 1100.302, 1 Western Cultural Traditions 8
  - 1100.333 Eastern Civilization 4
  - 1100.433 Social Policy Analyst 4
  - 1100.438 Mathematics 4
  - 1100.439 Science, Biology 3

- Foreign Language:
  - Complete second year: 14

- Social work:
  - 7750.401, 2, 3 Social Work Practice I, II, III 9
  - 7750.410 Minority Issues in Social Work Practice 3
  - 7750.421 Field Experience Seminar 2
  - 7750.427 Human Development for Social Workers 3
  - 7750.430 Human Behavior and Social Environment 3
  - 7750.440 Social Work Research I 3
  - 7750.441 Social Work Research II 3
  - 7750.495 Field Experience: Social Agency 8
  - 7750.595 Social Work Electives 3

- Electives:
  - Complete second year: 14

Bachelor of Arts (2+2) with Wayne College [Social Services Technology (Social Service Emphasis)]

- General studies:
  - 1100.320, 1 Western Cultural Traditions 8
  - 1100.333 Eastern Civilization 4
  - 1100.439 Science, Biology 3

- Foreign Language:
  - Complete second year: 14

- Social work
  - 7750.401, 2, 3 Social Work Practice I, II, III 9
  - 7750.410 Minority Issues in Social Work Practice 3
  - 7750.421 Field Experience Seminar 2
  - 7750.427 Human Development for Social Workers 3
  - 7750.430 Human Behavior and Social Environment 3
  - 7750.440 Social Work Research I 3
  - 7750.441 Social Work Research II 3
  - 7750.495 Field Experience: Social Agency 8
  - 7750.595 Social Work Electives 3

- Electives:
  - Complete second year: 14

Bachelor of Arts (2+2) with C&T [Community Services Technology (Social Service Emphasis)]

- General studies:
  - 1100.221 Natural Science, Biology 3
  - 1100.320, 1 Western Cultural Traditions 8
  - 1100.333 Eastern Civilization 4
  - 1100.439 Science, Biology 3

- Social work
  - 7750.401, 2, 3 Social Work Practice I, II, III 9
  - 7750.410 Minority Issues in Social Work Practice 3
  - 7750.421 Field Experience Seminar 2
  - 7750.427 Human Development for Social Workers 3
  - 7750.430 Human Behavior and Social Environment 3
  - 7750.440 Social Work Research I 3
  - 7750.441 Social Work Research II 3
  - 7750.495 Field Experience: Social Agency 8
  - 7750.595 Social Work Electives 3

- Electives:
  - Complete second year: 14

*The student must complete 3850.160 Introduction to Sociology as part of the social sciences requirement and 1100.221 Natural Science: Biology or some other human biology course as part of the natural sciences requirement and 3470.251 Descriptive Statistics and Probability and 3470.252 Distributions as the mathematics requirement.

†3450.111, 2, 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 207 Natural Science: Biology
  - 1100 201 Western Cultural Traditions
  - 1100 303- 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 470 Law for Social Workers
  - 7750 472 Human Development for Social Workers
  - 7750 430 Human Behavior and Social Environment
  - 7750 440 Social Work Research I
  - 7750 441 Social Work Research II
  - 7750 495 Field Experience in Social Agency

Bachelor of Arts/Social Work (2+2) with Wayne College [Social Services Technology (Social Service Emphasis)]

- General Studies:
  - 1100 303- Eastern Civilizations
  - 1100 313- Mathematics

- Social Work:
  - 7750 401.2 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 470 Law for Social Workers
  - 7750 472 Human Development for Social Workers
  - 7750 430 Human Behavior and Social Environment
  - 7750 440 Social Work Research I
  - 7750 441 Social Work Research II
  - 7750 495 Field Experience in Social Agency

**Bachelor of Arts**

- General Studies program and second year of a foreign language — 53 credits.
- Core curriculum:
  - 7800 100 Experiencing Theatre
  - 7800 367 History of Theatre I: Greek Peripatetic
  - 7800 368 History of Theatre II: Restoration to Present

- Theatre Electives — 33 credits‡
- Other Electives — 30 credits‡

- All candidates for the B.A. degree are required to earn at least eight credits of 7810 laboratory work. At least four of these credits must be in 7810 Production Laboratory. Majors must enroll in at least one credit of production laboratory every semester they are in residence. To earn laboratory credit, theatre majors must attend all University mainstage auditions. A maximum of sixteen 7810 credits may count toward requirement for the B.A. degree.

Bachelor of Arts in Theatre Arts**‡‡

**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 may 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.

All theatre majors shall audition for each University theatre mainstage production.

**Acting**

- General Studies — 39 credits.
  - Acting:
    - 7800 172 Acting I
    - 7800 373 Acting II
    - 7800 374 Acting III
    - 7800 474 Acting IV
  - Voice:
    - 7800 151 Voice for the Stage
    - 7800 160 Advanced Voice for the Stage I, II
  - Dance:
    - 7800 323 Jazz Technique
    - 7800 328 Period Movement/Pathos
    - 7800 192 Introduction to Contemporary Dance I, II
  - Theatre:
    - 7800 160 Experiencing Theatre
    - 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 455, 6 Movement for Actors I, II
    - 7810 Production/Performance Laboratory
  - Electives (with approval of advisor) — 14 credits.

**Design/Technology**

- General Studies — 39 credits.
- Basic preparation:
  - 7800 102 Introduction to Technical Theatre
  - 7800 157 Stage Makeup
  - 7800 265 Basic Stagecraft I, II
  - 7800 362 Advanced Stagecraft
  - Studio courses:
    - 7800 106 Introduction to Stage Design
    - 7800 263 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 Stage Costume Design
    - 7800 465 Stage Lighting Design
    - 7800 463 Problems in Lighting Design
  - Production practice courses:
    - 7800 470 Practicum in Production Design/Technology
  - Theatre:
    - 7800 160 Experiencing Theatre
    - 7800 271 Directing I
    - or
    - 7800 172 Acting I
    - 7800 367 History of Theatre I: Greek to Renaissance
    - 7800 368 History of Theatre II: Restoration to Present
    - 7810 Production/Performance Laboratory
  - Electives (with approval of advisor) — 15-18 credits.

**Musical Theatre**

- General Studies — 39 credits.
- Theatre:
  - 7800 151 Voice for the Stage
  - 7800 172 Acting I
  - 7800 261 Introduction to Theatre
7900: Dance

Bachelor of Fine Arts**

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:
  - Dance Analysis I, II 4
  - Ballet Technique I, II 20
  - Contemporary Technique I 6
  - Choreography I, II 4
  - Dance Notation 2
  - Ballet Technique III, IV 20
  - Contemporary Dance Technique 6
  - Choreography III 2
  - Choreography IV 2
  - History of the Dance 2
  - 20th Century Dance 2
  - Development of Ballet 2
  - 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 five credits of 7910, Dance Organizations.

**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.

*See Department of Music, Theatre and Dance regarding audition for placement.*
College of Nursing

Lillian J. DeYoung, R.N., Ph.D., Dean
Phyllis A. Fitzgerald, R.N., Ph.D., Assistant Dean
Undergraduate Programs
A. Jeanne Hofer, R.N., Ed.D., Assistant Dean, Graduate Programs
Barbara E. Brown, R.N., Ed.D., Assistant Dean, 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 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 to 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, biological, 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.
- Update 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.

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. Generic student applicants will be ranked in order from the highest grade-point average (GPA) to 2.50. 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 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 4.00 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, Progress 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, including a 2.00 grade-point average for all collegiate work attempted at The University of Akron.
- Complete all courses required in the Program of Study 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

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<tr>
<th>Semester I</th>
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<tr>
<td>1100 111</td>
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<tr>
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<tr>
<td>3150 129</td>
<td>Introduction to General, Organic and Biochemistry I</td>
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<td>3450 111.2</td>
<td>Mathematics Modules</td>
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<td>Introduction to Sociology*</td>
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<tr>
<td>3100 130</td>
<td>Principles of Microbiology</td>
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*The six-credit requirement in the social sciences area is usually designated by 1100 115.6. Institutions in the United States can be met through general options as listed in the University College requirements. A nursing student who elects to take 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.
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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

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Semester II

| 3100.206 | 3  |
| 3600.101 | 3  |
| 3750.100 | 3  |
| 3100.155 | 2  |
| 3550.130 | 4  |
| 3600.120 | 4  |
| 7400.200 | 3  |

Summer Session

| 7400.316 | 4  |
| 8200.200 | 1  |

Junior Year

| 1100.129 | 2  |
| 8200.300 | 10 |

Senior Year

| 1100.116 | 1  |
| 8200.400 | 12 |
| 1100.115 | 2  |
| 8200.415 | 3  |

Option #1

Summer

| 1100.33- | 2  |
| 8200.305 | 6  |

Fall

| 1100.500 | 4  |
| 8200.405 | 2  |
| 8200.415 | 6  |

Spring

| 1100.33- | 4  |
| 8200.420 | 10 |

Option #2

Summer

| 1100.33- | 6  |
| 1100.33- | 2  |

Fall

| 1100.33- | 4  |
| 8200.405 | 2  |
| 8200.415 | 6  |

Spring

| 1100.33- | 4  |
| 8200.420 | 10 |

*The six credit requirement in the liberal arts area is designated by 1100.115, Institutions in the United States. The United States can be filled with several options as listed in the University College requirements. A nursing student who elects 3600.101 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.

**Option for student over the age of 24, any other general studies course equaling one credit.
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
- Feisview Psychiatric Hospital
- Hattie Lachman Foundation
- Henry Center for Child Care and Learning
- Nurse's House, CIC
- Rockynol Presbyterian Home
- St. Edward Nursing Home
- St. Thomas Hospital Medical Center
- Salvation Army
- Stow 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
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 premedical 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

Aro 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 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 as follows:

- 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, and the third in the natural sciences. These one-semester, two-credit lecture and discussion sessions are interdisciplinary in scope. They provide an opportunity for all honors students to meet 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 adviser 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 the 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. They provide an opportunity for students to meet and explore the breadth and the interrelationships of academic studies. A major objective of the colloquium 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 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 program. 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 to 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 re-emphasizes 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.

Evening Student Council coordinates the extracurricular activities of the Evening College, which are similar to those of the day college and sometimes are part of the daytime activities. Organizations established for the Evening College student include Alpha Sigma Lambda, Scholastic Honorary, Gamma Beta, Evening College Social Sorority, Chi Sigma Nu, Evening College Social Fraternity, Alpha Epsilon, a service honorary dedicated to giving recognition to evening students who have made significant contributions to campus and community; AWARE (Association of Women for Awareness, Recognition and Enterprise); and Nite Life, the publication of the Evening Student Council.
Minor Areas of Study

Section 5
Minor Areas of Study

REQUIREMENTS

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.
- At least six of the 18 credits must be at the 300/400 level except where the department does not offer 300/400-level courses.
- A minimum grade-point average of 2.00 in each minor is required.
- A minor may be designated at any time giving the student’s career up to and including the time the degree clearance is processed.
- A minor will be placed on the student’s record only at the time the student receive a degree and only on application.
- Courses for a minor may not be taken credit/noncredit. All credits must be earned (bypassed credit may not be used).

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>
</tr>
</thead>
<tbody>
<tr>
<td>3870.150</td>
<td>Cultural Anthropology</td>
</tr>
<tr>
<td>3870.151</td>
<td>Physical Anthropology</td>
</tr>
<tr>
<td>3870.250</td>
<td>New World Prehistory</td>
</tr>
<tr>
<td>1870.451</td>
<td>Language and Culture</td>
</tr>
</tbody>
</table>
- A minimum of six additional credits of anthropology courses.
- Nineteen total credits are required.

Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.110</td>
<td>Survey of History of Art I</td>
</tr>
<tr>
<td>7100.111</td>
<td>Survey of History of Art II</td>
</tr>
<tr>
<td>7100.200</td>
<td>Art History to 1950</td>
</tr>
<tr>
<td>7100.201</td>
<td>Art History to 1950</td>
</tr>
<tr>
<td>7100.202</td>
<td>Renaissance in Italy</td>
</tr>
<tr>
<td>7100.203</td>
<td>Art History in Italy</td>
</tr>
<tr>
<td>7100.204</td>
<td>Art History in the 19th Century</td>
</tr>
<tr>
<td>7100.205</td>
<td>Art History in the 19th Century</td>
</tr>
<tr>
<td>7100.206</td>
<td>Special Topics in History of Art</td>
</tr>
<tr>
<td>7100.207</td>
<td>History of Art Symposium</td>
</tr>
<tr>
<td>7100.208</td>
<td>Historical Problems in History of Art</td>
</tr>
</tbody>
</table>

- 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>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.254</td>
<td>Introduction to Ceramics</td>
</tr>
<tr>
<td>7100.354</td>
<td>Ceramics II</td>
</tr>
<tr>
<td>7100.454</td>
<td>Advanced Ceramics**</td>
</tr>
</tbody>
</table>

Crafts

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.254</td>
<td>Introduction to Ceramics</td>
</tr>
<tr>
<td>7100.266</td>
<td>Introduction to Pottery</td>
</tr>
<tr>
<td>7100.268</td>
<td>Enameling/Enamel</td>
</tr>
<tr>
<td>7100.293</td>
<td>Introduction to Weaving</td>
</tr>
<tr>
<td>7100.354</td>
<td>Ceramics II</td>
</tr>
<tr>
<td>7100.366</td>
<td>Metalsmithing II</td>
</tr>
<tr>
<td>7100.368</td>
<td>Advanced Enameling</td>
</tr>
<tr>
<td>7100.393</td>
<td>Weaving III</td>
</tr>
<tr>
<td>7100.454</td>
<td>Advanced Ceramics**</td>
</tr>
<tr>
<td>7100.466</td>
<td>Advanced Metalsmithing</td>
</tr>
</tbody>
</table>

Drawing

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.131</td>
<td>Introduction to Drawing</td>
</tr>
<tr>
<td>7100.231</td>
<td>Drawing I</td>
</tr>
<tr>
<td>7100.232</td>
<td>Drawing II</td>
</tr>
<tr>
<td>7100.233</td>
<td>Drawing III</td>
</tr>
<tr>
<td>7100.283</td>
<td>Drawing Techniques</td>
</tr>
<tr>
<td>7100.331</td>
<td>Drawing IV</td>
</tr>
<tr>
<td>7100.431</td>
<td>Drawing V</td>
</tr>
<tr>
<td>7100.454</td>
<td>Illustration</td>
</tr>
<tr>
<td>7100.484</td>
<td>Illustration</td>
</tr>
<tr>
<td>7100.486</td>
<td>Advanced Illustration</td>
</tr>
</tbody>
</table>

Graphic Design

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.283</td>
<td>Drawing Techniques</td>
</tr>
<tr>
<td>7100.284</td>
<td>Introduction to Graphic Design</td>
</tr>
<tr>
<td>7100.286</td>
<td>Commercial Design Theory</td>
</tr>
<tr>
<td>7100.289</td>
<td>Letter Form and Typography</td>
</tr>
<tr>
<td>7100.382</td>
<td>Graphic Design</td>
</tr>
<tr>
<td>7100.387</td>
<td>Advertising Layout Design</td>
</tr>
<tr>
<td>7100.388</td>
<td>Advertising Production Design</td>
</tr>
<tr>
<td>7100.389</td>
<td>Corporate Identity</td>
</tr>
<tr>
<td>7100.480</td>
<td>Advanced Graphic Design</td>
</tr>
<tr>
<td>7100.484</td>
<td>Illustration</td>
</tr>
<tr>
<td>7100.485</td>
<td>Advanced Illustration</td>
</tr>
<tr>
<td>7100.486</td>
<td>Packaging Design</td>
</tr>
<tr>
<td>7100.488</td>
<td>Publication Design</td>
</tr>
</tbody>
</table>

Illustration

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.233</td>
<td>Introduction to Illustration</td>
</tr>
<tr>
<td>7100.333</td>
<td>Advanced Life Drawing</td>
</tr>
<tr>
<td>7100.480</td>
<td>Advanced/Graphic Design/Photography Portfolio</td>
</tr>
<tr>
<td>7100.484</td>
<td>Illustration</td>
</tr>
<tr>
<td>7100.485</td>
<td>Advanced Illustration</td>
</tr>
</tbody>
</table>

Interior Design

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.282</td>
<td>Architectural Presentation</td>
</tr>
<tr>
<td>7400.12</td>
<td>Textiles</td>
</tr>
<tr>
<td>7400.321</td>
<td>Applied Home Furnishings</td>
</tr>
<tr>
<td>7400.333</td>
<td>Interior Design I</td>
</tr>
<tr>
<td>7400.334</td>
<td>Interior Design II</td>
</tr>
<tr>
<td>7400.335</td>
<td>Fundamentals of Buying Home Furnishings</td>
</tr>
</tbody>
</table>

Metalsmithing

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.266</td>
<td>Introduction to Jewelry</td>
</tr>
<tr>
<td>7100.280</td>
<td>Enameling on Metal</td>
</tr>
<tr>
<td>7100.366</td>
<td>Metalsmithing II</td>
</tr>
<tr>
<td>7100.368</td>
<td>Advanced Enameling</td>
</tr>
<tr>
<td>7100.466</td>
<td>Advanced Metalsmithing</td>
</tr>
</tbody>
</table>

*May be repeated for a total of 15 credits

*All programs are listed in alphabetical order.
Painting
- 7100.245 Introduction to Polymer Acrylic Painting 3
- 7100.246 Introduction to Watercolor Painting 3
- 7100.348 Painting III 3
- 7100.449 Advanced Painting 3

Photography
- 2240.222 Advertising Photography 3
- 7100.273 Introduction to Photography 3
- 7100.375 Photography II 3
- 7100.378 Photographers 3
- 7100.475 Advanced Photography 3

Printmaking
- 7100.213 Introduction to Lithography 3
- 7100.214 Introduction to Screen Printing 3
- 7100.215 Introduction to Relief Printing 3
- 7100.216 Introduction to Intaglio Printing 3
- 7100.357 Printmaking II 3
- 7100.418 Advanced Printmaking 3

Sculpture
- 7100.221 Disaster Applications 3
- 7100.222 Introduction to Sculpture 3
- 7100.254 Introduction to Ceramics 3
- 7100.266 Introduction to Jewelry 3
- 7100.331 Ligrantive Sculpture 3
- 7100.622 Sculpture Casting 3
- 7100.432 Advanced Sculpture 3

Biology
  - 3120.111 Principles of Biology 8
  - 3100.211 General Genetics 3
  - 3100.215 General Ecology 3
  - 3100.311 Cell Biology 3
  - 3100.130 Principles of Microbiology 3
  - 3100.316 Evolutionary Biology 3
  - 3100 3 A 300/400 level course approved by department head

Business Administration
- 6200.201 Accounting I 3
- 6200.202 Legal Environment 4
- 6200.301 Business Finance 1
- 6600.301 Management Principles and Concepts 3
- 6600.302 Quantitative Business Analysis I, II 6
- 6500.301 Computer Applications for Business 3
- 6600.305 Marketing Principles 3

Business Management Technology
- 2220.247 Survey of Basic Economics 3
- 2240.101 Elements of Distribution 3
- 2240.003 Role of Supervision in Management 3
- 2240.252 Personnel Practices 3
- 2240.211 Basic Accounting I 3
- 2240.210 Essentials of Law 3
- 2240.213 Electives 3
- 2240.170 Business Mathematics 3
- 2240.212 Basic Accounting II 3
- 2240.243 Survey in Finance 3

Chemistry
- Total credits required for a minor in chemistry: 19-22.
  - Core: comprised of one of the following options:
    - 3100.132 Principles of Chemistry I, II 7
    - 3100.203 Organic Chemistry Lecture I, II 6
    - 3100.141 Introduction to General and Organic Chemistry I, II 8
    - 3100.201 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 3150.401.2 Biochemistry (three credits each). An
    engineer or physics major might select 3150.313.4 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.

Classics
- Total credits required for a minor in classics: 21 credits.
  - 3200.189 Mythology 3
  - 3200.313/14 Archaeology of Greece and Rome 6
  - 3200.361/2 Literature of Greece and Rome 6
  - 3210.303/4 Ancient Greek or
    - 3220.303/4 Advanced Latin or
    - 3230 Electives in Classics 6

  - It is strongly recommended that a minor in classics take at least three credits of
    3400.304.5,6,7 Survey in Ancient History.

Classical Civilization
- Required core courses:
  - 7100.160 Introduction to Disorders of Communication 1
  - 7100.120 Introduction to Audiology/Aural Rehabilitation 3
  - 7100.130 Bases and Structure of Language 3
  - 7100.211 Introduction to Speech Science 2
  - 7100.450 Aspects of Normal Language Development 3

  - Select at least four hours from the following:
    - 7110.460 Speech-Language Hearing Disorders in the Public Schools 2
    - 7110.490 Seminar in Communicative Disorders 2
    - 7110.481 Special Problems in Communicative Disorders 1-3
    - 7110.483 Communication Disorders: Geriatric Population

Communication Disorders
- Core courses:
  - 2220.100 Introduction to Criminal Justice 3
  - 2220.102 Criminal Law for Peace Officers 3
  - 2220.204 Criminal Evidence and Court Procedures 3

Community Services Technology
- Core courses:
  - 2220.100 Introduction to Criminal Justice 3
  - 2220.102 Criminal Law for Peace Officers 3
  - 2220.204 Criminal Evidence and Court Procedures 3

Criminal Justice Technology
- Core courses:
  - 2220.100 Introduction to Criminal Justice 3
  - 2220.102 Criminal Law for Peace Officers 3
  - 2220.204 Criminal Evidence and Court Procedures 3
**American Literature**

**Professional Writing**

- One from the following:
  - 3360.289  Professional Writing I
  - 3360.489  Legal Writing
  - 3360.489  Advanced Management Reports
  - 3360.489  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:
  - 3360.227  Introduction to Poetry Writing
  - 3360.278  Introduction to Fiction Writing
  - 3360.279  Introduction to Script Writing

- One advanced course in creative writing from the following:
  - 3360.377  Advanced Poetry Writing
  - 3360.378  Advanced Fiction Writing

- One literature course primarily concerned with modern work.

- Two additional courses from any of the literature or language offerings of the department, which may include a second advanced course in the writing of fiction or poetry.

**Data Processing**

- 2240.100  Introduction to Fire Protection
- 2240.112  Fire Safety in Building Design and Construction
- 2240.104  Fire Investigation Techniques
- 2240.153  Principles of Fire Protection and Life Safety
- 2240.104  Fire Hazards Recognition
- 2240.105  Fire Detection and Suppression Systems I

**Geography**

- Minimum of 20 credits of departmental courses, 17 of which must be in courses having a laboratory.

- Students should consult with the department faculty advisor for minors.

**Economics**

- 3250.201, Z  Principles of Economics
- 3250.244  Introduction to Economics Analysis
- 3250.400  Intermediate Macroeconomics
- 3250.410  Intermediate Microeconomics

**Labor Economics**

- 3250.201, Z  Principles of Economics
- 3250.244  Introduction to Economics Analysis
- 3250.400  Intermediate Macroeconomics
- 3250.410  Intermediate Microeconomics

**English**

**English Literature**

- 3350.433  Urban, Regional and Resource Planning
- 3350.405  Soil and Water Field Studies
- 3350.381  Planning Seminar

- At least two courses (six credits) from the following:
  - 3350.333  Reclamation Resource Planning
  - 3350.423  Transportation System Planning
  - 3350.437  Industrial and Commercial Site Selection
  - 3350.438  Urban Land Use Analysis

- At least two courses (six credits) from the following:
  - 3350.435  Cartography
  - 3350.435  Geographic Information Systems
  - 3350.447  Introduction to Remote Sensing
  - 3350.483  Spatial Analysis
  - 3350.496  Field Research Methods
Cartography

At least one course (3 credits) from:
- 3350:410 Cartography
- 3350:405 Geographic Information Systems
- 3350:412 Tectonic Cartography
- 3350:444 Map Composition and Reproduction
- 3350:447 Introduction to Remote Sensing
- 3350:446 Automated Computer Mapping
- 3350:449 Advanced Remote Sensing

At least one course (three credits) from:
- 3350:491 Geographic Research Methods
- 3350:493 Spatial Analysis
- 3350:496 Field Research Methods

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.

Food Science

- 7400:133 Nutrition Fundamentals
- 7400:245 Basic Food Theory and Applications
- 7400:403 Advanced Food Preparation
- 7400:404 Experimental Foods
- 7400:405 Sensory Evaluation of Food (or other appropriate seminar)

Family Development

(Prerequisites must be honored.)

7400:201 Relational Patterns in Marriage and Family
7400:265 Child Development

The remaining 12 credits may be selected from the following:
- 7400:255 Fatherhood: The Parent Role
- 7400:260 Parent-Child Relations
- 7400:361 Home Management Theory
- 7400:390 Family Relationships in Middle and Later Years
- 7400:401 Family-Life Patterns in Economically Deprived Homes
- 7400:404 Adolescence in the Family Context
- 7400:440 Family Crisis
- 7400:442 Human Sexuality
- 7400:446 Public Policy and the American Family
- 7400:496 Parenting Skills
- 7400:485 Seminar Family Communication

Food Systems Administration

2280:236 Food and Beverage Cost Control
6500:341 Personnel Management
7400:133 Nutrition Fundamentals
7400:405 Basic Food Theory and Applications
7400:416 Introduction to Food Systems Management
7400:417 Quantity Food Preparation

Food Theory and Applications

7400:333 Food Theory and Applications

Hotel/Motel Management

2280:150 Front Office Procedures
2280:165 Maintenance and Engineering Management
2280:240 System Management and Personnel
2280:256 Hospitality Law
2280:265 Hotel/Motel Sales Promotion
2280:275 Hotel/Motel Housing Management

Home Economics and Family Ecology

Appliance Design and Construction

7400:121 Textiles
7400:123 Clothing Construction
7400:305 Advanced Construction & Tailoring
7400:311 Contemporary Needle Arts
7400:373 Fast Pattern Design
7400:485 Elective in Clothing and Textiles Area

Fashion

7400:121 Textiles
7400:317 Historic Costume
7400:331 History of Textiles and Furnishings
7400:339 The Fashion Industry
7400:419 Clothing Communication
7400:423 Elective in Clothing and Textiles Area

Interior Design

See Art Department Listing.

Clinical Nutrition

7400:133 Nutrition Fundamentals
7400:316 Science of Nutrition
7400:325 Introduction to Nutrition in Medical Science
7400:424 Nutrition in the Life Cycle
7400:438 Nutrition in Mesocological Sciences

Community Nutrition

7400:133 Nutrition Fundamentals
7400:316 Science of Nutrition
7400:325 Introduction to Community Nutrition
7400:424 Nutrition in the Life Cycle
7400:438 Community Nutrition I
7400:478 Community Nutrition II
7400:485 Practicum in Dietetics

Food Science

7400:133 Nutrition Fundamentals
7400:245 Basic Food Theory and Applications
7400:403 Advanced Food Preparation
7400:404 Experimental Foods
7400:405 Sensory Evaluation of Food (or other appropriate seminar)

Hospitality Management

2280:121 Fundamentals of Food Preparation I
2280:122 Fundamentals of Food Preparation II
2280:135 Menu Planning and Purchasing
2280:232 Dining Room Service and Training
2280:233 Restaurant Operations and Food Management
2280:236 Food and Beverage Cost Control

Culinary Arts

2280:121 Fundamentals of Food Preparation I
2280:160 Wine and Beverage Service
2280:162 Fundamentals of Food Preparation II
2280:163 Meat Technology
2280:232 Dining Room Service and Training
2280:261 Baking and Classical Desserts
2280:262 Classical Cuisine
2280:263 International Foods

Hotel/Motel Management

2280:150 Front Office Procedures
2280:165 Maintenance and Engineering Management
2280:240 System Management and Personnel
2280:256 Hospitality Law
2280:265 Hotel/Motel Sales Promotion
2280:275 Hotel/Motel Housing Management

*Prerequisites must be honored.
Interpreting for the Deaf

2210.100 Introduction to Interpreting for the Deaf 4
2210.104 Sign Language, Gesture and Mime 3
2211.110 Specialized Interpreting 3
2210.150 Handicapped Service Practicum 1-4
2210.200 Reverse Interpreting 3
2210.220 Specialized Interpreting II 3
7300.100 Manual Communication I 5
7700.120 Introduction to Audiology/Aural Rehabilitation 3
7300.150 Manual Communication II 7
7300.200 Manual Communication III 4
7300.252 Introduction to Deaf Culture and Its Origins 2
7300.271 Language of Signs I 3

Library

- Courses are offered in alternate years.
- Students are encouraged to take typing before taking library courses.

2200.100 Introduction to Library Technology 3
2200.201 Selecting, Cataloging, and Processing Materials 3
2200.202 Thesaurusizing and Operating Library/Media Centers 3
2200.203 Marriages Selection 2
2200.214 Reference Procedures 3
2200.216 Information Retrieval Systems in Library Technology 3
2200.217 Independent Study 1
(Student pursues a project in major area of study utilizing library skills.)

Mathematical Sciences

- Total credits required for minors in mathematical sciences — 24.

Mathematics/ Applied Mathematics

3450.221, 23 Analytic Geometry-Calculus I, II, III 12
3450.225 Differential Equations 3
3450.312 Linear Algebra 3
- Approved 300/400-level mathematical sciences electives (at least three credits in 3450 courses).

Statistics

3450.221, 22 Analytic Geometry-Calculus I, II 8
3450.312 Linear Algebra 4
3450.461 Applied Statistics 3
3450.463 Experimental Design I 3
- Approved 300/400-level mathematical sciences electives.

Computer Science

3460.215, 23 Analytic Geometry-Calculus I, II 8
or
3450.215, 23 Concepts of Calculus I, II 8
3460.209 Computer Programming I 3
3460.213 Computer Programming II 3
3460.316 Data Structures 3
3460.302 Assembly Language Programming 3
- Approved 300/400-level computer science electives.

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

7500.210 Jazz Improvisation I 2
7500.211 Jazz Improvisation II 2
7500.212 Music Industry Survey 2
7500.307 Technique of Steel Band Performance and Direction 2
7500.308 Jazz History and Literature 3
7500.407 Elective in Jazz 2
7510.115 Jazz Ensemble 4
7520.150 Applied Jazz Study 8

Theatre Arts

(Requires a minimum of 24 credits)

7800.100 Introduction to Theatre 3
7800.102 Introduction to Technical Theatre 3

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

7800.106 Introduction to Stage Design 3
7800.256 Basic Stagecraft 3
7800.404 Stage Lighting 3

Acting/ Directing

7800.171 Acting I 3
7800.271 Directing I 3

Musical Theatre

7800.421 Music Theatre Production 5
7800.475 Acting for the Musical Theatre 3

History/ Dramatic Literature

7500.370 The American Theatre 3
7500.467 Contemporary Theatre Styles 3

Theatre Production/ Performance

7813 Production/ Performance 1

Theatre Electives

4

Office Administration

- Core:
  2540.150, 1 or 2540.155 Typewriting 6
  2540.125 Business Machines 2
- Additional Courses for General Secretarial Area:
  2540.121 Office Problems 3
- Additional Courses for Word Processing Area:
  2540.241 Information Management 2
  2540.280 Word Processing Concepts 2
  2540.281 Machine Transcription 2
  2540.396 Keyboarding of Word Processing Equipment 3
- Additional Courses for Information Management Area:
  2540.241 Accounting I 3
  2540.242 Office Problems 3
  2540.244 Information Management 3
  2540.281 Machine Transcription 2

*Elective to be determined in consultation with the director of Jazz Studies.
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

- Major Area
- Arts
- Humanities
- Natural sciences
- Computer sciences/mathematics
- Law
- Business
- Teaching
- Political science
- Communication/journalism
- Social work
- Health professions
- Technical writing
- Engineering
- Philosophy Minor
- Philosophy of Art
- Philosophy of Science
- Philosophy of Mathematics
- Philosophy of Politics
- Political Philosophy
- Philosophy of Language
- Philosophy of Technology

Examples

- Examples of courses available for students majoring in arts, humanities, and natural sciences follow:
  - Arts (philosophy of art)
  - Humanities (philosophy)
  - Natural Sciences (philosophy of science)
  - Mathematics
  - 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 select 3650.301. Unless a student has already acquired considerable experience in electronics, courses 3650.310, 322, and 323 should prove valuable. Finally, 3650.320 provides an important background in optics, useful to engineers, geophysicists, and others.

Military Areas

- Philosophy Minor
- Philosophy of Art
- Philosophy of Science
- Philosophy of Mathematics
- Philosophy of Politics
- Political Philosophy
- Philosophy of Language
- Philosophy of Technology

Examples

- Examples of courses available for students majoring in arts, humanities, and natural sciences follow:
  - Arts (philosophy of art)
  - Humanities (philosophy)
  - Natural Sciences (philosophy of science)
  - Mathematics
  - Philosophy

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 following course sequences:

American Politics

- 3700.100 Government and Politics in the United States
- 14 credits from the following:
  - 3700.110 State and Local Government and Politics
  - 3700.302 American Political Ideas
  - 3700.340 American Political Parties and Interest Groups
  - 3700.341 The American Congress
  - 3700.342 Minority Group Politics
  - 3700.350 The American Presidency
  - 3700.360 The Judicial Process
  - 3700.370 The American Bureaucracy
  - 3700.380 Urban Politics and Problems
  - 3700.381 State Politics
  - 3700.382 International Relations
  - 3700.452 Politics and the Media
  - 3700.440 Public Opinion and Political Behavior

Comparative Politics

- 3700.200 Comparative Politics
- 14 credits from the following:
  - 3700.204 Modern Political Thought
  - 3700.329 Britain and the Commonwealth
  - 3700.321 Western European Politics
  - 3700.322 Soviet and East European Politics
  - 3700.323 Politics of China and Japan
  - 3700.325 Comparative Public Policy
  - 3700.326 Politics of Developing Nations
  - 3700.370 African Politics
  - 3700.330 Canadian Politics
  - 3700.409 Politics in the Middle East
  - 3700.420 Issues and Approaches in Comparative Politics
  - 3700.425 Latin American Politics

International Politics

- 3700.100 Government and Politics in the United States
- 4 credits from the following:
  - 3700.200 International Politics and Institutions
  - 3700.410 Comparative Foreign Policy
- 7 credits from the following:
  - 3700.204 Modern Political Thought
  - 3700.220 American Foreign Policy
  - 3700.304 Modern Political Thought
  - 3700.329 Britain and the Commonwealth
  - 3700.321 Western European Politics
  - 3700.323 Politics of China and Japan
  - 3700.325 Comparative Public Policy
  - 3700.326 Politics of Developing Nations
  - 3700.327 African Politics
  - 3700.330 Canadian Politics
  - 3700.409 Politics in the Middle East
  - 3700.425 Latin American Politics

Public Policy Analysis

- 3700.100 Government and Politics in the United States
- 4 credits from the following:
  - 3700.201 Introduction to Public Policy
  - 3700.241 The Policy Process
  - 3700.440 Methods of Policy Analysis
  - 3700.480 Policy Problems

Pre-Law

- 3700.100 Government and Politics in the United States
- 3700.240 The Judicial Process
- 3700.481 The Supreme Court and Constitutional Law
The University of Akron

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
3700:361 State Politics 3
3705:392 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:
  3750:130 Introduction to Experimental Psychology 4
  3750:310 Sensory and Perceptual Experience 4
  3750:320 Physiological Psychology 4
  3750:330 Motivation 3
  3750:450 Learning and Cognition 4
  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
  3750:420 Abnormal Psychology 4
  3750:430 Psychological Disorders of Children 4
  3750:440 Introduction to Clinical Method 3
  Group III:
  3750:130 Developmental Psychology 4
  3750:340 Social Psychology 4
  3750:350 The Psychology of Small Group Behavior 3
  3750:360 Crisis 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
  2560:115 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
  2560:226 Terminal Management and Safety 2
  2560:227 Transportation of Hazard Materials and Wastes 2
  2560:228 Introduction to Travel 2
Interdisciplinary and Certificate Programs

Section 6
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.

AFRICA

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.

Requirements

The requirements are as follows:

Acceptable Courses

1120 335 Eastern Civilizations - Africa
1810 407 General Seminar in Afro-American Studies
2020 214 The Black American
2753 486 Ghetto Economic Development
3000 350 Black American Literature
3300 389 United States DIalicts: Black and White
3200 363 Africa South of the Sahara
3400 220 Black People of the United States
3480 413 Black Social and Intellectual History
3700 327 African Policies
3650 421 Racial and Cultural Minority Relations
7750 270 Poverty in the United States
7750 276 Introduction to Social Welfare
7750 410 Minority Issues in Social Work

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.

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 requirements are as follows:

Acceptable Courses

1120 401 General Seminar in Afro-American Studies
(A research paper in Afro-American Studies will be written in this course)
3400 220 Black People of the United States

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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2300 223</td>
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<tr>
<td>2300 351</td>
<td>3</td>
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<td>2300 355</td>
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<td>2300 387</td>
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<td>2300 450</td>
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<td>2300 750</td>
<td>3</td>
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<tr>
<td>2300 800</td>
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ALCOHOL SERVICES AIDE

Mr. John Mumper, coordinator

Requirements

<table>
<thead>
<tr>
<th>Course</th>
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<td>2600 121</td>
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</tr>
<tr>
<td>2600 222</td>
<td>3</td>
</tr>
<tr>
<td>2600 153</td>
<td>3</td>
</tr>
<tr>
<td>2600 251</td>
<td>3</td>
</tr>
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<td>2600 275</td>
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<td>2600 279</td>
<td>4</td>
</tr>
<tr>
<td>2600 289</td>
<td>4</td>
</tr>
<tr>
<td>2600 299</td>
<td>4</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 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 may elect to take cartographic courses simply because they are focused on an interesting and exciting liberal arts subject. Other students choose cartography courses with the thought of increasing their potential of finding a position subsequent to graduation. There is a well-documented need for persons trained in cartographic awareness and skills in business, industry and government, as well as the academic community.

Core

Complete five of the following basic courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350.240 Maps and Map Reading</td>
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</tr>
<tr>
<td>3350.241 Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350.442 Thematic Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350.444 Intro Cartography and Representation</td>
<td>3</td>
</tr>
<tr>
<td>3355.447 Intro SD to Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3355.448 Autonomous Computer Reading</td>
<td>3</td>
</tr>
<tr>
<td>3355.455 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 contain 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 work must be acceptable to 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.*

## 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.

- 2200.245 Infant/Toddler Day-Care Programs
- 2200.250 Observation and Recording Child's Behavior
- 1200.360 Nursery School Laboratory
- 5460.295 Educational Technology Field Experience
- 7400.132 Early Childhood Nutrition
- 7400.260 Child Development
- 7400.275 Play and Creative Expression Activities
- 7400.290 Administration of Child-Care Centers

### COMPUTER PHYSICS CERTIFICATE

Dr. E. VonMeerwall, director

## Requirements

To qualify for the certificate program, a student must be in good academic standing in the major department and must submit a written request for admission to the director of the program. This course of study adds a component of both physics and computer science to a major in a traditional area of science. The physics courses, beyond Elementary Classical Physics, emphasize computer applications, including interfacing and data acquisition, data analysis and use of computers to solve physical problems.

### Physics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3650.201</td>
<td>3</td>
</tr>
<tr>
<td>3650.202 Elementary Classical Physics I, II</td>
<td>3</td>
</tr>
<tr>
<td>3650.325 Laboratory Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3650.330 Computational Physics</td>
<td>3</td>
</tr>
<tr>
<td>3650.491 Digital Data Acquisition</td>
<td>3</td>
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</tbody>
</table>

### Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3450.212 Analytic Geometry- Calculus I, II</td>
<td>8</td>
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</table>
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 are required. Other appropriate English courses in composition or linguistics may be substituted as optional courses with the permission of the director.

Required Courses:

- 3300:114 Seminar: Theory and Teaching of Basic Composition 3
- 3300:673 Seminar: Composition 3
- 3300:676 Seminar: Research Methodologies in Composition 3

Optional Courses

- 3300:570 History of the English Language 3
- 3300:571 U.S. Literature: Black and White 3
- 3300:580 Communication Structures of Modern English 3
- 3300:575 Theory: Ethnolinguistic 2
- 3300:689 Seminar: Rhetoric 3
- 3300:680 Major: Linguistics 3
- 2220:140 Seminar: Statistics 3
- 3303:681 Seminar: Contemporary 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. A minimum grade-point average of 2.00 in the certificate is required.

Courses

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>3450:215</td>
<td>Concepts of Calculus I</td>
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<tr>
<td>3450:216</td>
<td>Concepts of Calculus II</td>
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<td>3450:221</td>
<td>Analytic Geometry, Calculus I</td>
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<tr>
<td>3450:222</td>
<td>Analytic Geometry, Calculus II</td>
<td>4</td>
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<tr>
<td>3460:209</td>
<td>Computer Programming I</td>
<td>3</td>
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<tr>
<td>3460:210</td>
<td>Computer Programming II</td>
<td>3</td>
</tr>
<tr>
<td>3460:314</td>
<td>Introduction to Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>3460:306</td>
<td>Assembly Language Programming</td>
<td>3</td>
</tr>
<tr>
<td>3480:120</td>
<td>Structured Programming</td>
<td>3</td>
</tr>
<tr>
<td>3480:400</td>
<td>Approved 300-400-Level Computer Science Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

CRIMINAL JUSTICE

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.

2220:020 Introduction to Criminal Justice 3
2220:020 Criminal Law for Police 3
2220:104 Evidence and Criminal Legal Process 3
2220:250 Criminal Case 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.

2220:121 Introduction to Security 4
2220:200 Special Topics in Security 3
2220:204 Fire Prevention Procedures 3
2220:210 Hazardous Materials 4
2220:220 Administration and Supervision for Public Service 3
2880:141 Safety Procedures 3

ENVIRONMENTAL HEALTH

Dr. Walter Shepp, 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990:205</td>
<td>Introduction to Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>1990:410</td>
<td>Epidemiology</td>
<td>3</td>
</tr>
</tbody>
</table>
| 1990:457    | Individual Studies or majorships in Environmental Health or Approved Equivalent | 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**
1890.450 Seminar in Environmental Health
1990.480 Special Topics in Environmental Health

**NATURAL SCIENCES**

**Biology**
3100.130 Principles of Microbiology (non-majors)
3102.331 Microbiology (majors)
3100.383 Laboratory Techniques and Instrumentation in Biology
3100.429 Applied Aquatic Ecology
3300.480 Radiation Biology
3100.450 Animal Parasites and Vectors

**Chemistry**
3150.498 Special Topics: Environmental Chemistry

**Geography**
3350.495 Soil and Water Field Studies

**Geology**
3370.300 Environmental Geology
3370.370 Geochemistry
3370.474 Groundwater Hydrology

**Civil Engineering**
4300.423 Water Pollution Principles

**SOCIAL SCIENCES**

**Home Economics and Family Ecology**
7300.133 Fundamentals of Nutrition

**Philosophy**
3600.120 Introduction to Ethics

**Political Science**
3700.441 Policy Processes
3700.442 Methods of Policy Analysis
3700.480 Policy Problems

**Psychology**
3750.348 Social Psychology

**Sociology**
3850.325 Social Change
3850.342 Sociology of Health and Illness
3850.457 Culture and Medicine

**Health Education**
5570.400 Environmental Aspects of Health Education

**Social Work**
7750.450 Social Work and Services: Aging
7750.452 Social Work: Mental Health
7750.456 Social Work in Health Services

**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
1830.437 Seminar in Environmental Studies

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**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1830.201</td>
<td>Man and the Environment</td>
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<tr>
<td>1830.401</td>
<td>Seminar in Environmental Studies</td>
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<tr>
<td>1830.490</td>
<td>Workshop in Environmental Studies</td>
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<tr>
<td>1830.602</td>
<td>Evaluation of Environmental Data</td>
<td>3</td>
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<tr>
<td>1830.661</td>
<td>Graduate Seminar in Environmental Studies</td>
<td>3</td>
</tr>
<tr>
<td>3100.105</td>
<td>Ecology and Biological Resources</td>
<td>3</td>
</tr>
<tr>
<td>3100.217</td>
<td>General Ecology</td>
<td>3</td>
</tr>
<tr>
<td>3100.422</td>
<td>Conservation of Biological Resources</td>
<td>3</td>
</tr>
<tr>
<td>3100.424</td>
<td>Limnology</td>
<td>3</td>
</tr>
<tr>
<td>3100.426</td>
<td>Applied Aquatic Ecology</td>
<td>3</td>
</tr>
<tr>
<td>3560.389</td>
<td>Economics: Natural Resources and Environment</td>
<td>3</td>
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<tr>
<td>3560.314</td>
<td>Climatology</td>
<td>3</td>
</tr>
<tr>
<td>3550.335</td>
<td>Recreational Resource Planning</td>
<td>3</td>
</tr>
<tr>
<td>3350.436</td>
<td>Urban Land Use Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3350.448</td>
<td>Introduction to Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350.457</td>
<td>Soil and Water Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>3370.200</td>
<td>Environmental Geology</td>
<td>3</td>
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<tr>
<td>3370.474</td>
<td>Groundwater Hydrology</td>
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<tr>
<td>3370.678</td>
<td>Urban Geology</td>
<td>3</td>
</tr>
<tr>
<td>3400.434</td>
<td>American Environmental History</td>
<td>3</td>
</tr>
<tr>
<td>3850.321</td>
<td>Population</td>
<td>3</td>
</tr>
<tr>
<td>3860.425</td>
<td>Sociology of Human Life</td>
<td>3</td>
</tr>
<tr>
<td>4100.201</td>
<td>Energy and Environmen</td>
<td>2</td>
</tr>
<tr>
<td>4100.202</td>
<td>Atmospheric Pollution</td>
<td>2</td>
</tr>
<tr>
<td>4260.433</td>
<td>Pollution Control</td>
<td>3</td>
</tr>
<tr>
<td>4300.421</td>
<td>Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4300.425</td>
<td>Environmental Engineering Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>4460.491</td>
<td>Workshop: Arithmetic or a Physical Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**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

Dr. Don Birdsell, Acting Director

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 adviser and the center staff may be anticipated. Internships may be completed at the University or at one of several cooperating institutions.

Required:

5100 703 Seminar: History and Philosophy of Higher Education 3
5800 703 Introduction to Administrative Colloquium in Higher Education 3
5800 710 Advanced Administrative Colloquium in Higher Education 3
5060 801 2 Internship in Higher Education Seminar 2

Independent Study or course work to support concentration achieving total hours to a minimum of 15.

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.

Organization and Administration in Higher Education (I)

5700 754 Administrative Organization in Education (A) 2
5600 716 Seminar in Higher Education: Administration in Higher Education (B) 3

Student Services in Higher Education (II)

5600 649 Counseling and Personnel Services in Higher Education (A) 3
5900 725 Seminars in Higher Education: Student Services (B) 3

Program Planning, Curriculum and Instruction in Higher Education (III)

5600 730 Higher Education Curriculum and Program Planning (A) 3
5900 735 Instructional Strategies and Techniques for the College Instructor (B) 3

5700 716 Principles of Curriculum Development (B) 3

HOSPITALITY MANAGEMENT

Mr. Donald V. Laconi, Coordinar

Hotel/Motel Option

2280 150 Front Office Procedures 3
2280 120 Safety and Sanitation 3
2280 135 Menu Planning and Purchasing 3
2280 152 Maintenance and Engineering for Hotels and Motels 3
2280 163 Principles of Fire Protection and Life Safety 3
2280 236 Dining Room Service and Training 2
2280 240 Systems Management and Personnel 3
2280 236 Food and Beverage Cost Control 3
2280 265 Hospitality Law 3
2280 211 Hotel/Motel Sales Promotion 3
2280 254 Hotel/Motel Hostling Management 3

The awarding of this certificate is not contingent upon completion of a degree program.

Restaurant Management Option

2280 120 Safety and Sanitation 3
2280 121 Fundamentals of Food Preparation I 4
2280 136 Menu Planning and Purchasing 3
2280 122 Fundamentals of Food Preparation II 3
2280 123 Food Technology 4
2280 223 Dining Room Service and Training 2
2280 240 Systems Management and Personnel 3
2280 243 Food Equipment and Plant Operations 3
2280 236 Food and Beverage Cost Control 3
2280 213 Restaurant Operation and Management 4
2280 237 Internship 1

The awarding of this certificate is not contingent upon completion of a degree program.

*The awarding of this certificate is not contingent upon completion of a degree program. Under-graduating 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 following requirements must be met:

- 7100:121 Three-Dimensional Design 3
- 7100:241 Color Concepts 3
- 7100:282 Architectural Presentations 3
- 7400:331 Applied Furniture 3
- 7400:431 Interior Design I 3
- 7400:434 Interior Design II 3
- 7400:435 Principles and Practices of Interior Design 3

ECONOMICS

320:460 Economic Development and Planning for Underdeveloped Countries 3

The student is also required to study three years of Spanish or the equivalent.

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.

LATIN AMERICAN STUDIES

Dr. Hugo Lijeron, coordinator

Requirements

The student in the Latin American Studies Certificate Program will major in the respective disciplines (economics, geography, history, political science, sociology, and Spanish). In addition, the student will take 12 credits in the three separate disciplines chosen from the following list:

Political Science
- 3700:625 Latin American Politics 3

History
- 3400:415 Latin America: National Origins 3
- 3400:416 Latin America: 20th Century 3
- 3400:417 United States, Latin America and Imperialism 3
- 3400:416 Mexico 3

Geography
- 3300:193 Latin America 3

Sociology/Anthropology
- 3870:257 Indians of South America 3
- 3870:358 New World Prehistory 3

- 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 opting to take the certificate program who is from other disciplines is required to take the prerequisite to raise the level of competency to that of a major in clothing and textile and/or graphic design.

**Select a minimum of three courses. A student is required to take two of the three electives outside the major or degree department.
LIFE-SPAN DEVELOPMENT: 
WOMEN’S STUDIES

Dr. Harvey Sterns, director
Mrs. Faye Dambrot, administrative assistant

Requirements

The program provides interdisciplinary study of women to enable women and men to examine such topics as sex roles, sex differences and concepts of masculinity and femininity; women’s social and cultural roles and their implications for men’s roles; gender-based distribution of power, work and resources; and the significance of feminine and masculine imagery.

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 a postbaccalaureate student or as special admission for a free-standing certificate
- Make written application to the program countersigned by the student’s major academic advisor
- Receive written notification of admission from the Director of the Women’s Studies Program
- Consult with the Director of the Women’s Studies Program to formulate a program of study.

Electives**

Two of the following:
3750:400 Special Topics: Anthropology and Aging
3850:343 Sociology of Aging
7500:485 Seminar in Home Economics Family Middle and Later Years
7750:472 Communication Disorders: Geriatric Population

One of the following:
5000:440 Life Span and Community Education
5400:541 Educational Gerontology Seminar
5600:485 Special Topics in Health Services Administration
7750:450 Social Needs and Services in Later Adulthood and Aging
8200:489 A Survey: Health Care and the Aged

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 or 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.)

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

1200:270 Introduction to Linguistics

**Select a minimum of three courses. A student is required to take two of the three electives outside the major or degree department.

*An elective course not included on the suggested list may be used for elective credit toward the certificate if the course is appropriate and the student obtains prior approval from the Women’s Studies Coordinating Committee.

**Required
**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</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>3300:370</td>
<td>Intermediate Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3300:481</td>
<td>Philosophy of Language</td>
<td>3</td>
</tr>
<tr>
<td>3300:461</td>
<td>Language and Culture</td>
<td>3</td>
</tr>
<tr>
<td>7700:270</td>
<td>Speech and Language Development</td>
<td>3</td>
</tr>
<tr>
<td>7700:380</td>
<td>Aspects of Normal Language Development</td>
<td>3</td>
</tr>
</tbody>
</table>

### Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:389</td>
<td>Special Topics (any linguistically oriented course)</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>3400:460</td>
<td>Artificial Intelligence and Heuristics</td>
<td>3</td>
</tr>
<tr>
<td>3500:470</td>
<td>Automata, Computability and Formal Language</td>
<td>3</td>
</tr>
<tr>
<td>3500:490</td>
<td>Linguistics (Spanish)</td>
<td>3</td>
</tr>
<tr>
<td>3580:410</td>
<td>Linguistics (Spanish)</td>
<td>3</td>
</tr>
<tr>
<td>3600:172</td>
<td>Introduction to Logic</td>
<td>3</td>
</tr>
<tr>
<td>3600:374</td>
<td>Symbolic Logic</td>
<td>3</td>
</tr>
<tr>
<td>3600:118</td>
<td>Analytic Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>3600:471</td>
<td>Introduction to Metaphysics</td>
<td>3</td>
</tr>
<tr>
<td>5000:335</td>
<td>Teaching in Language Arts</td>
<td>5</td>
</tr>
<tr>
<td>5020:340</td>
<td>Multicultural Education in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7600:310</td>
<td>Interpersonal Communication</td>
<td>2</td>
</tr>
<tr>
<td>7600:351</td>
<td>Survey of Speech Communication</td>
<td>3</td>
</tr>
<tr>
<td>7700:111</td>
<td>Introduction to Phonetics</td>
<td>2</td>
</tr>
<tr>
<td>7700:271</td>
<td>Language of Signs</td>
<td>3</td>
</tr>
</tbody>
</table>

**Mid-Careers Program in Urban Studies**

**Dr. James Richardson, department head**

**Requirements**

The program will require the completion of 15 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2210:014</td>
<td>Sign Language, Gestures 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>
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<tr>
<td>7700:150</td>
<td>Manual Communication II</td>
<td>4</td>
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<td>7700:200</td>
<td>Manual Communication III</td>
<td>4</td>
</tr>
<tr>
<td>7700:222</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>
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</table>

### Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>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>

**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 adviser 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</th>
<th>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>
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</table>

### Options

**Urban Public Administration**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>3980:611</td>
<td>Urban Administration</td>
<td>4</td>
</tr>
<tr>
<td>3980:640</td>
<td>Fiscal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3980:681</td>
<td>Urban Policy and Planning</td>
<td>3</td>
</tr>
</tbody>
</table>

**Urban Research Methods**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3980:670</td>
<td>Seminar in Urban Research (Design)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Computer Applications</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
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</table>

**Urban Planning**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:630</td>
<td>Planning Concepts and Methods</td>
<td>5</td>
</tr>
<tr>
<td>3980:661</td>
<td>Urban Planning Design</td>
<td>5</td>
</tr>
<tr>
<td>3980:661</td>
<td>Planning Theory and Innovation</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
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</table>

**Urban Service Systems**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>3980:621</td>
<td>Social Service Planning</td>
<td>4</td>
</tr>
<tr>
<td>3980:622</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>
<tr>
<td></td>
<td>Electives</td>
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</table>

**Urban Studies**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:602</td>
<td>Seminar in American Urban Development</td>
<td>3</td>
</tr>
<tr>
<td>3980:681</td>
<td>Urban Planning and Policy</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Office Administration**

Mrs. Virginia J. Watkins, coordinator

**Administrative Secretarial**

*Both require in Urban Research Methods option.*
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
- 24A111 Basic Accounting 1
- 25A113 Office Problems 1
- 25A125 Business Machines 2
- 25A130 Introduction to Information Management 3
- 25A151 Intermediate Typing 3
- 25A263 Business Communications 3
- 25A286 Keyboarding on Word Processing Equipment 3

Administrative Secretarial Option
- 24A103 Word Processing Option 1
- 25A103 Beginning Typing 3
- 25A171 Shorthand Principles 4
- 25A173 Shorthand and Transcription 4

Office Information Management
- 25A121 Office Problems 3
- 25A279 Office Problems or Legal Office Procedures 4
- 25A119 Business English 3
- 25A125 Business Machines 2
- 25A286 Keyboarding on Word Processing Equipment 3
- 24A170 Business Mathematics 3
- 25A110 Introduction to Information Processing 2
- 25A130 Introduction to Information Management 3
- 25A131 Computerized Document Control 4
- 25A151 Intermediate Typing 3
- 25A247 Automated Office Systems 4
- 25A261 Machine Transcription 2

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 load of office communications will be covered from input through output. Using automated typing equipment, the student will produce office documents from machine transcription, handwritten copy and typed written copy. All courses taken may be applied toward an associate degree in secretarial science.

Courses

Core
- 24A120 Introduction to Information Processing 3
- 24A121 Office Problems 3
- 25A135 Business Machines 2
- 25A151 Intermediate Typing 3
- 25A241 Information Management 3
- 25A263 Business Communications 3
- 25A286 Keyboarding on Word Processing Equipment 3
- 25A287 Word Processing Applications 3

Word Processing Option
- 24A119 Business English 3
- 25A135 Advanced Typing 3
- 25A280 Word Processing Concepts Electives 3

PLANNING WITH AN EMPHASIS ON CITY OR REGIONAL RESOURCE STUDIES

Dr. Alan Noble, department head

*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.
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 to 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250.244</td>
<td>Introduction to Economic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3350.220</td>
<td>Economic Geography</td>
<td>3</td>
</tr>
<tr>
<td>3350.433</td>
<td>Urban, Regional and Resource Planning</td>
<td>3</td>
</tr>
<tr>
<td>3350.438</td>
<td>World Metropolitan Areas</td>
<td>3</td>
</tr>
<tr>
<td>3450.436</td>
<td>The American City</td>
<td>3</td>
</tr>
<tr>
<td>3700.380</td>
<td>Metropolitan Politics</td>
<td>4</td>
</tr>
<tr>
<td>3850.425</td>
<td>Sociology of Urban Life</td>
<td>3</td>
</tr>
<tr>
<td>4330.450</td>
<td>Urban Planning</td>
<td>2</td>
</tr>
</tbody>
</table>

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. Cecco, 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300.396</td>
<td>Professional Writing I</td>
<td>3</td>
</tr>
<tr>
<td>3300.191</td>
<td>Professional Writing II</td>
<td>3</td>
</tr>
<tr>
<td>7600.309</td>
<td>Publications Production</td>
<td>3</td>
</tr>
<tr>
<td>7600.345</td>
<td>Business and Professional Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

Requirements

Core

Each student enrolled in the program shall complete three of the following courses — one from the Department of Economics, one from the Department of Political Science and one from the Department of Sociology.

Economics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250.530</td>
<td>Human Resource Policy</td>
<td>3</td>
</tr>
<tr>
<td>3250.606</td>
<td>Public Finance</td>
<td>3</td>
</tr>
<tr>
<td>3250.665</td>
<td>Seminar on Economic Planning</td>
<td>3</td>
</tr>
</tbody>
</table>

Political Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700.541</td>
<td>The Policy Process</td>
<td>3</td>
</tr>
<tr>
<td>3700.542</td>
<td>Methods of Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3700.668</td>
<td>Seminar in Public Policy Agendas and Decisions</td>
<td>3</td>
</tr>
<tr>
<td>5700.672</td>
<td>Seminar in the Administrative Process</td>
<td>3</td>
</tr>
</tbody>
</table>
Sociology

3850:679 Sociology of Program Evaluation and Program Improvement 3
3850:679 Political Sociology 3

In addition to the courses listed above, each student, after receiving the approval of his or her adviser, shall complete two courses related to public policy.

Each student shall complete a scholarly paper dealing with public policy under the direction of a graduate faculty member in the departments of economics, political science or sociology. The student shall enroll for three credits in one of the following courses: 3260:697/698 Reading in Advanced Economics, 3700:697 Independent Research and Readings or 3850:597 Readings in Contemporary Sociological Literature. The student's paper shall be evaluated by an interdisciplinary committee consisting of graduate faculty from at least two of the previously mentioned departments.

All persons enrolled in the Graduate Certificate Program in Public Policy must successfully complete 3700:695 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.

Administration of the Program

The departments of economics, political science and sociology shall each annually select a representative for a coordinating committee from among those members of the graduate faculty who have special knowledge or expertise in the area of public policy. The committee shall each year elect one of its members as chairperson. The chairperson shall be responsible for disseminating information about the certificate, certifying that a student has met requirements for the completion of the program and convening members of the coordinating committee whenever appropriate.

SMALL BUSINESS MANAGEMENT

Mr. Jack O. Huggins, coordinator

2430:111 Basic Accounting I 3
2420:170 Business Mathematics 3
2440:280 Essentials of Law 3
2540:119 Business English 3
2420:117 Small Business Development 3
2420:118 Small Business Management and Operations 3
2420:227 Entrepreneurship Projects 4
2440:121 Introduction to Information Processing 2

The awarding of this certificate is not contingent upon completion of a degree program.

SOVIET AREA STUDIES

Dr. Barbara Clements, coordinator

Requirements

To obtain a certificate in Soviet Area Studies, the undergraduate will satisfy the requirements for a baccalaureate major in the field of study of his or her choice. In addition the student will complete two years of Russian language (14 credits) and will also complete 12 additional credits in courses dealing with the study of the U.S.S.R. These courses may be selected from the following list:

Economics

3260:450/550 Comparative Economic Systems 3

Geography

1350:286 U.S.S.R. 3

History

3400:438/638 Russia to 1801 3
3400:459/659 Russia since 1801 3

Political Science

3700:200 Comparative Politics 4
3700:322 Soviet and East European Politics 3

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 non-native 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.

*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 a second language as a Second Language (5201:395/695 or 5900:395) or its equivalent at the discretion of the 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.
### Interdisciplinary and Certificate Programs of Study

#### Graduate

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300.489</td>
<td>Special Topics, Theory and Method of ESL</td>
<td>3</td>
</tr>
<tr>
<td>3300.489</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></td>
<td></td>
</tr>
<tr>
<td>3300.589</td>
<td>Special Topics, Sociolinguistics**</td>
<td>3</td>
</tr>
<tr>
<td>5630.587</td>
<td>Techniques for Teaching ESL</td>
<td>3</td>
</tr>
</tbody>
</table>

**Choice to be decided in consultation with the program director.

#### Undergraduate

This certificate requires the completion of four core courses and two elective courses for a minimum of 10 credits.

**Core**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3300.489</td>
<td>Special Topics, Theory and Method of ESL</td>
<td>3</td>
</tr>
<tr>
<td>3300.489</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></td>
<td></td>
</tr>
<tr>
<td>3300.489</td>
<td>Special Topics, Sociolinguistics**</td>
<td>3</td>
</tr>
<tr>
<td>5630.487</td>
<td>Techniques for Teaching ESL</td>
<td>3</td>
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</tbody>
</table>

**Electives**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3300.270</td>
<td>Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3300.370</td>
<td>Intermediate Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3300.389</td>
<td>Special Topics in Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3300.470</td>
<td>History of the English Language</td>
<td>3</td>
</tr>
<tr>
<td>3300.469</td>
<td>Special Topics, Sociolinguistics**</td>
<td>3</td>
</tr>
<tr>
<td>3300.409</td>
<td>(Spanish) Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3300.410</td>
<td>(Spanish) Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3570.481</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>7000.325</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>3</td>
</tr>
</tbody>
</table>

**Choice to be decided in consultation with the program director.

#### 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>2030.222</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>2260.278</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>6</td>
</tr>
<tr>
<td>2260.286</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>

†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.

May not be taken both as an elective and as a core course.
Graduate, Professional
and Law Academic Programs

Section 7
Graduate School

Joseph M. Walton, Ph.D., Acting Dean of Graduate Studies and Research
Brian F. Pendleton, Ph.D., Acting Assistant Dean of Graduate Studies and Research
John E. Mulhauser, 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 successfuI 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 1962. 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 1959. Professor Charles Bulger was appointed first dean of graduate work in 1933, and he continued in that capacity until 1950. Professor Ernest H. Chertington, Jr. served as director of graduate studies from 1955 to 1960 and as dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Brintnall was appointed dean of Graduate Studies and Research in 1967. He succeeded Dr. Edwin L. Lively, Dr. Claireborne 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, was administrative head of the Graduate School during the 1977-78 academic year. Dr. Alan N. Gent was appointed dean of Graduate Studies and Research in 1978 and served in that capacity until 1986. Dr. Joseph M. Walton is now acting 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, polymer 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, communication, 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 the following:

- 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.

*An exclusive listing of graduate faculty and Graduate Council can be found in the "Directory" of the Graduate Bulletin.
The graduate faculty recommends a student who has been nominated by the student's college faculty for the appropriate master's or doctoral degree.

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 Buchtel 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 in 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 be accompanied by 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 a 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 of objective stated on the application for admission. A new request for admission must be filed when the original objective has been changed 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 (64 semester credits or equivalent); or holds an advanced degree from an accredited college or university in or appropriate to the intended field; or holds a baccalaureate or master's degree from a foreign college or university with class standing of 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 coursework. Work in some cases, is limited to one semester. Graduate courses taken under this admission status may be applied later to a graduate degree program but only when the requirements for full admission have been met.

- Special Workshop status is for a person permitted to take workshops for graduate credit without being admitted to Graduate School. Such permission is granted by the workshop director upon receipt of a signed statement of possession of a baccalaureate degree by the applicant, and terminates upon completion of this workshop. 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, workshop status may be applied later to a graduate degree program only when the requirements for full admission have been met.

- Transparent status may be given to a person who is a regularly enrolled 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 degree specified, with a maximum of 10 semester credits allowable, and is subject to the approval of the instructor, department head and Graduate School. A transparent 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 of 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 advisor.

- 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. Tuition and fees shall be collected if allowed under the sponsoring contract for any courses the fellow may choose to take.
  - 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 official transcripts from the institution awarding the doctorate. This student is treated as a regular student subject to registration fees and program degree requirements.
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 (the 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 possible after arrival at The University of Akron and should request ETS to forward the official test scores 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 advisor 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 admission 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 30 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 is 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 of expected 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>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>3.75</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
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<td>B</td>
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<td>B-</td>
<td>2.75</td>
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<tr>
<td>C+</td>
<td>2.33</td>
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</tr>
<tr>
<td>C</td>
<td>2.00</td>
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</tr>
<tr>
<td>C-</td>
<td>1.75</td>
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<tr>
<td>D+</td>
<td>1.33</td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td></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:

- "I" — incomplete: indicates that the student has done passing work in the course but that some part of the work is, for good and acceptable reason, not complete at the end of the term. Failure to make up the omitted work satisfactorily by the end of the following term, not including summer sessions, converts the "I" to an "F." When the work is satisfactorily completed within the adjusted time the "I" is converted to whatever grade the student has earned.

- "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.

- "IP" — 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 ("IP").

- 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: indicating that at the time grades were processed for the present issue of the record, no grade had been reported by the instructor.

- "IN" — Incomplete: indicates the grade reported by the instructor for the course was improperly noted and thus unacceptable for proper processing.

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 3-15 semester credits including audit.
Colloquia, Seminars and Workshops

**Colloquium (credit/noncredit 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/noncredit 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 department 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 1986-87 and are subject to change without notice.

**Application Fee**
This fee is not refundable under any circumstances
$25

**Tuition Fees**
Resident student per credit
$73.60
Nonresident student per credit
$132.60

**General Fee**
1-14 credits per semester
$65.50 per credit
14 credits and over per semester
$84.50 per semester

**Parking Permit Fee**
9 or more credits per semester
$35
8 ½ or fewer credits per semester
$17.50

**Graduation Fees**
Each degree
$30

Other Fees:
Thesis and binding (payable at time of application for degree and binding per volume)
$95
Microfiling (Ph.D. only) (payable at time of application for degree)
$54.50
Course schedule charge fee (for each schedule change form processed)
$6
Transcripts (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.)
$4
Delayed Registration Fee
$10
Late Registration Fee
$25

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 learning.
- 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 enlists in the National Guard or Reserves prior to the beginning of the term called to active duty, presents notice of intention or orders to active duty.
  - if the student requests in writing to have official withdrawal from all credit courses on or before the second day of the term.
  - if the student requests in writing to have official withdrawal after the second day of the fall or spring semester, the following refund percentages apply:
    - 3 through 12 calendar days* 70%  
    - 13 through 24 calendar days* 50%  
    - 25 through 33 calendar days* 20%  
    - Thereafter 0%
  - if the student requests in writing to have official withdrawal after the second day of any summer session on the following refund percentages apply:
    - 3 through 7 calendar days* 60%  
    - 8 through 15 calendar days* 40%  
    - Thereafter 0%
- If permission is granted by the student to enroll or continue in the same semester, the student shall be entitled to a refund of fees.
- Refunds for course sections which have not been scheduled consistently with either the standard 15-week fall/winter 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/class has been scheduled to meet.
- Refunds will be determined as of the date of formal withdrawal in their proper applicability is submitted to the University to the dean or designated official withdrawal from all credit courses on or before the second day of the term.
- 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.

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*All dates are in effect for the 1986-87 academic year. The deadline will become effective 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 $4,800 to $7,300 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 $13,000. 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 the 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 his or her program. A student must be in good standing to be advanced to candidacy.

Advancement to Candidacy forms must be submitted no later than May 15 for the January commencement and no later than September 15 for the May commencement. These forms are available in the office of the Dean of Graduate Studies and Research or in the academic department.

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, but the 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. Departments 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 advisor 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 collegiate 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 is 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 doctoral degree. Such credits must be relevant to the degree program, recommended by the student's advisor and approved by the dean of Graduate Studies and Research.

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 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 fail within the 10-year limit from 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 college-level courses 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 the last 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 appropriate research skills may serve as a substitute for the foreign language requirement.

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.

Advancement to Candidacy

A student should apply for advancement to candidacy after completion of one-half of the credits required for the degree in his or her program. A student must be in good standing to be advanced to candidacy.
Advancement to Candidacy forms must be submitted no later than May 15 for the January commencement and no later than September 15 for the May commencement. These forms are available in the office of the Dean of Graduate Studies and Research or in the academic department.

**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 titled *Guidelines for Preparing a Thesis or Dissertation* is available in the Graduate School and all copies of the dissertation must conform to those 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

Claiborne 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 in Chemistry, the Doctor of Philosophy in Counseling Psychology, the Doctor of Philosophy in History, the Doctor of Philosophy in Psychology and Doctor of Philosophy in Polymer Science. The Doctor of Philosophy in Sociology is offered jointly with Kent State University and the Doctor of Philosophy 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 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. Eighteen credits of coursework shall be considered a normal load. At least 12 credits of graduate coursework and all dissertation credits must be completed at the University.
- Earn credit for a dissertation, to be established by enrollment in 3180.0899, such that course credits plus dissertation credits total at least 84 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 requirements.
- 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 emphasis—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 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. 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 competencies in the areas of theory, research and practice of counseling psychology. Academic preparation includes theories of personality and psychotherapy, psychodiagnosis, 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.

- Required courses include:
  - core (I, II, III, IV):
    - Advanced Tests and Measures (Advanced Tests and Measures, Theories of Psychotherapy, Vocational Behavior: Survey of Psychometrics, Research, Testing, Advanced Counseling Personality, Functions of Analytical), 18
    - Practitioner-scientist classes (Group Processes, Introduction to Marriage and Family, electives), 15
  - dissertation credits.
  - Practicum—each conducted in one department and evaluated there.
  - Internship—2,000 hours post-master’s with 1,500 hours in no more than two years.
  - Psychology core—1875.061, 620.630, 640.
  - Counseling psychology joint core:
    - scientist-practitioner track—15 credits required including group (5860.033), and introduction to marriage and family (5800.065) with others to be decided upon with adviser
    - practitioner-scientist track—12 credits required including advanced counseling (3750.765) 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 MA-PhD standing in that program. In the practitioner-scientist emphasis, MA students must take the preliminary exam to approve 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 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...
Doctor of Philosophy in Psychology

The Department of Psychology offers a doctoral degree in psychology with specialization in either industrial/organizational psychology, applied developmental psychology, or industrial gerontological psychology.

A degree will be awarded to a student who besides fulfilling the general requirements, has met the following specific requirements:

- Fulfill admission requirements of the Graduate School and department requirements as follows:
  - completion of master's degree including 30 graduate credits;
  - completion of master's core courses or equivalent;
  - attainment of a graduate grade-point average (GPA) of 3.25;
  - completion of Graduate Record Examination Aptitude and Advanced Psychology Test;
  - completion of Miller Analogies Test (MAT);
  - securing of three letters of recommendation;
  - successful performance on Department of Psychology first-year examination.

- Major field
  - a minimum of 69 graduate credits, including 30 credit master's program. A student may be required to complete additional credits beyond the 69 minimum credit requirement;
  - completion of Ph.D. core courses in the student's specialty area: Industrial/Organizational, Developmental, Industrial Gerontological Psychology. Core courses are specified in the Department of Psychology Graduate Student Manual. The student is required to maintain at least a 3.00 GPA in core courses and overall courses;
  - completion of additional required and elective courses to be planned in consultation with the student's faculty advisor and subject to approval by the department Industrial/Organizational, Developmental, Industrial Gerontological committees;

- Written comprehensive examinations:
  - satisfactory performance on doctoral written and oral comprehensive examinations in the student's major area of Industrial/Organizational Psychology, Developmental Psychology, Industrial Gerontological Psychology (refer to the department's graduate student manual);
  - satisfactory performance on final oral examination and defense of dissertation research.

- Other requirements:
  - refer to department's graduate student manual for other requirements or guidelines;
  - complete and fulfill all general and or college requirements of Graduate School.

Doctoral language requirements or appropriate alternative research skills and techniques may be prescribed by the student's advisory committee, depending upon the career plans of the student and upon the academic and/or scientific requirements of the dissertation.

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 expected to be involved in a single graduate program. Course work is offered at both campuses and faculty and students may 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 in Sociology must meet the following requirements:

- Take 3850.747 Urban Sociology.
- Take two doctoral-level courses in theory. These courses are to be selected from the predetermined group of courses (see Department of Sociology Graduate Student Handbook).
- Complete two doctoral-level courses in methods/statistics. These courses are to be selected from the predetermined 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 requirement of the Graduate School.
- Complete foreign language requirement by one or 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 63 credits of graduate-level (600 or higher) course work beyond the bachelor's degree.

**Doctor of Philosophy in Urban Studies**

The departments of urban studies at The University of Akron and Cleveland State University jointly offer a program leading to the Ph.D. 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, two 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 rests 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, sociology (earth science), 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 must 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.
- Research and thesis — six credits.
- Participation in departmental seminars.
- Demonstration of reading proficiency in a foreign language appropriate to the field of study prior to the last semester of enrollment.
Economics

Master of Arts

Thesis Option
A minimum of 30 credits of coursework, including a thesis equivalent to six credits, 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. They have completed all core courses with grades of "B" or better.

Non-Thesis Option
A minimum of 30 credits of coursework 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:

- Microeconomic Analysis I
- Microeconomic Theory I
- Applications of Mathematical Methods in Economics
- Statistics for Economics

Exceptional departures from these requirements may be approved with the permission of the graduate faculty and department chair. 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:
  - 350:631 Human Resource Policy
  - 350:630 Human Resource Management
  - 350:626 Industrial Relations
  - 320:620 Theory of Labor and Employment
  - 320:624 Collective Bargaining I
  - 320:625 Labor Law

Industrial Relations Track (for an individual interested in a career in industrial relations)

- 320:636 Collective Bargaining II
- 320:637 Labor Law

Electives

- 320:646 Industrial Relations
- 320:671 Labor Law
- 320:673 Industrial Relations
- 320:674 Industrial Relations
- 330:681 Sociology of Work
- 330:682 Sociology of Work

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.

French

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:
  - 3550:581 Geographic Research Methods
  - 3550:583 Spatial Analysis
  - 3550:687 History of Geographical Thought

- 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.

Geography

Master of Arts

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:
  - 3370.660 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. in geology are required.

Earth Science

Equivalents of the geology courses for the University’s B.A. 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. in geophysics are required.

Engineering Geology

This program is for the graduate engineer and geologist who wishes to broaden expertise in the 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 proceeding with graduate studies.

- 3370.101 Introductory Physical Geology 4
- 3370.210 Geomorphology 3
- 3370.210 Structural Geology 4
- 3450.211, 212 Analytical Geometry Calculus I, II, III 12
- 4000.201 Statics 3
- 4300.202 Introduction to Mechanics of Solids 3
- 4300.311 Geotechnical Engineering 5

• Required courses:
  - 3370.631 Ricks and Minerals 4
  - 4300.611 Fundamentals of Soil Behavior 2
  - 4300.614, 615 Foundation Engineering I, II 6

Environmental Geology

Equivalents of the science and mathematics requirements for the University’s B.S. in geology are required. As many as eight credits may be selected from engineering, biology and/or geography with the approval of a geology adviser.

History

Master of Arts

• Admission to the program requires completion of at least 15 semester of 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 30 credits of graduate study in history, of which six may be in individual reading courses.

• Three fields of study, one of which must be unrelated to the other two, and two of which must be chosen from among the following fields:
  - Ancient
  - Medieval
  - European Renaissance to 1815
  - Europe, 1815 to the Present
  - England and the Empire
  - America to 1865
  - United States Since 1865
  - Latin America
  - Far East
  - History of Science

The third field may be chosen from the above history fields or from an approved cognate discipline.

The student must pass an appropriate written examination in two of the three fields. The third field requirement will be met by at least seven credits of work at the graduate level. If the student does not pass an examination unconditionally, the examining faculty may re-examine the student orally or require the student to take another written examination after a lapse of three months. No written examination may be repeated more than once.

• A course in historiography (may be waived if a course has been taken on the undergraduate level).

• An appropriate foreign language or other research skill shall be required by the student’s master’s committee if it is necessary to a student’s program of study. A reading knowledge of a foreign language is desirable and may be necessary for admission to a doctoral program.

• At least 16 hours of 600-level work, exclusive of historiography and individual reading. May be fulfilled in one of the following ways.*

Option I

Three reading seminars and one writing seminar, with the writing seminar paper read and approved by two faculty members.

Option II

Two reading and two writing seminar sequences under different professors with the writing seminar paper of the student’s choice read and approved by two faculty members.

Option III

Two reading seminars, one writing seminar and a thesis read and approved by two faculty members.

Special Summer Program

The department offers a special three-summer M.A. program. Designed primarily for public school teachers, this program makes it possible to schedule the requirement for an M.A. (Option I or Option II) over three summers and the two intervening years.

Mathematical Sciences

Master of Science — Mathematics

• Core:
  - 3450.611 Algebraic Structures I 3
  - 3450.612 Algebraic Structures II 3
  - 3450.621 Functions of a Real Variable I 3
  - 3450.622 Functions of a Real Variable II 3
  - 3450.632 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.

Non-thesis Option (33 credits)

In addition to the core requirements, 13 credits in 500/600-level mathematical sciences courses must be completed.

*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.
Master of Science — Statistics

- Entrance into the program will require the initial completion of the following prerequisites:
  - 3470.561 Applied Statistics, four credits OR 3470.661 Advanced Behavioral Statistics, three credits OR equivalent
  - 3450.661 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. (May be taken concurrently with 3470.561 Probability and Statistics, four credits)

- Core requirements:
  - 3470.561 Probability and Statistics
  - 3470.562 Exponential Design
  - 3470.563 Regression and Correlation
  - 3490.692 Mathematics and Statistics Seminar

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
  - 3450.621 Functions of a Real Variable I
  - 3450.627 Advanced Numerical Analysis I
  - 3450.692 Mathematics and Statistics Seminar
  - 3470.561 Probability and Statistics
  - 3490.656 Analysis and Partial Differential Equations
  - 3490.666 Advanced Combinatorics and Graph Theory
  - 3490.680 Advanced Probability and Stochastic Processes

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 electives 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 (33 credits)
In addition to the core requirements, 16 credits in 500/600-level mathematical sciences courses must be completed.

Physics

Master of Science

- Complete at least 30 semester credits with a 3.00 cumulative grade-point average.

- Complete:
  - 3600.615 Seminar in the History of Philosophy (3 credits) or equivalent in study of three different philosophers
  - 3600.620 Value Theory

- Pass a comprehensive examination in the history of philosophy and two others from the following fields:
  - logic, philosophy of science and methodology;
  - value theory, including ethics, aesthetics and social and political philosophy;
  - epistemology and metaphysics.

- Demonstrate facility in a second language by written translation.

- Complete a thesis under departmental supervision after passing the comprehensive examination.

Philosophy

Master of Arts

- Maintain a minimum of 2.75 grade-point average in undergraduate work, minimum 2.75 grade-point average in major area, 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 an adequate background will be expected to make up the deficiency.

- Complete at least 30 semester credits with a 3.00 cumulative grade-point average.

- Complete:
  - 3600.615 Seminar in the History of Philosophy (3 credits) or equivalent in study of three different philosophers
  - 3600.620 Value Theory

- Pass a comprehensive examination in the history of philosophy and two others from the following fields:
  - logic, philosophy of science and methodology;
  - value theory, including ethics, aesthetics and social and political philosophy;
  - epistemology and metaphysics.

- Demonstrate facility in a second language by written translation.

- Complete a thesis under departmental supervision after passing the comprehensive examination.

A student preparing for further graduate work in a physical science or academic or industrial employment should include the following courses in the graduate program:

- 3600.615 Electromagnetic Theory I
- 3600.616 Electromagnetic Theory II
- 3600.620 Quantum Mechanics I
- 3600.621 Quantum Mechanics II
- 3600.626 Quantum Mechanics III

A student preparing for teaching secondary school science should include the following courses in the graduate programs:

- 3600.605 History of Physics
- 3600.560 Energy and Environment
- 3600.568 Digital Data Analysis
- 3600.560 Workshop I: Mathematics

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 quantum physics, electricity and magnetism, atomic and nuclear physics, mechanics and experimental physics at the beginning-graduate level.

Option B: A research project, 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 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**
- Complete 30 credits of graduate work, including 18 credits at the 600 level.
- As a part of the above, complete a minimum of 15 graduate hours at the 600 level in political science, consisting of the following:
  - Five required core courses:
    - 3700:600 Scope and Theories of Political Science 3
    - 3700:601 Research Methods in Political Science 3
  - Three additional graduate seminars. Neither Independent Research, Thesis, nor Internship is considered a graduate seminar.
- Pass a comprehensive examination covering one field to be determined in conjunction with a departmental adviser.
- Complete either of the following:
  - A master's thesis, including six hours of thesis credit (3700:699) in preparation. These credits may be presented as part of the overall 30-credit requirement. Theses topics and completed thesis must be approved by student's thesis committee.
  - A non-thesis option, which shall consist of two seminar papers approved by a department committee of three persons chosen by the department head.

**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**
- Fulfill admission requirements of the Graduate School and the following departmental requirements:
  - 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.
  - Two letters of recommendation.
- Course requirements:
  - 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: first year examination covering core course subject area.
  - Non-thesis option: written and oral comprehensive examinations in the specialty area.
- 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.

**Non-thesis Option**
Completion of a minimum of 30 credits of graduate work with no thesis required. Completion of course work, practicum and examinations in either personnel, counseling or developmental psychology.

**Sociology**

**Master of Arts**
- Complete three required core courses with at least a 3.00 grade-point average:
  - 3850:600 Sociological Research Methods 3
  - 3850:604 Social Research Design 3
  - 3850:617 Sociological Theory 3
- 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
- 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
- Complete 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 course work which must include the following:
- Complete the following required courses with at least a 3.00 average:
  - 3850:600 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 in Sociology 3
  - 3850:711 Survey Research Methods 3
Complete two courses (six hours) under one of the following options:

**General research methodology**
- 3850.701 Measurement in Sociology 3
- 3850.708 Advanced Techniques in Research 1-3
- 3865.709 Analysis of Sociological Data 3
- 3850.710 Social Sampling 3
- 3850.712 Experimental and Quasi-Experimental Research 3
- 3850.714 Qualitative Methodology 3

**Survey research methodology**
- 3850.710 Social Sampling 3
- 3850.750 Research: Akwan Area Survey 3

**Evaluation research methodology**
- 3850.613 Sociology of Program Evaluation and Program Improvement 3
- 3850.712 Experimental and Quasi-Experimental Research 3

Complete five credits of elective course work.

Complete at least three credits of 3850.698 Directed Research culminating in a research paper on a topic appropriate to the student's research methodology option (e.g., general survey or evaluation). No more than three credits will count toward the degree. Guidelines for the content of the paper and for selecting the student's research advisor are available in the department.

Pass a two-hour defense of the research paper written for 3850.698 Directed Research.

**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 chair 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.
- Requirement: proficiency level in listening comprehension, speaking, reading and writing Spanish.
- Second language requirement: completion of 202 with a grade of at least B in another language, or a translation from another language. 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 submit two graduate essays each of which subject to an oral exam.

**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 advisor, plan a complete course of study.

**Core:**
- 3980.600 Basic Analytical Research 3
- 3980.601 Advanced Research and Statistical Methods 3
- 3980.602 American Urban Development 3
- 3980.650 Urban Studies Seminar 3

**Basic Program**

Complete 34 credits of course work as follows:

- Core — 12 credits.
- Selection of recommended courses — six credits.
- Urban related courses — 16 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:
  - 3980.600 Basic Analytical Research 3
  - 3980.601 Advanced Research and Statistical Methods 3
  - 3980.602 American Urban Development 3
  - 3980.650 Urban Studies Seminar 3
- Planning requirements:
  - 3980.630 Urban Land Use Analysis 3
  - 3980.633 Introduction to Planning Practice and Theory 3
  - 3980.631 Urban Facilities Planning 3
  - 3980.632 Land Use Control 3
  - 3980.637 Field Methods in Urban and Regional Planning 3
  - 3980.608 Field Methods in Urban and Regional Planning Laboratory 3
  - 3980.670 Planning Research 3
- Electives:
  - Four elective courses totaling 12 credits or more should be selected in consultation with the faculty advisor.
- Internship:
  - 3980.695 Required for students who do not have professional planning experience 3

**Joint Programs**

Joint Degree Programs in Law and Urban Planning and Law and Public Administration.

The University of Akron offers joint J.D. and Urban Planning and J.D. and Public Administration programs. The titles are: J.D./M.A. Urban Planning and J.D./M.A. Public Administration.

To become accepted into the program, a student must meet the admission requirement of the School of Law, the Graduate School and the Department of Urban Studies.

**J.D./M.A. Urban Planning Degree Requirements**

Seventy-six credits in law and 33 credits in urban planning.

Under this program, a student must take 43 credits of required law courses, 32 credits of law electives and 33 credits of required urban planning courses plus urban studies internship of one to three credits. (Internship is required of any student without professional planning experience.)

**J.D./M.A. Public Administration Degree Requirements**

Seventy-six credits in law and 27 credits in public administration.

Under this program, a student must take 43 credits of required law courses, 32 credits of law electives and 27 credits of required public administration courses plus urban studies internship of one to three credits. (Internship is required of any student without professional administrative experience.)

These programs reduce the total existing credit hours of Law School and Urban Studies as follows:

**J.D./M.A. Urban Planning**

The law requirements are reduced by nine credit hours from 85 to 76 while urban planning requirements are reduced by 12 credit hours from 45 to 33.

**J.D./M.A. Public Administration**

The law requirements are reduced by nine credit hours from 85 to 76 while public administration requirements are reduced by 13 credit hours from 40 to 27.
I. Introduction and Purpose

The Department of Biomedical Engineering of The University of Akron and NEOUCOM agree to cooperate to provide a coordinated program for those desiring both the M.D. and Ph.D. Degrees. It is recognized that such cooperation is to the benefit of both institutions.

This coordinated program does not change in any way the requirements for either the M.D. at NEOUCOM or the Ph.D. at The University of Akron. The program allows for the timing of requirements to be met in such a manner that a shorter total time would be required for completion of both degrees than if the degrees were completed separately and individually. This program will also help integrate the knowledge and skills acquired by the student in each of the programs.

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 M.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. 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 I, II, III 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 of 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>
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<tbody>
<tr>
<td>420:600</td>
<td>Transport Phenomena</td>
<td>3</td>
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<tr>
<td>420:610</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
<tr>
<td>420:612</td>
<td>Classical Thermodynamics</td>
<td>3</td>
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<td>420:614</td>
<td>Chemical Engineering Electives**</td>
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<td>Approved Electives</td>
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<td>420:618</td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>420:620</td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

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.

**The elective electrical engineering courses may not include more than three credits of 500-level courses.
Non-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 Eng.</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>6</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics</td>
<td>3</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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Civil Engineering Course Work</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Civil Engineering Course Work</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>12</td>
</tr>
<tr>
<td></td>
<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></td>
<td>Electrical Engineering Course Work*</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

The thesis must be defended in an oral examination.

**Non-thesis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electrical Engineering Course Work*</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>12</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>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mechanical Engineering Course Work*</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

The thesis must be defended in an oral examination.

**Non-thesis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>12</td>
</tr>
<tr>
<td></td>
<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 Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Engineering Course Work</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

The thesis must be defended in an oral examination.

**Non-thesis Option**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engineering Course Work</td>
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</tr>
<tr>
<td></td>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<td></td>
<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.

---

*The required electrical engineering course work of 18 credits may not include more than three credits of 500-level courses.

**The 36 credits requirement of the non-thesis option will be effective with the new incoming students.

***The elective chemical engineering course may not include more than three credits of 500-level courses.

---

*The program is limited to not more than three 500-level courses in engineering. Not more than two of the 500-level courses can be applied to the 15 credits of mechanical engineering course work for a student specializing in systems and controls. The thesis option: six credits of non-mechanical engineering courses in the area of systems and controls may be substituted for six of the required 15 credits of mechanical engineering courses. Prior written approval from the student's advisor must be obtained. The limitations on 500-level courses still apply in each category for a student in systems and controls.***
### Biomedical Engineering Specialization

**Core:**
- Human Physiology I, II 3
- Biometry 3
- Biomedical Instrumentation I 4

**Elective (two of the following):**
- Biomedical and Laboratory 4
- Mechanics in Physiology and Medicine 3
- Processing of Biomedical Signals 3
- Image Formation and Processing in Biomedicine 3
- Biomedical Computing 3
- Transport Phenomena in Biology and Medicine 3
- Artificial Organs 3
- Special Topics (maximum three hours) 3

**Approved elective:**
- 3

**Approved engineering elective:**
- 3

**Thesis:**
- Thesis 6

### 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.

**Core:**
- Structural Characterization of Polymers with Electromagnetic Radiation 2
- Rheology and Polymer Processing 3
- Analysis and Design of Polymer Processing Operations II 2
- Engineering Properties of Solid Polymers 2
- Polymer Materials Engineering Science 2

**Elective:**
- Polymer Engineering Seminar 1
- Analysis and Design of Polymer Processing Operations III 3
- Engineering Aspects of Polymer Colloids 2
- Polymer Engineering Laboratory 2
- Polymerization Reactor Engineering 3

**Approved engineering and science elective (a minimum of three credits of approved science or mathematics required):**
- Physical Chemistry of Polymers I 2
- Physical Chemistry of Polymers II 2
- Approved Mathematics 3
- Polymer Science Laboratory 2
- Advanced Engineering Materials 3
- Continuum Mechanics 3

**Thesis:**
- Thesis 6
College of Education

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

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 fulfilling 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 may elect to develop appropriate research skills prescribed by the adviser, subject to review by the department head in lieu of the foreign language requirement.
- Completion of at least eight credits in cognate area
- Completion of at least six credits in the 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 Buchel 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: biological, social, cognitive-affective and individual bases of human behavior. Praxis 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 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-master's with 1,600 hours over no more than two years.
- Psychology Core—3750/5610, 5630, 540.
- 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 orals.
- 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 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 hold a master’s degree in counseling, guidance and counseling psychology, school psychology or a related field.

- Core requirements (P/S, S/P Tracks):
  - 3750/612 Psychology Core I
  - 3750/620 Psychology Core II
  - 3750/630 Psychology Core III
  - 3750/640 Psychology Core IV
  - 3750/5600:653 Group Counseling
  - 3750/5600:707 Supervision in Counseling Psychology I
  - 3750/5600:710 Theory of Counseling and Psychotherapy
  - 3750/5600:711 Vocational Behavior
  - 3750/5600:712 Principles and Practice of Intelligence Testing
  - 3750/5600:713 Advanced Seminar in Counseling Psychology
  - 3750/5600:714 Objective Personality Evaluation
  - 3750/5600:715 Research Design in Counseling
  - 3750/5600:796 Counseling Psychology Practicum
  - Elective (permission of advisor required)
  - 5600:896 Dissertation (minimum)
  - Internship

- P/S Track requirements:
  - College of Education Foundations
  - 5100:640 Techniques of Research
  - 5600:643 Counseling Theory and Philosophy
The Department of Higher Education Administration program is offered by the department and is designed for persons who wish to pursue a career in educational, student services, finance, public relations, and private organizations. The Ohio City Superintendent Certificate is obtainable.

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 college, university or other post-secondary administrative positions. The program addresses 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 college, university or other post-secondary administrative positions. The program addresses 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.

### Foundation Studies Education — Doctoral Program Requirements*

**Behavioral Studies**
- 5100:620 Behavioral Bases of Education 3
- 5100:624 Seminar in Educational Psychology 3
- 5100:721 Learning Processes 3
- or 5100:723 Teaching Behavior and Instruction 3

**Humanistic Studies**
- 5100:701 History of Education in American Society 3
- or 5100:703 Seminar in History and Philosophy of Higher Education 3

**Social and Philosophical**
- 5100:600 Philosophies of Education 3
- or 5100:602 Comparative and International Education 3
- or 5100:604 Seminar in Cultural Foundations of Education 3
- or 5100:705 Seminar in Social-Philosophical Foundations 3

*Students must elect a minimum of six semester hours of graduate credits in behavioral, humanistic, historical and/or social-philosophical studies from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:600</td>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:602</td>
<td>Comparative and International Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:604</td>
<td>Seminar in Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:605</td>
<td>Seminar in Social-Philosophical Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:705</td>
<td>Seminar in Social-Philosophical Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:721</td>
<td>Learning Processes</td>
<td>3</td>
</tr>
<tr>
<td>5100:723</td>
<td>Teaching Behavior and Instruction</td>
<td>3</td>
</tr>
</tbody>
</table>

### MASTER’S DEGREE

Programs leading to the degree of M.A. in education, M.S. in education and M.S. in technical education are offered. The student who expects to earn the master’s degree for advancement in the field of teaching must meet the general requirements for admission to the Graduate School and must be qualified to hold a standard teaching certificate. Exceptions to this latter requirement will be made for the qualified student who does not wish to teach or perform duties in the public schools provided the student presents or acquires an appropriate background of study or experience. The student who expects to earn the master’s degree in guidance and administration also should have had successful teaching experience. A physical examination may be required if and when indicated. Any student who exhibits a deficiency in English or other skills may be required to correct it before recommendation for an advanced degree.

No more than six credits of workshops or institutes can be used to satisfy degree requirements.

The student must complete a minimum of nine credits in foundation studies in education**:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:606</td>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>or 5100:607</td>
<td>Comparative and International Education</td>
<td>3</td>
</tr>
<tr>
<td>or 5100:608</td>
<td>Seminar in Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>or 5100:609</td>
<td>Behavioral Bases of Education</td>
<td>3</td>
</tr>
<tr>
<td>or 5100:610</td>
<td>Seminar in Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>or 5100:611</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

### PROGRAMS

#### Counseling and Special Education

Selected program offerings in the Department of Counseling and Special Education are available to a person with or without a teaching certificate. Interdisciplinary programs offered lead to certification by the Ohio State Department of Education and/or a master’s degree. Program areas include counseling, school psychology and special education. The person who meets program prerequisites and who has earned a master’s degree may matriculate as a non-degree graduate student and pursue a program that leads, in selected areas, to certification.

**Classroom Guidance for Teachers**
- Foundation Studies courses — nine credits.
- Guidance courses:
  - 5600:610 Counseling Skills for Teachers 3
  - 5600:620 Career Education 2
  - 5600:630 Elementary School Guidance 3
  - or 5600:616 Seminar in Guidance 2
  - 5600:640 Secondary School Guidance 3
  - 5600:645 Group Testing in Counseling 3
  - 5600:646 Seminar in Guidance 2
  - 5600:647 Counseling Clinic, Test Interpretation 1
  - 5600:648 Field Experience* 1

**Students in some psychology programs may choose other options, see adviser.

*Must be taken concurrently with 661.**
Community Counseling

- Foundation Studies courses — nine credits. (See department handbook for options.)

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Counseling</td>
<td>1</td>
</tr>
<tr>
<td>Seminar in Cultural Foundations</td>
<td>3</td>
</tr>
<tr>
<td>Seminar: Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

  | Required courses:                                |         |
  | 5600:600 Seminar in Counseling                   |         |
  | 5600:620 Topical 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                 |         |
  | 5600:653 Group Counseling                        |         |
  | 5600:665 Seminar: Counseling Practice**           |         |
  | 5600:671 Counseling Clinic                       | 1       |
  | 5600:675 Practicum in Counseling I                | 5       |
  | 5600:685 Internship                              | 4       |

  | Electives (select a minimum of six credits only with help of adviser). | 6       |

Counseling in Elementary or Secondary Schools

- Foundation Studies courses — nine credits.

<table>
<thead>
<tr>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Counseling</td>
<td>1</td>
</tr>
<tr>
<td>Seminar in Cultural Foundations</td>
<td>3</td>
</tr>
<tr>
<td>Seminar: Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

  | Required courses:                                |         |
  | 5600:600 Seminar in Counseling                   |         |
  | 5600:620 Topical Seminar: Current Issues         |         |
  | 5600:631 Elementary School Guidance              |         |
  | 5600:633 Secondary School Guidance               |         |
  | 5600:643 Counseling Theory and Philosophy         |         |
  | 5600:645 Group Testing in Counseling              |         |
  | 5600:647 Career Counseling Theory and Practice    |         |
  | 5600:651 Techniques of Counseling                 |         |
  | 5600:653 Group Counseling                        |         |
  | 5600:655 Organization and Administration of Guidance Services |         |
  | 5600:663 Seminar in School Counseling**           |         |
  | 5600:671 Counseling Clinic                       |         |
  | 5600:675 Practicum in Counseling I                |         |
  | 5600:685 Internship                              |         |
  | 5610:340 Developmental Characteristics of Exceptional Individuals |         |

Marriage and Family Therapy

- Foundation Studies courses — nine credits. (See department handbook for options.)

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Counseling</td>
<td>1</td>
</tr>
<tr>
<td>Group Testing in Counseling</td>
<td>3</td>
</tr>
<tr>
<td>Techniques of Counseling</td>
<td>3</td>
</tr>
<tr>
<td>Group Counseling</td>
<td>4</td>
</tr>
<tr>
<td>Marriage and Family Therapy: Theory and Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Seminar: Counseling Practice**</td>
<td>3</td>
</tr>
<tr>
<td>Marital Therapy</td>
<td>3</td>
</tr>
</tbody>
</table>

  | Required courses:                                |         |
  | 5600:600 Seminar in Counseling                   |         |
  | 5600:645 Group Testing in Counseling              |         |
  | 5600:651 Techniques of Counseling                 |         |
  | 5600:653 Group Counseling                        |         |
  | 5600:655 Marriage and Family Therapy: Theory and Techniques |         |
  | 5600:685 Seminar: Counseling Practice**           |         |

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:

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Organization and Administration of Guidance Services</td>
<td>3</td>
</tr>
<tr>
<td>Behavioral Assessment</td>
<td>3</td>
</tr>
<tr>
<td>Consultation Strategies in School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Practicum in School Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>

The nine months full-time internship and the associated seminars entail the following registrations:

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship: School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Internship: School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Field Seminar I: Issues and Assessment</td>
<td>2</td>
</tr>
<tr>
<td>Field Seminar II: Classroom Environment</td>
<td>2</td>
</tr>
</tbody>
</table>

The student who does not hold a valid Ohio teaching certificate, must additionally complete the following course pattern:

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Curriculum and instruction</td>
<td>2</td>
</tr>
<tr>
<td>Reading Diagnosis: School Psychologist and Personnel</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience: Master's</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

*Program admission is competitive based upon state internship allocations. Selection procedures and criteria are available upon request by calling the school psychology program director in the Department of Counseling and Special Education. For recommendation for certification as a school psychologist in Ohio, the master's student must additionally complete the program prescribed under “Certification.”

*Must be taken with 665.

May be taken at undergraduate level.

Required as part of Special Education Master's.
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, developmental 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 behaviorally 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 core (nine hours required):
  - 5100.601 Principles of Education 3
  - 5100.620 Behavioral Bases of Education 3
  - 5100.624 Seminar, Educational Psychology 3
  - 5100.640 Techniques of Research 3

- Departmental core (21 hours required):
  - 5600.613 Counseling Skills for Teachers 3
  - 5610.601 Seminar, Curriculum Planning in Special Education 3
  - 5610.603 Assessment and Educational Programming in Special Education 2
  - 5610.604 Education and Management Strategies Parents of Exceptional Individuals 3
  - 5610.613 Program Development and Service Delivery Systems in Special Education 3
  - 5610.666 Research Design and Practice in Special Education 3
  - 5610.672 Issues in Special Education 3

- Department, Master's Papers (choose three hours):
  - 5610.694 Research Project in Special Area (Scholarly Paper) 3
  - 5610.696 Master's Problem Special Education 3
  - 5610.699 Thesis Research Special Education 3

- Other programs can be developed to meet needs.
- Electives (minimum six hours): Completion of at least six hours with the approval of your major advisor. (May include a directed field experience.) 6

- Certification: Special Education Supervisor.
  The supervisor's certificate may be issued to a holder of a master's degree, plus 27 months teaching experience in the area to be supervised and completion of the following course work:
  - 5100.600 Philosophies of Education* 3
  - 5100.620 Behavioral Bases of Education* 3
  - 5100.640 Techniques of Research* 3
  - 5700.619 Principles of Education Supervision 3
  - 5700.710 Curriculum Development 3
  - 5700.669 Seminar, Curriculum Planning in Special Education* 3
  - 5700.695 Field Experience for Supervisors 2

Educational Administration

Certification as Administrative Specialist: School and Community Relations

Program
- Foundation Studies — nine credits
- Required courses:
  - 5700.601 Principles of Educational Administration 3
  - 5700.604 School-Community Relations 3
  - 5700.605 Evaluation in Educational Organizations 3
  - 5700.607 School Law 2
  - 5700.608 School Finance and Economics 3
  - 5700.609 Principles of Curriculum Development 3
  - 5700.610 Principles of Educational Supervision 3
  - 5700.630 Master's Project 2
  - 5700.635 Decision Making Educational Administration 3
  - 5700.732 Organizational Communications and the School Administrator 3
  - 7600.610 Field Experience: The Sunset Intenrity 2
  - 7600.695 Stuents in Communication Media, Radio 3
  - 7600.696 Students in Communication Media, Television 3
  - 7600.699 Studies in Communication Media, 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.
- 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:
  - 5200.630 Elementary School Curriculum and Instruction 2
  - 5200.732 Supervision of Instruction in the Elementary School 2
  - 5700.601 Principles of Educational Administration 3
  - 5700.609 School Law 2
  - 5700.610 Principles of Educational Supervision 3
  - 5700.615 Administration of Parish Services 2
  - 5700.619 Computer Applications in Educational Administration 2
  - 5700.631 Elementary School Administration 3
  - 5700.684 Field Experience I: Elementary Administration 2

- Elective courses should be planned with an advisor. This 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:
- 5700.603 Administration of Educational Personnel 3
- 5700.604 School-Community Relations 3
- 5700.607 Evaluation in Educational Organizations 3
- 5700.608 School Finance and Economics 3
- 5700.694 Field Experience II: Elementary Administration 3
- 5700.705 Collective Bargaining and Employee Relations in Education 2
- 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 legalites of education.
- Design and coordinate a school facilities plan.
Program

- Foundation Studies — nine credits.
- Major field:
  - 5700.601 Principles of Educational Administration 3
  - 5700.603 Administrative Program of Educational Personnel 3
  - 5700.606 Evaluation of Educational Institutions 2
  - 5700.607 School Law 2
  - 5700.608 School Finance and Economics 3
  - 5700.615 Computer Applications in Educational Administration 2
  - 5700.664 Field Experience I: Elementary Administration 2
  - 5700.668 Field Experience I: Secondary Administration 2
  - 5700.706 Collective Bargaining and Employee Relations 2
  - 5700.707 The Superintendent 3
  - 5700.836 Field Experience II: The Superintendent 2

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 each 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 2
  - 5300.721 Supervision of Instruction in the Secondary School 2
  - 5700.601 Principles of Educational Administration 3
  - 5700.607 School Law 2
  - 5700.610 Principles of Educational Supervision 3
  - 5700.613 Administration of Public Schools 2
  - 5700.615 Computer Applications in Educational Administration 2
  - 5700.620 Secondary School Administration 3
  - 5700.698 Field Experience I: Secondary Administration 2

Post-Master's Degree Requirements for Ohio Certification as a Secondary School Principal:

- 5700.695 Administration of Educational Personnel 2
- 5000.664 School-Community Relations 3
- 5700.696 Evaluation of Educational Organizations 3
- 5700.698 School Finance and Economics 3
- 5700.699 Field Experience II: Secondary School Administration 3
- 5700.701 Collective Bargaining and Employee Relations in Education 2

Total for Certification 46 credits.

Sixth-Year Program: City School Superintendent

This program requires 50 credits.

Program

- Required courses:
  - 5180.603 Principles of Education 3
  - 5180.604 Typical Remeke in Critical Foundations of Education 3
  - 5180.605 Behavioral Bases in Education 3
  - 5180.606 Seminar: Educational Psychology 3
  - 5180.610 Techniques of Research 3
  - 5180.751 History of Education in American Society 3
  - 5180.773 Seminar: Theory and Philosophy of Higher Education 3
  - 5180.774 Learning Processes 3
  - 5180.775 Teacher Behavior and Instruction 3
  - 5180.776 Statistics in Education 3
  - 5700.601 Principles of Educational Administration 3
  - 5700.603 Administration of Educational Personnel 3
  - 5700.604 School-Community Relations 3
  - 5700.606 Evaluation of Educational Institutions 2
  - 5700.607 School Law 2
  - 5700.664 Field Experience I: Elementary Administration 2
  - 5700.668 Field Experience I: Secondary Administration 2
  - 5700.706 Collective Bargaining and Employee Relations 2
  - 5700.707 The Superintendent 3
  - 5700.836 Field Experience II: The Superintendent 2
  - 5700.850 School Finance and Economics 3
  - 5700.851 Principles of Curriculum Development 3
  - 5700.852 Principles of Educational Supervision 3
  - 5700.853 Administration of Educational Facilities 2
  - 5700.855 Master's Problem 2
  - 5700.856 Decision Making in Educational Administration 3
  - 5700.859 Field Experience — Superintendent 2
- Elective courses — 13-15 credits.
- Other requirements:
  - The candidate will engage in a period of full-time study for at least one semester. This requirement may be fulfilled during one full summer session.

Supervisor

Program

- Foundation Studies — nine credits.
- Major field:
  - 5200.630 Elementary School Curriculum and Instruction 2
  - 5200.752 Supervision of Instruction in the Elementary School 2
  - 5300.619 Secondary School Curriculum and Instruction 2
  - 5300.719 Supervision of Instruction in the Secondary School 2
  - 5400.601 Seminar: Special Education Curriculum Planning 3
  - 5500.602 Supervision of Instruction - Special Education 3
  - 5700.609 Principles of Curriculum Development 3
  - 5700.610 Principles of Educational Supervision 3
  - 5700.699 Field Experience of Supervisors 2

- With the approval of the advisor, the student will select at least one of the following courses or other courses which may include up to six pertinent electives from course offerings outside the College of Education:
  - 5180.701 History of Education in American Society 3
  - 5180.741 Statistics in Education 3
  - 5700.696 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 advisor. 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 credits within the Department of Educational Foundations. These credits will be distributed between educational courses and behavior studies with a maximum of nine credits from one of these areas. At least six credits from the other department requirements may be included.

- Thesis:
  - 5100.701 Thesis Research 4
- Interdepartmental electives:

  A minimum of six credits will be earned outside the Department of Educational Foundations.

*Required of those completing the master's degree.
**Electives should be selected with the advisor's approval.

The student, and only the student, is responsible for obtaining the necessary credits from the college.
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:

  5200:580 Seminar in English Introduction to Bilingual Linguistics
  5600:587 Characteristics of Duality Different Youth
  5630:585 Principles of Bilingual Multicultural Education
  5630:587 Techniques for Teaching English as a Second Language in the Bilingual Classroom
  5300:692 Field Experience in Bilingual Classrooms/Settings

Select one of the following:

  5650:585 Teaching Reading and Language Arts to Bilingual Students
  5660:589 Teaching Mathematics, Social Studies and Science to Bilingual Students

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 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
  5200:696 Master's Problem* 1
  5200:780 Elementary Education Seminar: Children's Literature - Reading* 1
  5300:681 Diagnosis and Correction of Reading Problems 1
  5300:682 Clinical Practice in Reading 1
  5300:692 Advanced Study and Research in Reading Instruction 1
  5300:693 Supervision and Curriculum Development in Reading Instruction 1
  5300:780 Secondary Education Seminar: Teaching Literature in Secondary School 1
  5300:625 Reading Programs in Secondary Schools 1

- Electives — 9-13 credits.

Electives may be any combination of courses to meet the minimum of 30 credits which may include up to 12 credits in pertinent course offerings outside the College of Education.

This program is primarily for the student who expects to progress as a teacher in elementary schools.

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:

  5100:640 Cultural Foundations of Education 1
  5100:624 Psychology of Early Adolescence 1
  5200:780 Curriculum Development in Middle School 1
  5300:625 Reading Programs in Secondary School 1
  5300:780 Philosophy and Organization of Middle School 1
  5600:591 Career Education/ Guidance in Middle School 1

*For elementary education students only

1A student must complete at least one graduate-level reading course prior to enrolling in 5450:681. Courses 581 and 681 must be taken in sequential order.

1For secondary education students only
Physical Education

Athletic Training for Sports Medicine

- Foundation courses:
  5100:650 Philosophies of Education
  5100:604 Topical Seminar in the Cultural Foundation of Education
  5100:629 Behavioral Bases of Education
  5100:624 Seminar: Educational Psychology
  5100:640 Techniques of Research

- Required courses:
  3100:561 Human Physiology
  3100:562 Human Physiology
  3100:584 Pharmacology
  5550:547 Advanced Athletic Injury Management
  5550:552 Therapeutic Modalities and Equipment in Sports Medicine
  5550:605 Physiology and Motor Control
  5550:691 Field Experience: Masters
  5550:698 Master's Project
  5550:699 Thesis Research

- Electives (determined by adviser):
  3100:566 Advanced Cardiovascular Physiology
  5550:555 Introduction to Sports Medicine
  5560:601 Administration of Health, Physical Education, Athletics, and Recreation
  5550:605 Measurement and Evaluation in Physical Education
  5550:680 Special Topics in Health and Physical Education
  5550:697 Independent Study

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/environmental education programs.

- Foundation Studies — nine credits.

- Required courses:
  5550:538 Adapted Physical Education for the Learning Disabled Child
  5550:601 Administration of Health, Physical Education, Athletics, and Recreation
  5550:623 Curriculum Planning in Health and Physical Education
  5550:625 Physiology of Muscular Activity and Exercise
  5550:626 Measurement and Evaluation in Physical Education
  5550:638 Supervision of Physical Education
  5550:639 Motivational Aspects of Physical Activity
  5550:690 Field Experience — Masters
  5550:698 Master's Project
  5550:699 Thesis Research

- Electives agreed on by the adviser to meet special student needs.

Secondary 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 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 coursework.

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
  5630:582 Characteristics of Culturally Different Youth
  5630:584 Principles of Bilingual Multicultural Education
  5630:587 Techniques for Teaching English as a Second or Foreign Language
  3300:589 Field Experience in bilingual classrooms or settings
  5630:586 Teaching Reading and Language Arts to Bilingual Students
  5630:586 Teaching Mathematics, Social Studies and Science

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:
  5100:604 Cultural Foundations of Education
  5100:624 Psychology of Early Adolescence
  5200:780 Curriculum Development in Middle School
  5200:825 Reading Programs in Secondary School
  5300:780 Philosophy and Organization of Middle School
  5600:526 Career Education/Guidance in Middle School
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:
  - 510:540 Techniques of Research
  - 530:780 Seminar in Secondary Education
  - 560:645 Group Testing in Counseling
  - 5630:581 Multicultural Education in the United States
  - 560:582 Characteristics of Culturally Different Youth
  - 5630:586 Seminar: Education of the Culturally Different

- Electives in related special fields — 17 credits.

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 adviser for alternate course requirements). This program also serves the holder of a baccalaureate degree who seeks a teaching certificate.

Program

- Foundation Studies — nine credits.
- Secondary education course:
  - 530:760 Seminar in Secondary Education: Improvement of Instruction in the Area of Concentration
- Ten credits from the following:
  - 5300:619 Secondary Curriculum and Instruction
  - 5300:625 Reading Programs in Secondary Education
  - 5302:695 Field Experience
  - 5302:699 Master's Problem or Thesis Research
  - 5300:721 Supervision of Instruction
  - 5300:780 Seminar: Secondary Education
- Area of concentration (500 level or above) — 10 credits

Course selections are made by student and adviser in accord with the student's professional interests. Possible areas of concentration include:

  - Subject Matter Specialist (mathematics, English)
  - Middle school education
  - Reading specialist (certification program)
  - Economic education
  - Mini-computer applications
  - Business education supervisor (certification program)

- Electives — two to four credits.

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.
- Professional technical education courses:
  - 5400:510 The Two-Year College
  - 5400:505 Vocational Education for Youth and Adults
  - 5400:521 Instructional Techniques in Technical Education
  - 5400:540 Course Construction in Technical Education
- Teaching internship:
  - The student entering the program without teaching experience is required to take a teaching internship at a cooperating two-year institution.
  - 5400:590 Internship: Teaching Vocational Education
  - 5400:591 Internship: Teaching Technical Education
- 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)

5600:543 Counseling Theory and Philosophy
5600:561 Techniques of Counseling
5600:563 Group Counseling
5600:575 Practicum in Counseling

Guidance Option B

5600:534 Community Counseling
5600:545 Career Counseling Theory and Practice
5600:546 Group Testing in Counseling

Select one of the following:

5600:564 Counseling and Personnel Services in Higher Education
5600:568 Career Education
5600:810 Counseling Skills for Teachers

Curriculum and Supervision

5700:629 Principles of Curriculum Development
5700:610 Principles of Educational Supervision

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. Mast, D.B.A., Assistant Dean
E. Lee Wilson, M.B.A./C.M.A., Assistant to the 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):

1. Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,000 or more points based upon the overall undergraduate grade-point average (GPA) (A=4.0) times 200 plus the Graduate Management Admissions Test (GMAT) score.
2. Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,050 or more points based 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—i.e., the burden of proof is on the applicant.
3. Hold a degree from outside the United States and have an academic standing of at least 60% 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.

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.

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 programs.

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 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350 600</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 622</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 650</td>
<td>Quantitative Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>6500 660</td>
<td>Computer Techniques for Management</td>
<td>3</td>
</tr>
<tr>
<td>6600 650</td>
<td>Marketing Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

1. If waived, student must select 6400 650 in place of 6500 650 in Phase I.
2. If waived, student must select 6400 622 in place of 6400 600 in Phase I.
3. If waived, student must select 6600 620 in place of 6500 650 in Phase I.

*If waived, student must select 6400 650 in place of 6500 650 in Phase I.
*If waived, student must select 6400 622 in place of 6400 600 in Phase I.
*If waived, student must select 6600 620 in place of 6500 650 in Phase I.
The following courses are required only for those selecting accounting as their area of concentration:

- **Breadth courses:**
  - 6200:860 Accounting Management and Control (or alternate accounting elective as approved by the director of Graduate Programs)** 3
  - 6400:850 Financial Accounting 3

- **Concentration courses:**
  - 6400:855 Quantitative Methods in Financial Management 3
  - 6600:857 Advanced Financial Management 3
  - 6600:858 Financial Reporting and Analysis 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 — Accounting Concentration

- **Breadth courses:**
  - 6500:652 Organizational Behavior 3
  - 6500:656 Quantitative Methods in Operations Management 3
  - Choose two:
    - 6400:650 Financial Management and Policy 3
    - 6600:652 Strategic Marketing Management 3

- **Concentration courses:**
  - 6200:657 Strategic Accounting Theory 3
  - 6200:658 Cost Concepts and Control 3
  - 6200:660 Accounting Management and Control (or other accounting elective as approved by the director of Graduate Programs)** 3

Integrative course:
- 6500:665 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:**
  - 6200:810 Accounting Management and Control (or alternate accounting elective as approved by the director of Graduate Programs)** 3
  - 6400:850 Financial Accounting 3

- **Concentration courses:**
  - 6400:855 Quantitative Methods in Financial Management 3
  - 6600:857 Advanced Financial Management 3
  - 6600:858 Financial Reporting and Analysis 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 — Business Concentration

- **Breadth courses:**
  - 6200:810 Accounting Management and Control (or alternate accounting elective as approved by the director of Graduate Programs)** 3
  - 6400:850 Financial Accounting 3

- **Concentration courses:**
  - 6400:855 Quantitative Methods in Financial Management 3
  - 6600:857 Advanced Financial Management 3
  - 6600:858 Financial Reporting and Analysis 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

**Students with sufficient managerial accounting background must elect another accounting course to substitute for 6200:810 and such election must be approved by the director of Graduate Programs in the College of Business Administration.**
Phase II Core Courses — International Business Concentration*

- Breadth courses:
  6200:651 Accounting Management and Control (or alternate accounting elective as approved by the director of Graduate Programs)** 3
  or
  6400:684 Financial Management and Policy 3
  or
  6500:662 Quantitative Methods in Operations Management 3
  or
  6600:620 Strategic Marketing Management 3

- Concentration courses:
  6400:681 International Business Finance 3
  6500:630 International Marketing Policies 3
  6800:505 Multinational Corporations Elective (must be approved by graduate director) 3

- Integrative course:
  6500:696 Business Strategy and Policy: Domestic and International Realities 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 requirement up to six credits of three electives. Electives outside the CBA must be approved by the graduate director) 6

Other International Business Courses

In an effort to improve the student's understanding of international business topics, the following graduate courses are offered, in addition to the International Business Concentration degree requirements:

- 6200:680 International Accounting 3
- 6500:555 Management of Arbitration: Commercial International and Human Resources 3
- 6500:656 Management of International Operations 3
- 6600:690 Seminar in International Business 3

These courses are available through the department's accounting finance, management, and marketing. Combinations of the above courses may be selected to fulfill the requirements of an MBA degree with an international business concentration.

Master of Science in Accounting

The Master of Science in Accounting program is designed to give 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:
  3200:600 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
  6500:661 Quantitative Decision Making 3
  6500:602 Computer Techniques for Management 3
  6500:696 Business Strategy and Policy: Domestic and International 3
  6500:690 Business Policy 4
  6600:600 Marketing Concepts 3

- Postbaccalaureate foundation:
  6200:301 Cost Accounting 3
  6200:317 Intermediate Accounting I 4
  6200:318 Intermediate Accounting II 4
  6200:430 Taxation I 4
  6200:421 Taxation II 3
  6400:440 Auditing 3
  6400:321 Business Law I 3
  4400:302 Business Law II 3
  6500:490 Business Policy 4

Phase II

- Required:
  6200:630 Tax Research and Policy 3
  6200:637 Advanced Accounting Theory 3
  6200:640 Advanced Auditing 3
  6200:650 Advanced Information Systems 3
  6200:679 Cost Concepts and Control 3
  6400:624 Financial Management and Policy 3
  6500:601 Elective (any CBA elective) 3
  6200:520 Advanced Accounting 3
  6200:510 Governmental and Institutional Accounting 3
  6200:631-54 (Any taxation course) 3
  6200:680 International Accounting 3
  6200:699 Seminar in Accounting (must register twice—three credits each) 6

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:
  3200:600 Foundation of Economics Analysis 3
  6200:601 Financial Accounting 3
  6400:602 Managerial Finance 3
  6400:650 Government and Business 3
  6500:600 Management and Production Concepts 3
  6500:601 Quantitative Decision Making 3
  6500:602 Marketing Concepts 3

- Postbaccalaureate foundation:
  6200:430 Taxation I 4
  6200:431 Taxation II 3
  6500:490 Business Policy 4

Phase II

- Required:
  6200:630 Tax Research and Policy 3
  6200:631 Corporate Taxation I 3
  6200:652 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):
  Taxation courses 12
  Any CBA courses 6

*Students with sufficient managerial accounting background must elect another accounting course to substitute for 6200:610 and such election must be approved by the director of Graduate Programs in the College of Business Administration.

**May elect to take 5200:695 instead.
**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
  - 6405:655 Government and Business 3
  - 6500:600 Management and Production Concepts 3
  - 6500:601 Quantitative Decision Making 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
  - 6500:655 Quantitative Methods in Operations Management 3
  - 6500:661 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
  - 6500:699 Graduate Seminar in Management 3

### 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 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 Master 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

Kelvie C. Comer, Ed.D., Acting Dean
John D. Bee, Ph.D., Acting Assistant Dean

MASTER'S DEGREE

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 the 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 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 covering major and minor areas after the completion of at least 24 credits of graduate work.

- Apply for advancement to candidacy upon successful completion of 24 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400.600</td>
<td>Evaluation of Home Economics Literature</td>
<td>3</td>
</tr>
<tr>
<td>7400.615</td>
<td>Conceptual Frameworks in Family Ecology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Suggested courses include:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3800.604</td>
<td>Social Research Design</td>
<td>3</td>
</tr>
<tr>
<td>3800.600</td>
<td>Basic Analytical Research</td>
<td>3</td>
</tr>
<tr>
<td>5100.640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

**Child Development Option**

- Core courses:
  - Select 18 credits from the following courses:
    - 7400.504 Development in the Family Context
    - 7400.500 Organization and Supervision of Child Care Centers
    - 7400.505 Parenting Skills
    - 7400.605 Developmental Parent-Child Interactions
    - 7400.610 Child Development Theories
    - 7400.616 Infant and Child Nutrition
    - 7400.820 Programming for Child Care Centers
    - 7400.618 Development in Infancy and Early Childhood
  - Electives — nine credits**

**Family Development Option**

- Core courses:
  - Select 18 credits from the following courses:
    - 7400.602 Family Life-Span Perspective
    - 7400.605 Developmental Parent-Child Relations
    - 7400.617 Family Dynamics
    - 7400.611 Family and Consumer Law
  - Electives — 15 credits**

**Music**

The degree Master of Music is offered by the Department of Music with options in music education, performance, composition, theory, music history and literature, and accompanying. Entrance requirements for each program are as follows:

- The standard requirements for an undergraduate major in the area of proposed graduate specialty or performance which the department head approves as equivalent to an undergraduate major.

**The Graduate School's requirements for admission:**

- The performance and accompanying options require an audition on the student's major instrument/voice. Please contact the coordinator of Graduate Studies for an audition time.

**For the composition option:**

- Compositions representing the applicant's techniques are required.

**For the major in music education:**

- Music education, music theory, and music history and literature; require an interview with the Coordinator of Graduate Studies and faculty in the appropriate area.

The student should consult with the Coordinator of Graduate Studies in Music for additional information regarding the individualized nature of each option.

For the Performance Option in Voice, a proficiency equal to two semesters each of Italian, German, and French are required for completion of the Master of Music Degree in Voice Performance. If the student lacks background in any of these languages, auditioning of undergraduate courses is required.

After completion of all coursework, the student must pass an examination covering the graduate program. This examination is individualized for each candidate's unique program.

**Composition Option**

- Music core courses — eight credits (to be selected):
  - 7500.555 Advanced Conducting: Instrumental
  - 7500.556 Advanced Conducting: Choral
  - 7500.615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500.616 Musical Styles and Analysis II (Renaissance through Haydn and Beethoven)
  - 7500.617 Musical Styles and Analysis III (Lauds Through Bach, Handel, and Haydn)
  - 7500.619 Theory Pedagogy

- Select from courses within the Department of Music and study abroad or from a course outside the department or a combination of the above approved by the student's advisor.

**The student who has completed some of these courses as an undergraduate should consult with advisor for substitutions.**

**Select from courses within the Department of Home Economics and Family Ecology or from a course outside the department or a combination of the above approved by the student's advisor.**
Music Education Option

• Thesis option — 32 credits
  Appropriate courses in music, music education, advanced problems, workshops, applied music and electives as determined by student's advisory committee
  26-28

• Non-thesis option — 34 credits
  Appropriate courses in music, music education, advanced problems, workshops, applied music and electives as determined by student's advisory committee
  4-6

Music History and Literature Option

• Music core courses — eight credits (to be selected):
  7500:555 Advanced Conducting: Instrumental
  7500:556 Advanced Conducting: Choral
  7500:563 Substructure and Research
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  7500:622 Historical Survey: Music of the Baroque
  7500:624 Historical Survey: Music of the Classical and Romantic Eras
  7500:629 Advanced Problems in Music

• Major required courses — 20-22 credits:
  7500:601 Introduction to Musicology
  7500:603 Musical Styles and Analysis I (Choral through Palestrina)
  7500:604 Musical Styles and Analysis II (Baroque through Haydn/Beethoven)
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky)
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  7500:622 Historical Survey: Music of the Baroque
  7500:624 Historical Survey: Music of the Classical and Romantic Eras

• Additional music courses — two to four credits:
  Graduate-level (music) workshops, applied music and for courses to be selected by the student and advisor

• Electives — two to four credits.
  To be selected by the student and advisor. Areas include graduate-level courses in other disciplines in which student obtains permission of instructor.
  Degree total: 34-36 credits.

Performance Option in Accompanying

• Music core courses — eight credits (to be selected):
  7500:555 Advanced Conducting: Instrumental
  7500:556 Advanced Conducting: Choral
  7500:615 Musical Styles and Analysis I (Choral through Palestrina)
  7500:616 Musical Styles and Analysis II (Baroque through Haydn/Beethoven)
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky)
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  7500:622 Historical Survey: Music of the Baroque
  7500:624 Historical Survey: Music of the 20th Century

• Major required courses — 21-24 credits:
  Select either 7500:624 or 7500:633
  7500:624 Repertoire and Pedagogy: Organ
  7500:633 Teaching and Literature: Plans and Harpsichord
  7500:615 Musical Styles and Analysis I (Choral through Palestrina)
  7500:616 Musical Styles and Analysis II (Baroque through Haydn/Beethoven)
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky)
  7500:618 Teaching and Literature: Plans and Harpsichord
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  7500:622 Historical Survey: Music of the Baroque
  7500:624 Historical Survey: Music of the 20th Century

Performance Option in Winds, Strings, and Percussion

• Music core courses: eight credits (to be selected):
  7500:555 Advanced Conducting: Instrumental
  7500:556 Advanced Conducting: Choral
  7500:615 Musical Styles and Analysis I (Choral through Palestrina)
  7500:616 Musical Styles and Analysis II (Baroque through Haydn/Beethoven)
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky)
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  7500:622 Historical Survey: Music of the Baroque
  7500:624 Historical Survey: Music of the 20th Century

• Major required courses — 16-18 credits:
  7500:618 Musical Styles and Analysis I (Choral through Palestrina)
  7500:619 Musical Styles and Analysis II (Baroque through Haydn/Beethoven)
  7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky)
  7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  7500:622 Historical Survey: Music of the Baroque
  7500:624 Historical Survey: Music of the 20th Century

• Select one of the following as appropriate to major instrument:
  7500:630 Teaching and Literature: Brass Instruments
  7500:631 Teaching and Literature: Woodwind Instruments
  7500:632 Teaching and Literature: Percussion Instruments
  7500:634 Teaching and Literature: String Instruments
  7500:636 Graduate Recital

• Additional music courses — six credits.*
  Graduate-level (music) workshops, applied lessons, advanced problems and/or courses to be selected by student and advisor.

• Electives — four credits.*
  Areas may include graduate-level courses in other disciplines, such as theatre arts, in which the student obtains permission of instructor, or additional music courses as determined by the student and advisor.
  Degree total: 34-36 credits.

Note: A minimum pronunciation proficiency is required in Italian, German, and French. If the student lacks background in any of these language requirements, auditing of one or two courses is required.

All candidates for this degree must accompany a minimum of three solo ensemble recitals (instrumental and vocal). These can be done as part of 7500:697.

*It is recommended that each student's graduate committee recommend the appropriate elective credits.
**Two semesters ensemble participation required for degrees completed in two semesters. Four semesters ensemble participation required for degrees completed in three semesters.
Performance Option in Voice

- **Music core courses**: eight credits (to be selected):
  - 7500:555 Advanced Conducting: Instrumental
  - 7500:556 Advanced Conducting: Choral
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky)
  - 7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  - 7500:622 Historical Survey: Music of the Baroque
  - 7500:623 Historical Survey: Music of the 20th Century

- **Major required courses**: 20-22 credits:
  - 7500:618 Musical Styles and Analysis IV (20th Century)
  - 7500:625 Vocal Pedagogy
  - 7500:636 Advanced Song Literature
  - 7500:649 Graduate Recital
  - 7517:67 Ensemble (participation in two ensembles required)
  - 7520:624 Applied Voice

- **Electives**: four credits
  - Areas may include graduate-level courses in other disciplines, such as theatre, where the student obtains permission of instructor, or additional music courses, as determined by the student and adviser.
  - Degree total: 34-36 credits.

Performance Option in Keyboard

- **Music core courses**: eight credits (to be selected):
  - 7500:555 Advanced Conducting: Instrumental
  - 7500:556 Advanced Conducting: Choral
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (Late Beethoven through Mahler/Stravinsky)
  - 7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  - 7500:622 Historical Survey: Music of the Baroque
  - 7500:623 Historical Survey: Music of the 20th Century

- **Major required courses**: 18-21 credits:
  - Select either 7500:662 or 7500:633
  - 7500:662 Repertoire and Pedagogy: Organ
  - or
  - 7500:633 Teaching and Literature: Piano and Harpsichord
  - 7500:697 Advanced Problems in Music
  - 7500:698 Graduate Recital
  - 7510:614 Keyboard Ensemble (participation in two ensembles required)
  - 7520:6- Applied Music (piano, organ and/or harpsichord)

- **Additional music courses**: three to four credits.
  - Graduate-level (music) courses, advanced problems, workshops and/or applied lessons, to be selected by the student and adviser.

- **Electives**: four credits.

Areas may include graduate-level courses in other disciplines, such as theatre, where the student obtains permission of instructor, or additional music courses, as determined by the student and adviser.

Degree total: 34-36 credits.

Communication

The program is as follows:

- **Core**
  - 7500:660 Introduction to Graduate Study in Mass Media Communication
  - 7500:631 Empirical Research in Mass Media Communication
  - 7500:624 Survey of Communication Theory
  - or
  - 7500:475 Theories of Mass Communication
  - 7500:470 Communication Criticism

- **Thesis/Project/Production**
  - Each student, after passing comprehensive examinations, must register for four credits of Thesis/Project/Production. This requirement is designed to be the culmination of the student's academic program and involves the conception, design and execution of an academic problem in a manner which requires a high level of substantive, methodological and writing skills. These skills may be demonstrated in any of these three types of activity, depending on the student's background and orientation.

- **Departmental electives**: 10 credits.

- **Electives**: six 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.
- Complete a minimum of 36 credits, including 7500:630 and 7500:649, from the following courses or approved courses in the cognate field.

- Two semesters ensemble participation required for degrees completed in two semesters. Four semesters ensemble participation required for degrees completed in four semesters.
Enter the program: See the coordinator of Theatre Area Graduate Program regarding the Arts Management Option.

• Related fields: Electives

3980:600 Introduction to Graduate Studies in Theatre Arts (required) 1
7800:603 Special Topics in Theatre Arts/Dance 2
7800:641 Problems in Directing 3
7800:642 Problems in Contemporary Acting 3
7800:658 History of the Role of Production 3
7800:659 History and Theory of Stage Lighting 3
7800:660 Advanced Technical Theatre 2
7800:681 Seminar in Stage Costume Design 3
7800:682 Seminar in Scene Design 3
7800:683 Seminar in American Theatre 2
7800:685 Audience for Arts Research/Analysis 2
7800:696 Introduction to Arts Management 2
7800:697 Introduction to Dramatic Production 6
7810:601 Production Practicum/Design/Technology 1-2
7810:605 Performance Practicum (may be repeated for a total of 12 credits)

• 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 3
7700:612 Research Methods in Communicative Disorders II 2
or
7700:659 Research and Thesis x-6
7700:660 Advanced Clinical Practicum: Differential Diagnosis 1

Two credits must be taken from the following:

7700:651 Advanced Clinical Practicum: Voice 1
7700:652 Advanced Clinical Practicum: Fluency 1
7700:654 Advanced Clinical Practicum: Diagnostic Audiology 1
7700:655 Advanced Clinical Practicum: Articulation 1
7700:656 Advanced Clinical Practicum: Language 1
7700:657 Advanced Clinical Practicum: Reconstructive Audiology 1

The student must take four credits of 7700:695 Externship: Speech Pathology and Audiology. The audiology major 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 7700:635 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 course work (including 7700:697); and
  — no more than six credits taken in disciplines other than communicative disorders.
• Only seven 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 practicums. Students must be registered for at least one credit of clinical practicum during any academic period in which they are involved in in-house practicum.

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 audiology. To enter the program:

• Complete a course of study with a minimum of 36 credits.

7800:660 Introduction to Graduate Studies in Theatre Arts 1
7800:665 Audiences for the Arts: Research/Analysis 2
7800:681 Introduction to Arts Management 2
7800:682 Seminar in Dramatic Practice I, II 6

• Related fields: Options here include work in computer science, grantsmanship and advertising/promotion.
• Complete an oral defense of the thesis project.

See the coordinator of Theatre Area Graduate Program regarding the M.A. in theatre.

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 receive 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

Phyllis Fitzgerald, RN, Ph.D., Assistant Dean, Undergraduate Program
A. Jeanne Hoffer, R.N., Ed.D., Assistant Dean, Graduate Programs
Barbara E. Brown, R.N., Ed.D., Assistant Dean, 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 en famille 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 life span of en famille selves in interrelationship with the ecosystem. Family health is perceived as expansion of consciousness of en famille 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. Undergraduate 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 en famille 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 intuiting. 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 en famille 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 en famille selves. The en famille 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 en famille selves. Family-health nurses, with families and en famille selves, experience the dialectical process of health, through health appraisal, anticipatory dynamics, stress management, health learning and en famille 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, en famille self and leadership.
- Evaluate health with families and en famille selves through health appraisal, anticipatory dynamics, stress management, health learning and en famille 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 3.00 on a 4.00 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 500-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 applicant. The director will send recommendation first to the dean of the College, then to the dean of the Graduate School who will notify the student.

The completed application must be in the office of the College of Nursing by March 1 or October 1. The student will be notified of status by April 1 or November 1.

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 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 of free electives. A student is required to take a minimum of 37 credits in the total program. Additional credits will provide the 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:603 Theoretical Basis for Family Health Nursing</td>
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</tr>
<tr>
<td>8200:613 Nursing Inquiry</td>
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<tr>
<td>8200:619 Family-Health Appraisal</td>
<td>3</td>
</tr>
<tr>
<td>8200:622 Family-Health Nursing I</td>
<td>4</td>
</tr>
<tr>
<td>8200:623 Family-Health Nursing II</td>
<td>4</td>
</tr>
<tr>
<td>8200:689 Colloquium</td>
<td>1</td>
</tr>
</tbody>
</table>

Select one of the following three areas:

• Direct Care:
  - 8200:680 Family-Health Nursing Leadership Seminar: Direct Care with Families
  - 8200:681 Family-Health Nursing Leadership Practicum: Direct Care with Families

  Two of the following:
  - 8200:624 Nursing of Families with Children
  - 8200:626 Nursing of Families with Adult Members
  - 8200:628 Health Perspectives of the Expanding Family
  - 8200:671 Nursing of Families with Older Members
  - 8200:675 Culture, Ethnicity and Health Care
  - Elective
  - 8200:699 Thesis Research

• Educational:
  - 8200:685 Family-Health Nursing Leadership Seminar: Education
  - 8200:686 Family-Health Nursing Leadership Practicum: Education

  Two of the following:
  - 5100:600 Philosophies of Education
  - 5100:642 Topical Seminar: Management and Evaluation
  - 8200:625 Teaching Strategies in Nursing Education
  - Elective
  - 8200:699 Thesis Research

• Administration:
  - 8200:629 Financial Management for Nursing Administration
  - 8200:630 Human Resources in Nursing Settings
  - 8200:687 Family-Health Nursing Leadership Seminar: Administration
  - 8200:688 Family-Health Nursing Leadership Practicum: Administration
  - Elective
  - 8200:699 Thesis Research

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.
Constance L. Leistiko, J.D., Assistant Dean For 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 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, interfaced 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 expecting to enter 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, the student’s college record and Law School Admission Test score must demonstrate that he is 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 prelaw 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 academic and personal background, 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 nonrefundable 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.
- Submit to Law School Admission Services, Newtown, PA:
  - 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 the 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 office of the registrar) of the institution awarding the baccalaureate degree. An official transcript showing award of the baccalaureate degree must be filed by the student with the school 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 of 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 nonrefundable 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 nonrefundable 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.
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 fill 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 87 credits.
- Composition 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 50 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.

Academic Information

Requirements

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

Fall Semester

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<th>Credit</th>
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<td>Civil Procedure I</td>
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<td>Contracts I</td>
<td>3</td>
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<tr>
<td>Property I</td>
<td>3</td>
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<tr>
<td>Torts I</td>
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<tr>
<td>Legal Research</td>
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<td>Basic Legal Communication</td>
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<td>Intermediate Legal Communication</td>
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Spring Semester

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<tr>
<td>Contracts II</td>
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<tr>
<td>Criminal Law</td>
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<tr>
<td>Property II</td>
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<td>Torts II</td>
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Evening Program

First Year, Required

Fall Semester

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Spring Semester

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<td>Criminal Law</td>
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<td>Legal Profession</td>
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<tr>
<td>Torts II</td>
<td>3</td>
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</tbody>
</table>

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 student 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.
rals 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 legal 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

The following system of grading is used in recording the quality of a student's academic work.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade Points Per Credit</th>
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<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
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<td>A-</td>
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<tr>
<td>B+</td>
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<td>3.30</td>
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<tr>
<td>B</td>
<td>Average</td>
<td>3.00</td>
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<tr>
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<tr>
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<td>Permanent Incomplete</td>
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<td>0.00</td>
</tr>
<tr>
<td>CR</td>
<td>Credit</td>
<td>0.00</td>
</tr>
<tr>
<td>NCR</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 Junis 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>Grade</th>
<th>Minimum GPA</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>Grade</th>
<th>Minimum GPA</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 midpoint of a semester or summer session with the signature of a dean.

After the midpoint 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.

The office name implies, most of the work done involves post-conviction representation. The office staff has perfected appeals in the State Courts of Appeals, 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 office 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 front line 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 solve 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 Office, 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 where 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 W. Chalstet.

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, annually awards the Judge Florence E. Allen Memorial Award of a $50 United States Savings Bond to a graduating law student dedicated upon meritorious achievements in scholastics, community service and PAD, as determined by a committee chaired by the dean, School of Law.

Prentice-Hall, Inc. provides an annual 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 contributions 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 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 a $300 award 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 the dean, School of Law.

The Judge and Mrs. E. Pardee Memorial Scholarship in an amount not to exceed $500 is awarded annually to a deserving, full-time law student of demonstrated scholarship.

The 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 Ferbstein Scholarship Fund is established by the Akron Education Association (AEA) in 1979 as a tribute to Lee Ferbstein, for more than 30 years AEA legal counsel and a former member of the University's Board of
The Black American Law Student Association (BLSA) was accredited as a law student organization in 1974 and is an affiliate of National BLSA, Inc. Dedicated to the twin objectives of increasing minority enrollment and retention, BLSA sponsors seminars on subjects such as legal rights of Blacks, poor and oppressed people.

Bracton’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.

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.

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.
Research Centers and Institutes

Joseph M. Walton, Ph.D., Acting Dean, Graduate Studies and Research
Brian F. Pendleton, Ph.D., Acting 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 graduate and undergraduate students 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.

Ray C. Bliss Institute of Applied Politics
The Honorable Vernon F. Cook, Director

The Ray C. Bliss Institute of Applied Politics is a public education and research adjunct of The University of Akron and its Department of Political Science. The broad purposes of the institute, in keeping with the career of its namesake and the respect that he gained over many years in the political world, are: to give all citizens, and particularly young people, an opportunity to learn how to become active and competent in political life; to help maintain a tradition of ethical public service in politics; to foster useful relationships between applied politics and political science; to promote public comprehension of political organizations and the requirements for their effectiveness; to improve understanding of continuity and change in American political institutions; and to provide advanced experience in practical politics to students with primary career goals in political science.

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 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 competently 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, and 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.
- 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
Laurence 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 from 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 function 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

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 investigation of new processes 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 of Polymer Science 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.

*For a complete description of this institute, see "Education and Research in Adult Development" under Continuing Education and Public Services in this section.
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
James L. Shanahan, 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 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

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 500 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 efficient 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 toward 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 plane, 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 Cardiovascular Program, LPN, Phlebotomy, 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, life 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, smoking, tennis, yoga.

**Department of Conferences and Seminars**

William T. Nichols, Ed.D., Assistant Dean
Marvin E. Phillips, 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 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 telephones, video 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.

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**PUBLIC SERVICES/OUTREACH COORDINATION**

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 for 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 interchange 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.

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**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 representing 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.

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**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 10-county area.
ARC offers life- and work-planning services in 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.

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**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.
Course Numbering System*

INDEX

Department of Developmental Programs
1020 Developmental Programs

Education Language Institute
1030 Education Language Institute

University College
1100 General Studies

Air Force ROTC
1500 Aerospace Studies

Army ROTC
1600 Military Science

Interdisciplinary Programs
1610 Afro-American Studies
1830 Environmental Studies
1850 Institute for Life-Span Development and Gerontology
1860 Peac 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
2230 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
2560 Transportation
2710 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
3420 Chemical Engineering
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
3980 Urban Studies

College of Engineering
4100 General Engineering
4200 Chemical Engineering
4300 Civil Engineering
4460 Electrical Engineering
4480 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
5500 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 Education 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
8200 Nursing

School of Law
9200 Law

* A more detailed explanation of the numbering system can be found in "Course Numbering Systems," Section 3 of this Bulletin.
DEVELOPMENTAL PROGRAMS

1020:

040 BASIC WRITING  I  4 credits*
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  4 credits*
Introduces the basic concepts of elementary algebra and provides an extensive review of arithmetic operations.

052 BASIC MATHEMATICS  II  Designed to review and strengthen the student's knowledge 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
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.

1021-299 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.

GENERAL STUDIES

1100:

105 INTRODUCTION TO PUBLIC SPEAKING  3 credits
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  3 credits
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  4 credits
Sequentials: Proficiency in reading and writing of English is obtained. Reading materials used in literary works of our Western tradition.

115.6 INSTITUTIONS IN THE UNITED STATES  3 credits each
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  ½ credit each
Participation in individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout his or her lifetime.

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 SAVIN
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
170 VARSITY BASEBALL
171 VARSITY BASKETBALL
172 VARSITY CROSS COUNTRY
173 VARSITY FOOTBALL
174 VARSITY GOLF
175 VARSITY SOCCER
176 VARSITY SOFTBALL
177 VARSITY SWIMMING
178 VARSITY TENNIS
179 VARSITY TRACK
180 VARSITY WRESTLING
181 VARSITY VOLLEYBALL

**Varsity sports are one credit each.
† One credit each. Two periods each week.
Air Force ROTC

AEROSPACE STUDIES

1500:

113-12 FIRST YEAR AEROSPACE STUDIES
1.5 credits each

(AS100), General Military Course
Mission and organizations of Air Force and current events discussed to show how the
military contributes to national defense. Laboivy laboratory required.

253-4 SECOND YEAR AEROSPACE STUDIES
1.5 credits each

(AS200), General Military Course
Emphasis on air power history, film, lectures and class discussions. The political-military
environment is presented. Leadership laboratory.

305-3 THIRD YEAR AEROSPACE STUDIES
3 credits each

(AS300), Professional Officer Course
Management concepts in the military. Leadership theory, functions and practices; profes-
sionalism, and responsibilities. Communicative skills are developed. Leadership laboratory.

453-4 FOURTH YEAR AEROSPACE STUDIES
3 credits each

(AS400), Professional Officer Course
Focuses on the military profession, military justice systems, civil-military interactions,
and the framework and formulation of defense policy. Communicative skills are
developed. Leadership laboratory.

101 INTRODUCTION TO MILITARY SCIENCE II
2 credits

Study and application of the principles of basic military leadership, land navigation/over-orienting, cross-country skiing and first aid. No military obligation incurred. Leadership laboratory required.

200 BASIC MILITARY LEADERSHIP
2 credits

Study and application of the leadership assessment program (LAP). Practical experience in
rappelling, land navigation/overorienting and first aid. No military obligation incurred. Leadership laboratory required.

201 SMALL UNIT OPERATIONS
2 credits

Study and application of the principles of small units and their operations. Practical
work with communications equipment and an introduction to writing in operations.
Training in combat marksmanship, wilderness training and first aid. No military obligation incurred. Leadership laboratory required.

300 ADVANCED LEADERSHIP
1 credit

Prerequisites: 100, 200 and/or permission. Intensive investigation of the leadership
process to include application work emphasizing open ethical values. Duties and responsibilities. Leadership laboratory required.

301 ADVANCED LEADERSHIP II
3 credits

Prerequisites: 200 and/or permission. Study and analysis of small unit leadership and tactics,
stress and application and problem-solving processes. Practical work with communications
equipment and land navigation. Leadership laboratory required.

400 MILITARY MANAGEMENT
3 credits

Prerequisites: 200, 300 or permission. Study of the military history and public issues
and the military justice system. Leadership laboratory required.

401 MILITARY MANAGEMENT II
3 credits

Prerequisites: 300, 400 or permission. Study of Army commands and staff procedures. Examination
of officer leadership and management responsibilities to include planning and organizing,
staffing and control; and oral and written communications. Leadership laboratory required.

Army ROTC

MILITARY SCIENCE

1600:

100 INTRODUCTION TO MILITARY SCIENCE I
2 credits

Study of the organization of the Total Army, the Army National Guard, the Army Reserve and the Branches of the Army. An introduction to and an application of rappelling, rifle marksmanship, to include humane safety and first aid. No military obligation incurred. Leadership laboratory required.

Enrollment in the Science and Engineering Branches

AFRO-AMERICAN STUDIES

1810:

401 GENERAL SEMINAR IN AFRO-AMERICAN STUDIES
3 credits

Prerequisites: 3400, 2200 or permission. Exploration and intensive examination of variety of
issues related to role and minority group relations which formally stand outside the compass
of any one subject matter area.

ENVIRONMENTAL STUDIES

1830:

201 MAN AND THE ENVIRONMENT
2 credits

Study of man's relationship with nature, his dependence upon his environment and the control
over it. An interdisciplinary approach with instructors from various University departments,
government and industry describing their approaches to the environment.

402 SEMINAR IN ENVIRONMENTAL STUDIES
2 credits

Prerequisites vary with topic. Credit in graduate program must have prior approval of advisee.
Skills, attitudes and fundamental concepts dealing with timely environmental problems and
issues covered. Instructors under direction of University faculty.

490/590 WORKSHOP IN ENVIRONMENTAL STUDIES
1-4 credits

490/590, Independent study. The program must have the prior approval of the advisor. The
advisor and advisor must assume responsibility for the program.

602 EVALUATION OF ENVIRONMENTAL DATA
3 credits

Prerequisites: one year of chemistry, physics, or experience in course work in chemical engineering. A review of environmental testing techniques in current use, emphasis on interpretation and implications.

681 GRADUATE SEMINAR IN ENVIRONMENTAL STUDIES
3 credits

Prerequisites: 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 INTRODUCTION TO WOMEN'S STUDIES 3 credits
An interdisciplinary exploration of research methodology, empirical data, and theories on the history, culture, experience, accomplishments and status of women.

450 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1 credit
(May be repeated for a total of two credits)
Prerequisite: 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 semesters 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
(May be repeated)
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.

495 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1-3 credits
Prerequisite: Permission. Supervised experience in research or community agency work.

499 SEMINAR IN WOMEN'S STUDIES 1 credit
Prerequisites: 300 and nine elective credits in women's studies or instructor's permission. Selected topics in women's studies to be taken in conjunction with 493.

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 analyses and syntheses 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:

330 TOPICS IN PEACE STUDIES 1-3 credits
(May be repeated for a total of three credits)
Interdisciplinary topics related to peace studies.

351 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 three credits)
Detailed study on selected topics related to peace.

350 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:

250-250-450 HONORS COLLOQUIUM: HUMANITIES 3 credits each
Prerequisite: Admission to University Honors Program. Interdisciplinary colloquium on important issues in humanities.

280-360-460 HONORS COLLOQUIUM: SOCIAL SCIENCES 3 credits each
Prerequisite: Admission to University Honors Program. Interdisciplinary colloquium on important issues in social sciences.

270-270-470 HONORS COLLOQUIUM: NATURAL SCIENCES 3 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)
Prerequisite: 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 humanities as they bear upon history and practice of medicine. Seminar draws upon instructors from the University and community, and includes performances, films, and tapes appropriate to topics discussed.

401/501 SPECIAL TOPICS: MEDICAL EDUCATION 1-3 credits
(May be repeated with a change of topic with a maximum of three credits toward graduation)
Prerequisite: Upper-college student status and permission. Selected topics on medical education offered by professionals. Intended to provide advanced undergraduate education and continuing education for students 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, 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.

437 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.

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.
Community and Technical College

COOPERATIVE EDUCATION

2000:

201,301 COOPERATIVE EDUCATION 0 credits
Prerequisite: cooperative education students only. Work experience in business, industry or governmental agency; comprehensive performance evaluation and written report required.

DISTINGUISHED STUDENT PROGRAM

2015:

150 DISTINGUISHED STUDENT COLLOQUIUM 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
Prerequisite: admission to College Distinguished Student Program; interdisciplinary colloquium on topics and issues in the humanities, social sciences and natural sciences.

180 INTRODUCTION TO MATHEMATICAL APPLICATIONS 3 credits
Prerequisite: 110 or 141 or equivalent. Course introduces the student to the applications of mathematical concepts and techniques in various fields.

181 MATHEMATICAL ANALYSIS I 4 credits
Prerequisite: 180. Course covers the fundamentals of mathematical analysis, including limits, continuity, differentiation, and integration.

182 MATHEMATICAL ANALYSIS II 4 credits
Prerequisite: 181. Course continues the study of mathematical analysis, focusing on advanced topics such as series, sequences, and convergence.

ASSOCIATE DEGREE PROGRAMS

2000:

210 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Prerequisite: 201,301 COOPERATIVE EDUCATION. Course covers the basics of library technology, including cataloging, classification, and online public access systems.

211 CATALOGING, CLASSIFYING AND PROCESSING MATERIALS 3 credits
Prerequisite: 210. Course focuses on the practical aspects of cataloging and classification, including the use of Dewey Decimal System and Library of Congress Classification.

212 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Prerequisite: 211. Course covers the management of library media centers, including budgeting, personnel management, and program development.

213 MATERIALS SELECTION 2 credits
Prerequisite: 212. Course introduces students to the selection and evaluation of library materials, including books, periodicals, and digital resources.

214 REFERENCE PROCEDURES 3 credits
Prerequisite: 213. Course covers the principles and techniques of providing reference services to library patrons.

215 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisite: 214. Course focuses on the design and implementation of information retrieval systems for libraries.

EDUCATIONAL TECHNOLOGY

2200:

221 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Prerequisite: 201,301 COOPERATIVE EDUCATION. Course covers the basics of library technology, including cataloging, classification, and online public access systems.

222 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Prerequisite: 221. Course covers the management of library media centers, including budgeting, personnel management, and program development.

223 MATERIALS SELECTION 2 credits
Prerequisite: 222. Course introduces students to the selection and evaluation of library materials, including books, periodicals, and digital resources.

224 REFERENCE PROCEDURES 3 credits
Prerequisite: 223. Course covers the principles and techniques of providing reference services to library patrons.

225 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisite: 224. Course focuses on the design and implementation of information retrieval systems for libraries.

EDUCATIONAL TECHNOLOGY

2200:

226 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Prerequisite: 201,301 COOPERATIVE EDUCATION. Course covers the basics of library technology, including cataloging, classification, and online public access systems.

227 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Prerequisite: 226. Course covers the management of library media centers, including budgeting, personnel management, and program development.

228 MATERIALS SELECTION 2 credits
Prerequisite: 227. Course introduces students to the selection and evaluation of library materials, including books, periodicals, and digital resources.

229 REFERENCE PROCEDURES 3 credits
Prerequisite: 228. Course covers the principles and techniques of providing reference services to library patrons.

230 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisite: 229. Course focuses on the design and implementation of information retrieval systems for libraries.

EDUCATIONAL TECHNOLOGY

2200:

231 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Prerequisite: 201,301 COOPERATIVE EDUCATION. Course covers the basics of library technology, including cataloging, classification, and online public access systems.

232 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Prerequisite: 231. Course covers the management of library media centers, including budgeting, personnel management, and program development.

233 MATERIALS SELECTION 2 credits
Prerequisite: 232. Course introduces students to the selection and evaluation of library materials, including books, periodicals, and digital resources.

234 REFERENCE PROCEDURES 3 credits
Prerequisite: 233. Course covers the principles and techniques of providing reference services to library patrons.

235 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisite: 234. Course focuses on the design and implementation of information retrieval systems for libraries.

EDUCATIONAL TECHNOLOGY

2200:

241 TECHNOLOGY AND HUMAN VALUES 2 credits
Prerequisite: 201,301 COOPERATIVE EDUCATION. Course covers the ethical and moral implications of technology, including the impact of technology on society, the environment, and personal privacy.

242 AMERICAN URBAN SOCIETY 3 credits
Prerequisite: 241. Course focuses on the study of urban sociology, including the causes and consequences of urbanization.

243 DEATH AND DYING 2 credits
Prerequisite: 242. Course covers the cultural and religious perspectives on death and dying, as well as the psychological and medical aspects of these experiences.

244 SURVEY OF BASIC ECONOMICS 3 credits
Prerequisite: 243. Course introduces the basic concepts and principles of economics, including supply and demand, market analysis, and economic growth.

245 WORK RELATIONSHIPS 3 credits
Prerequisite: 244. Course covers the dynamics of employment relationships, including negotiation, conflict resolution, and job satisfaction.

246 THE BLACK AMERICAN 2 credits
Prerequisite: 245. Course focuses on the history and culture of black Americans, including slavery, segregation, and the Civil Rights Movement.

247 SPECIAL TOPICS: ASSOCIATE STUDIES 1-4 credits
Prerequisite: 246. Course covers special topics in the study of black American history and culture, including the黑人历史、黑人民权运动等。

331 MATHEMATICS FOR TECHNICAL APPLICATIONS 3 credits
Prerequisite: 247. Course covers the application of mathematical concepts to technical problems, including algebra, trigonometry, and calculus.

INDIVIDUALIZED STUDY

2100:

110 INDIVIDUALIZED STUDY EVALUATION 1 credit
Prerequisite: admission to program. Course covers the evaluation of individualized study projects, including the assessment of student progress and the development of individualized study plans.

111 DEVELOPMENTAL STUDY PROGRAM 1-5 credits
Prerequisite: 110. Course provides individualized study programs for students requiring additional academic support.

EDUCATIONAL TECHNOLOGY

2200:

220 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Prerequisite: 210,301 COOPERATIVE EDUCATION. Course covers the basics of library technology, including cataloging, classification, and online public access systems.

221 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Prerequisite: 220. Course covers the management of library media centers, including budgeting, personnel management, and program development.

222 MATERIALS SELECTION 2 credits
Prerequisite: 221. Course introduces students to the selection and evaluation of library materials, including books, periodicals, and digital resources.

223 REFERENCE PROCEDURES 3 credits
Prerequisite: 222. Course covers the principles and techniques of providing reference services to library patrons.

224 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisite: 223. Course focuses on the design and implementation of information retrieval systems for libraries.

EDUCATIONAL TECHNOLOGY

2200:

230 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Prerequisite: 210,301 COOPERATIVE EDUCATION. Course covers the basics of library technology, including cataloging, classification, and online public access systems.

231 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Prerequisite: 230. Course covers the management of library media centers, including budgeting, personnel management, and program development.

232 MATERIALS SELECTION 2 credits
Prerequisite: 231. Course introduces students to the selection and evaluation of library materials, including books, periodicals, and digital resources.

233 REFERENCE PROCEDURES 3 credits
Prerequisite: 232. Course covers the principles and techniques of providing reference services to library patrons.

234 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisite: 233. Course focuses on the design and implementation of information retrieval systems for libraries.

EDUCATIONAL TECHNOLOGY

2200:

240 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Prerequisite: 230,301 COOPERATIVE EDUCATION. Course covers the basics of library technology, including cataloging, classification, and online public access systems.

241 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Prerequisite: 240. Course covers the management of library media centers, including budgeting, personnel management, and program development.

242 MATERIALS SELECTION 2 credits
Prerequisite: 241. Course introduces students to the selection and evaluation of library materials, including books, periodicals, and digital resources.

243 REFERENCE PROCEDURES 3 credits
Prerequisite: 242. Course covers the principles and techniques of providing reference services to library patrons.

244 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisite: 243. Course focuses on the design and implementation of information retrieval systems for libraries.
CRIMINAL JUSTICE TECHNOLOGY 2220:

100 INTRODUCTION TO CRIMINAL JUSTICE
Overview of criminal justice system, its history, development and evolution within United States including subsystems of police, courts, corrections. Constitutional limitations, current criminal justice practices — human relations, professionalization, prevention. 3 credits

101 INTRODUCTION TO SECURITY
Overview of functions, problems and strategies of contract and proprietary security agencies. Philosophy of the protection of assets based on risk analysis and cost effectiveness. 4 credits

102 CRIMINAL LAW FOR POLICE
Historical development and philosophy of law. Thorough study of modern criminal law including Ohio Criminal Code and defenses to particular crimes. 3 credits

104 EVIDENCE AND CRIMINAL LEGAL PROCESS
Study of evidence law, constitutional perspectives and law enforcement officer's relationship to court. Procedures from arrest to incarceration. 3 credits

106 JUVENILE JUSTICE PROCESS
Examination of juvenile justice system, functions of its various components: adjudication,substance, legislation: causative factors, prevention and treatment methodologies, and programs. 3 credits

110 SOCIAL VALUES AND THE CRIMINAL JUSTICE PROCESS
Basic principles of a sound criminal justice process. Roles of administration of justice practitioners in relation to public they serve. 3 credits

200 CRIMINAL JUSTICE THEORY AND PRACTICE
Examination of criminal justice administrative problems in personnel selection, training, advancement and personalization. Consulation and cooperation between agencies. Advanced concepts for change within criminal justice system. 3 credits

240 DYNAMICS OF VICE CRIME AND SUBSTANCE ABUSE
Involvement in problems of violence and narcotics and drug abuse in society. Provides knowledge concerning issues involved in consensual acts, impact on society of physical and psychological results of substance abuse. 3 credits

250 CRIMINAL CASE MANAGEMENT
Prerequisites: 100, 2840 and 100 and permission. Reconstruction of chronological sequence of a crime including searching, collection, preserving and evaluation of physical and oral evidence. Scientific approach to criminal investigation. 6 credits

290 SPECIAL TOPICS: CRIMINAL JUSTICE
Prerequisites: 100, 104 and permission. Selected topics in areas of criminal justice such as community relations, crime statistics, ethics, survival. 1-4 credits

294 CRIMINAL JUSTICE INTERNSHIP EVALUATION
Prerequisites: 100, 30 credits and permission. Internship. Analysis by student and instructor of internship experience. A sharing of knowledge gained by student during internship. 1 credit

295 CRIMINAL JUSTICE INTERNSHIP
Prerequisites: 100, 30 credits and permission. Supervised work experience in criminal justice agency for purpose of increasing student understanding of criminal justice process. 3 credits

HANDICAPPED SERVICES 2210:

100 INTRODUCTION TO INTERPRETING FOR THE DEAF
Introduction to basic theories, principles and practices for interpreting for the deaf in general and in specialized settings. A survey course intended to familiarize the student with ethics and guidelines appropriate in situational settings. Will also emphasize interpreting, translating processes and skill building. 4 credits

104 SIGN LANGUAGE, GESTURE AND MINE
Non-language aspects of communication which form base for communication in American Sign language and international sign language. Emphasis on eye training, use of gestures, pantomime, body language. 3 credits

110 SPECIALIZED INTERPRETING I
Introduction to interpreting in counseling, mental health, medical and social work settings with an overview and development of specific translations in these areas. 3 credits

150 HANDICAPPED SERVICES PRACTICUM
(Must be repeated for a total of eight credits) 1-4 credits

200 REVERSE INTERPRETING
Prerequisites: 104, 7700 and 100. Designed to enhance skills in comprehending the various sign language systems, a continuum of gestural signs to American Sign language system based on English. Emphasis on problem solving. Prerequisites and problems of reverse interpreting: oral, written and communications of deaf persons into its proper English equivalent will be covered. 3 credits

230 SPECIALIZED INTERPRETING II
Prerequisite: 7700. INTRODUCTION TO INTERPRETING. Interpreting in the vocational/technical, legal, educational and religious settings with an overview and development of specific translations in these areas. 3 credits

290 SPECIAL TOPICS: HANDICAPPED SERVICES
Selected topics or subjects of interest in handicapped services. 1-3 credits

305 CRIMINAL JUSTICE INTERNSHIP
Prerequisite: permission. Selected topics or subject areas of interest in criminal justice process. 1-2 credits

FIRE PROTECTION TECHNOLOGY 2230:

100 INTRODUCTION TO FIRE PROTECTION
History and philosophy of fire protection; introduction to agencies involved; current legislative and administrative developments; discussion of current related problems; expanding future of fire protection and career orientation. 2 credits

102 FIRE SAFETY IN BUILDING DESIGN AND CONSTRUCTION
Exploration of building construction and design with emphasis on fire protection concerns; review of related statutory and suggested guidelines — local, state and national scope. 3 credits

104 FIRE INVESTIGATION METHODS
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. 3 credits

153 PRINCIPLES OF FIRE PROTECTION AND LIFE SAFETY
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. 3 credits

202 FIRE SUPPRESSION METHODS
Effective and efficient utilization of manpower, equipment and apparatus. Emphasis on preplanning, fireground organization problem solving related to fireground decision making and attack tactics and strategy. 3 credits

204 FIRE HAZARDS RECOGNITION
Inspection techniques and procedures, setting up a fire prevention bureau. Recognition and correction of fire hazards. Public relations and code enforcement. 3 credits

205 FIRE DETECTION AND SUPPRESSION SYSTEMS I
Design, installation, maintenance and relocation of portable fire extinguishing appliances and pre-engineered automatic systems. Fire detection and alarm signaling systems operational capabilities, requirements. 3 credits

206 FIRE DETECTION AND SUPPRESSION SYSTEMS II
Prerequisites: 205. Design, installation and operation of automatic fire suppression systems, includes sprinkler, foam, carbon dioxide, dry chemical, halogenated agent systems. 3 credits

250 HAZARDOUS MATERIALS
Study of chemical characteristics and reactions related to storage, transportation and handling of hazardous materials. Emphasis on emergency situations, fire-fighting and control. 4 credits

254 FIRE CODES AND STANDARDS
Prerequisite: 104. Study of legal rights and duties, liabilities and responsibilities of fire department organizations. 3 credits

257 FIRE PROTECTION FOR BUSINESS AND INDUSTRY
Industrial fire protection problems including specialized hazards, automatic extinguishing systems, codes and standards, fire safety planning, fire brigade organizations. 3 credits

290 SPECIAL TOPICS: FIRE PROTECTION TECHNOLOGY
(May be repeated for a total of four credits) 1-2 credits

295 FIRE PROTECTION INTERNSHIP
Prerequisites: 200. Credits in program and permission of program coordinator. Supervised work experience in fire protection to increase student understanding of fire protection technology. Analysis by student and instructor of internship experience. Sharing of knowledge gained during internship. 4 credits
## COMMERCIAL ART

### 2240:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>2240</td>
<td><strong>DESIGN IN COMMERCIAL ART</strong></td>
<td>3 credits</td>
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<tr>
<td></td>
<td>Projects in visual design fundamentals. Analysis of design/research process applied to advertising layout and composition. Design constructions in pattern and self-contained forms.</td>
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<tr>
<td>241</td>
<td>TYPOGRAPHY AND LETTERING</td>
<td>3 credits</td>
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<td></td>
<td>Prerequisite: 124. Letter symbols studied in terms of communication and aesthetic design. History of letter forms, type symbols, composition, and type specification for commercial application. Analysis of contemporary typefaces.</td>
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<tr>
<td>222</td>
<td>ADVERTISING PHOTOGRAPHY</td>
<td>3 credits</td>
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<td></td>
<td>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 in-film use of camera with controllable shutter, lens, light, and focus.</td>
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<tr>
<td>242</td>
<td>ADVERTISING LAYOUT DESIGN</td>
<td>3 credits</td>
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<td>243</td>
<td>PUBLICATION DESIGN</td>
<td>3 credits</td>
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<td></td>
<td>Prerequisites: 242 and 7100 275. Study of publications and design of promotional brochures, annual reports and other mail-order communication devices. Emphasis on total design systems from concept to camera-ready art. Portfolio development.</td>
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<tr>
<td>245</td>
<td>DESIGNING FOR PRODUCTION</td>
<td>3 credits</td>
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<td></td>
<td>Prerequisite: 149. 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 finishing-art procedures.</td>
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<tr>
<td>247</td>
<td>PACKAGING DESIGN</td>
<td>3 credits</td>
</tr>
<tr>
<td>290</td>
<td>SPECIAL TOPICS: COMMERCIAL ART</td>
<td>1-3 credits</td>
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<td></td>
<td>Pre requisite: permission of instructor. Specified topics of subject areas of interest in commercial art.</td>
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<tr>
<td>295</td>
<td>PRACTICUM IN COMMERCIAL ART</td>
<td>1-3 credits</td>
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<td></td>
<td>(Repeatable to a maximum of nine hours.) Controlled by portfolio competition or permission of the instructor. Provides experience through an internal design and production studio. Involves responsibilities for the design and production of communication materials, includes organizational and supervisory responsibilities.</td>
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## PUBLIC SERVICE TECHNOLOGY

### 2250:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>260</td>
<td>ADMINISTRATION AND SUPERVISION IN THE PUBLIC SERVICE</td>
<td>3 credits</td>
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<tr>
<td></td>
<td>Prerequisites: 2220 100 or 2220 101. 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 department.</td>
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## COMMUNITY SERVICES TECHNOLOGY

### 2260:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>100</td>
<td>INTRODUCTION TO COMMUNITY SERVICES</td>
<td>3 credits</td>
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<td></td>
<td>Introductory course to familiarize student with role of community services technician in service delivery. Use, history and rationale for paraprofessionals, programs, volunteer experiences, self-awareness and attraction in community services.</td>
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<tr>
<td>150</td>
<td>INTRODUCTION TO GEOBOTANICAL SERVICES</td>
<td>3 credits</td>
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<td></td>
<td>Basic introduction to geology and role of community services technician in service delivery to aged. Topics include social, biological, economic and psychological aspects of aging, national and state legislation, services and service provider.</td>
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<tr>
<td>230</td>
<td>COMMUNITY-BASED RESIDENTIAL SERVICES</td>
<td>3 credits</td>
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<td>Orientation to community-based residential services and role of community services technician in delivery of services to mentally disabled. Includes historical, social and cultural forces on community-based services and practical aspects or operation of a residential facility.</td>
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<tr>
<td>232</td>
<td>ADVOCACY FOR THE DISABLED</td>
<td>3 credits</td>
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<td>Working with disabled individuals. Includes legal rights, advocacy roles, civil commitment guidelines, housing, employment and health-care needs.</td>
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## LABOR STUDIES

### 2270:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>101</td>
<td>INTRODUCTION TO LABOR STUDIES</td>
<td>3 credits</td>
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<tr>
<td></td>
<td>Overview of Trade Unionism in America from 18th Century to present with emphasis on factors affecting growth of unions, role of industrial unionism as alternative to craft unions. Trade Union movements in other countries examined for their influence on American unions.</td>
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<tr>
<td>111</td>
<td>COLLECTIVE BARGAINING</td>
<td>3 credits</td>
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<tr>
<td>122</td>
<td>LEGAL FRAMEWORK FOR COLLECTIVE BARGAINING</td>
<td>3 credits</td>
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<td></td>
<td>Legal framework within which collective bargaining process takes place. Rights of employees, union, employer under federal and state laws discussed in light of collective bargaining.</td>
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<tr>
<td>123</td>
<td>LABOR LEGISLATION AND ECONOMIC SECURITY</td>
<td>3 credits</td>
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<tr>
<td></td>
<td>Prerequisite: 122 or permission Federal and state legislation governing employment conditions and standards. Includes minimum wage, health and safety, unemployment compensation, OSHA, civil rights and anti-discrimination, Social Security, labor management reporting and disclosure.</td>
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</tr>
</tbody>
</table>
212 COLLECTIVE BARGAINING II
Prerequisite: 111. Mechanics and skills of formal grievance procedures in industrial, craft, and public settings. Investigation, recordkeeping and presentation of grievances, as well as study of arbitration process and presentation of arbitration cases.

221 OCCUPATIONAL HEALTH AND SAFETY STANDARDS
Prerequisite: 122. Examination of OSHA, Occupational Safety and Health Act and related responsibilities. (May be repeated for a total of four credits)

224 LABOR LAW IN THE PUBLIC SECTOR
Prerequisite: 271. Provides basic understanding of legal requirements and responsibilities placed upon parties when bargaining within federal, state, and local governments as well as with educational institutions. Legal framework of collective negotiations or contract administration.

231 FAIR PRACTICES AND EQUAL OPPORTUNITY
Prerequisite: 101. Rights and responsibilities of unions and union members as related to Title VII of the Civil Rights Act, the Voting Rights Act, and development of Equal Employment Opportunity.

241 UNION LEADERSHIP
Prerequisite: 101. Specific skills related to administration of local unions and duties and responsibilities of officers.

251 PROBLEMS IN LABOR STUDIES
Prerequisite: Final semester or permission. Each student required to combine field research and classroom time to identify, explore, and propose an approach to a current problem in labor management relations.

261 WAGE ADMINISTRATION
Prerequisite: 101, 111, or 122. Wage and salary determination: structure of wages, salaries and fringe benefits and use of merit and incentive plans. (May be repeated for a total of four credits)

271 PUBLIC SECTOR LABOR RELATIONS
Prerequisite: 101. Analyzes current problems, developments, and issues in public sector collective bargaining from growth of public employee unions to the values of bargaining in the public sector. Includes bargaining issues, right to strike and use of arbitration in public sector.

290 SPECIAL TOPICS: LABOR STUDIES
(May be repeated for a total of four credits)
Prerequisite: Permission. Selected topics or workshops in labor studies.

HOSPITALITY MANAGEMENT

2280:

120 SAFETY AND SANITATION
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
Skills and basic knowledge of food preparation procedures in a laboratory situation.

122 FUNDAMENTALS OF FOOD PREPARATION II
Prerequisite: 121. Continuation of 121. Advanced food preparation techniques presented in laboratory situations.

123 MEAT TECHNOLOGY
Intensive examination of meat cutting, portioning, determining product yield, and calculating cost.

135 MENU PLANNING AND PURCHASING
Principles of food purchasing procedures including policies, writing specifications, recognizing quality standards integrated with marketing techniques. Menu merchandising, menu planning.

150 HOTEL/MOTEL FRONT OFFICE PROCEDURES
Prepares student for entry-level positions in the hotel/motel industry. Basic principles of guest service, standard systems, techniques within hotel/motel industry.

152 MAINTENANCE AND ENGINEERING FOR HOTELS AND MOTELS
Familiarization with organization, terms, concepts, responsibilities common to engineering and building maintenance.

160 WINE AND BEVERAGE SERVICE
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
In-depth study of the styles of dining service, development of job descriptions, importance of courtesy, customer relations.

233 RESTAURANT OPERATIONS AND MANAGEMENT
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.

235 FOOD AND BEVERAGE COST CONTROL
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.

237 INTERNSHIP
Prerequisite: permission. On/off campus observation/work experience integrated with academic instruction. Concepts applied to practical situations.

240 SYSTEMS MANAGEMENT AND PERSONNEL
Prerequisites: 101, 111, or 122. Emphasis on management and teacher management. Emphasis on management and teacher management. Structured with total food service organization explored.

243 FOOD EQUIPMENT AND PLANT OPERATIONS
Available food service equipment. Selection, use and care. Field trips taken to wholesale outlets and food service establishments to see food service equipment and in operation.

254 HOTEL/MOTEL HOUSING MANAGEMENT
Analysis of housekeeping procedures. Organization of successful housekeeping department.

255 HOTEL/MOTEL SALES PROMOTION
Sales promotion techniques, functioning of sales department, need for sales planning. Sales tools, selling techniques for food and beverage. Group business. Advertising, community relations and internal personal and telephone selling.

256 HOSPITALITY LAW
Introduction to hotel, restaurant, travel 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
Prerequisite: 122. Production of basic items in baking: use of equipment, materials, cost control to produce the desired products.

262 CLASSICAL CUISINE
Prerequisites: 122, 123. Lecture-demonstration experience in preparation of traditional American hotel cuisine. Includes traditional repertories of foods, spirits. Application of kitchen production controls, menu planning.

263 INTERNATIONAL FOODS
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
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in food service management.

BUSINESS MANAGEMENT TECHNOLOGY

2420:

101 ELEMENTS OF DISTRIBUTION
Study of basic principles and methods in distribution. Presentation of marketing processes as it relates to consumer and industrial products. Emphasis on pricing, product, promotion, as well as distribution.

103 THE ROLE OF SUPERVISION IN MANAGEMENT
Prerequisites: 122. Presentation of basic management techniques: motivation, planning, organizing, leading and controlling. Emphasis on behavior, communication and employee compensation.

104 INTRODUCTION TO BUSINESS
Survey of course of business in its entirety including production, distribution, finance, sales, and personnel functions. Emphasis on descriptive materials, test vocabulary and career opportunities and responsibilities in various business fields.

105 INTRODUCTION TO CREDIT UNIONS
Credit union as financial institution. History, structure, duties of board of directors, advisory committees, financial counseling, lending and analysis, evaluation of financial statements.

111 PUBLIC RELATIONS
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
covers fundamentals of banking in operational perspective. Emphasis on bank functions, types of accounts, relationship to depository, loans, investments trust, safe deposit operations, internal and external controls, public service obligations.

115 CREDIT UNION OPERATIONS
Operations with emphasis on inter-transactions, credit principles, services and legal policies, financial planning and counseling, delinquency control and collections, credit union law.

117 SMALL BUSINESS DEVELOPMENT
Prerequisite: 104. Fundamentals of small business operations, emphasis on small business marketing.

118 SMALL BUSINESS MANAGEMENT AND OPERATIONS
Prerequisite: 117. Designed to provide greater insight into the management and financial aspects of small business operations. Emphasis on small business management.

121 OFFICE MANAGEMENT
Survey of office administration with emphasis on management and interaction of human resources. Includes study of office technology including information collection, processing, storage and retrieval.
123  FEDERAL REGULATION OF BANKING  2 credits
Prerequisite: 113. Study of agencies regulating banks, bank charters, bank reports and examinations, federal limitations on banking operations and regulation of bank expansion. Supervision of employees to conform with regulation.

125  PERSONAL FINANCIAL COUNSELING  3 credits
Family resource management; consumer decision making including consumer credit and family budget decisions, retirement planning, types of insurance, annuities and savings, consumer education, types and techniques of counseling.

170  BUSINESS MATHEMATICS  3 credits
Review of fundamentals of mathematics applicable to business, trade prices, retail pricing, interest and discounts, compound interest and annuities, consumer credit, payroll, income taxes, depreciation methods, financial statements and elementary statistics.

202  PERSONNEL PRACTICES  3 credits
Provides information necessary to develop policies and programs that attract, retain and motivate employees, includes staffing, human resources development, compensation plans, labor and management relations, appraisal systems and career planning.

211  BASIC ACCOUNTING I  3 credits
Accounting for sole proprietorships and partnerships. Service and merchandising concerns. Journals, ledgers, work sheets and financial statements. Includes handling of cash, accounts receivable, notes, inventories, plant and equipment and payroll.

212  BASIC ACCOUNTING II  3 credits
Prerequisite: 211. Study of accounting principles as applied to corporate form of business, and of manufacturing accounting for job order and process costing, budgeting and standard costs.

213  BASIC ACCOUNTING III  3 credits
Prerequisite: 212. Study of information needs of management. Emphasis on the interpretation and use of accounting data by management in planning and controlling business activities.

214  ESSENTIALS OF INTERMEDIATE ACCOUNTING  3 credits

216  SURVEY OF COST ACCOUNTING  3 credits
Prerequisite: 213. Provides student with conceptual understanding of how accounting information is developed and used for product costing, decision making and management planning and control.

217  SURVEY OF TAXATION  4 credits
Prerequisite: 212. Survey course of basic tax concepts, preparation of returns, supporting schedules and forms for individuals and businesses. Federal, state and local taxes are discussed. The major emphasis of this course is on business taxes.

221  ADMINISTRATIVE OFFICE SUPERVISION  2 credits
Prerequisite: 212. Study of skills development in supervisory leadership and includes basic concepts of function of office work, management of information, control of office services and work simplification.

225  CREDIT UNION LENDING AND COLLECTIONS  2 credits
Credit and collections including nature and role of credit, types of consumer credit, their management and investigation, along with collection policies, practices, systems.

227  ENTREPRENEURSHIP PROJECTS  4 credits
Prerequisite: 118. An overview of small business management. A project course during which students create a hypothetical business.

233  INSTALLMENT CREDIT  2 credits
Prerequisite: 113. Pragmatic course emphasizing evaluation, maintenance of consumer, commercial credit. Covers evaluation, legal aspects, collection, direct and indirect installment lending, leasing and other special situations, credit department management.

243  SURVEY IN FINANCE  3 credits
Prerequisite: three credits of economics and three credits of accounting. Survey of field including instruments, procedures, practices and institutions. Emphasis on basic financial concepts.

245  CREDIT UNION FINANCIAL MANAGEMENT  2 credits
Prerequisite: 211. Credit union accounting, financial statement analysis, budgeting and planning, management of cash and investments, liquidity, cost of funds, risk.

253  ELEMENTS OF BANK MANAGEMENT  2 credits
Prerequisite: 113. Applied course in bank operation and management. Bank case studies utilized to focus on objectives, planning, structure, control and interrelationship of banks, federal regulations and payments.

273  MONETARY SYSTEMS AND THE PAYMENTS MECHANISM  3 credits
Prerequisite: 280. Structure of banking system. Federal Reserve System policies and operations. Article IV of the 4CC, paperless electronic payments mechanism, bank responsibilities in deposit, collection, dishonor and return, payment of checks.

280  ESSENTIALS OF LAW  3 credits
Brief history of law and judicial system, study of contracts with emphasis on sales, agency, commercial paper and bailments.

290  SPECIAL TOPICS: BUSINESS MANAGEMENT TECHNOLOGY  1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in business management technology.

290  SPECIAL TOPICS: BUSINESS MANAGEMENT TECHNOLOGY  1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in business management technology.

REAL ESTATE 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 readings covering units on estates, property rights, license laws, contracts, deeds, mortgages, civil rights and zoning.

115  ELEMENTS OF HOUSING DESIGN AND CONSTRUCTION  2 credits
Prerequisites: 105, 185. Discussions and readings on neighborhoods and sites, design 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 developer in producing real estate for consumption.

185  REAL ESTATE LAW  2 credits
Prerequisite: 105. Contents of contemporary real estate law. The student is responsible for readings covering units on estates, property rights, license laws, contracts, deeds, mortgages, civil rights and zoning.

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. Student learns and applies 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 broker. Topics of discussion and research include site selection, development, marketing and financing transfer of industrial property.

235  COMMERCIAL REAL ESTATE  2 credits
Prerequisites: 105, 185. Elements course focusing on functions of commercial real estate broker. Topics of discussion and research include site selection, development, marketing and financing transfer of commercial paper.

245  REAL ESTATE FINANCE  2 credits
Prerequisites: 105, 185. Study of contents of contemporary real estate finance. Units on reading and discussion include mortgage instruments, financial institutions, mortgage market, governmental influence on finance and risk analysis and mortgage lending.

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
Prerequisites: 105, 185. Application of management functions of planning, organizing, directing, controlling and staffing in 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, 185. Student learns and applies mathematics necessary to profession of real estate. Topics include principles of taxation, area calculations, appraising mathematics, mortgage mathematics 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 systems. Larger systems utilizing time-sharing is also considered.

131  INTRODUCTION TO PROGRAMMING  2 credits
Prerequisite: 120. Illustrates basic functions of computers and provides specific information about third-generation computers, including programming in actual and assembly language.
203 FUNDAMENTALS OF INDUSTRIAL DISTRIBUTION 3 credits
Prerequisite: 2420.101. An introductory examination of the distribution field and pertinent middleman involved. Includes wholesalers, service institutions, and other channel members.

207 TECHNIQUES OF MERCHANDISING RESEARCH 2 credits
Prerequisite: 2420.101. Introduction to merchandising research. Uses of research for merchandisers, concepts in planning research. Approaches to research in a non-mathematical approach to analysis. Case histories of small merchandisers.

210 CONSUMER SERVICE FUNDAMENTALS 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 demonstrations and sales projects. Includes review of sales function as integral part of marketing process.

290 SPECIAL TOPICS: MARKETING AND SALES 1-3 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in sales and merchandising.

MARKETING AND SALES TECHNOLOGY

2520:

103 PRINCIPLES OF ADVERTISING 3 credits
Prerequisite: 101. Review of basic principles and functions of current advertising practice. Includes overview of related distributive institutions, media types and economic functions of advertising.

106 VISUAL PROMOTION 4 credits
Prerequisite: 101. 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 WHOLESALE 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
Prerequisite: 101. Presents basic principles and practices of retailing operations, including store selection, buying, pricing, and promotion practices. Uses made of extensive projects and investigations, and actual retail operations.

203 FUNDAMENTALS OF INDUSTRIAL DISTRIBUTION 3 credits
Prerequisite: 2420.101. An introductory examination of the industrial distribution network and pertinent middleman involved. Includes wholesalers, service institutions, and other channel members.

207 TECHNIQUES OF MERCHANDISING RESEARCH 2 credits
Prerequisite: 2420.101. Introduction to merchandising research. Uses of research for merchandisers, concepts in planning research. Approaches to research in a non-mathematical approach to analysis. Case histories of small merchandisers.

210 CONSUMER SERVICE FUNDAMENTALS 2 credits
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Study of basic principles of selling, emphasizing individual demonstrations and sales projects. Includes review of sales function as integral part of marketing process.

290 SPECIAL TOPICS: MARKETING AND SALES 1-3 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in sales and merchandising.
TRANSPORTATION

2560:

110 PRINCIPLES OF TRANSPORTATION
3 credits
Analysis of role of transportation in nation's economic development. Survey of historical development and economic aspects of air, highway, water, air and pipeline.

115 MOTOR TRANSPORTATION
3 credits
Corequisite: 110. 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, fares, tariffs, operations, equipment and financial aspects.

116 AIR TRANSPORTATION
2 credits
Prerequisite: 110. Analysis of economic characteristics of commercial air industry. Study of its problems, practices, regulations, rates, fares, tariffs and services.

117 WATER TRANSPORTATION
2 credits
Prerequisite: 110. Theories, practices, regulations of inland and ocean-going 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 and extensive study through progressive problem solving.

210 TRANSPORTATION: TERMINAL MANAGEMENT AND SAFETY OPERATIONS
2 credits
Prerequisite: 110. Management problems, practices, decision-making pertaining to location of facilities, personnel programs, operations, organization and control. Attention directed to safety aspects of transportation operations.

221 TRAFFIC AND DISTRIBUTION MANAGEMENT
3 credits
Prerequisite: 110. Principles and practices applicable to industrial traffic management and factors affecting transportation decisions. Some items analyzed are operations, services, warehousing, privileges and documentation.

222 MICROCOMPUTER APPLICATIONS IN TRANSPORTATION
3 credits
Corequisite: 240. Use microcomputer to solve transportation problems. Lease vs. buy analysis, modal selection based on cost, vehicle scheduling, use of transportation algorithms.

224 TRANSPORTATION REGULATION
3 credits
Prerequisite: 110. Interstate Commerce Act and related acts including leading cases involving interstate commerce. Law of freight and loss and damage. Regulatory procedures including practice and procedure before Interstate Commerce Commission.

227 TRANSPORTATION OF HAZARDOUS MATERIALS AND WASTES
2 credits
Federal regulations, identification and classification of hazardous materials, handling, loading and shipping procedures.

228 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, ticket exchange notices, refund notices and internal documents utilized 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, land distribution, itinerary preparation and routing.

290 SPECIAL TOPICS: TRANSPORTATION
(May be repeated for a total of four credits)
1.5 credits
Prerequisite: permission. Selected topics, subject areas in transportation.

HISTOTECHNOLOGY

2730:

225 HISTOTECHNOLOGY PRACTICUM
5 credits
Corequisite: 300. Introduction to histology. Application and practice of exemplary techniques in histological laboratory techniques.

290 SPECIAL TOPICS IN HISTOTECHNOLOGY
1.5 credits
Prerequisite: permission. Selected topics or subject areas of interest.

MEDICAL ASSISTING

2740:

120 MEDICAL TERMINOLOGY
3 credits
Prerequisite: 310. Vocabulary and terms used by medical personnel. Usage and spelling of medical terms.

130 MEDICAL ASSISTING TECHNIQUES I
3 credits
Corequisite: 120. Theory and practice of medical assisting duties most often performed in physician's office. Includes medical ethics and law, microbiology, care of instruments, medical emergency, surgery and medical asepsis.

220 PHARMACOLOGY IN MEDICAL ASSISTING
3 credits
Prerequisite: 130. Introduction to history of drugs, standardization, legislation, principles of action and classification with emphasis on responsibilities of administration and the medical system.

231 MEDICAL ASSISTING TECHNIQUES II
2 credits
Prerequisite: 130. Laboratory techniques, orientation to urinalysis, hematology, roentgen rays, electrocardiograms, dermatology, terminology, principles of medication, medical system and administration of injections.

232 MEDICAL ASSISTING TECHNIQUES III
2 credits
Prerequisite: 231. Knowledge of diagnoses and disease; special diets; theory and practice in taking vital signs, parenteral injections; and orientation to physical examination.

240 MEDICAL MACHINE TRANSCRIPTION
2 credits
Prerequisites: 234 and 2540. Designed to correlate medical terminology with secretarial terminology. Focus on medical and legal shorthand.

241 MEDICAL RECORDS
3 credits
Prerequisite: 130 and 2540. Study of medical records. Preparation of health records. Exposed to records found in medical offices.

250 MEDICAL ASSISTING SPECIALTIES
3 credits
Prerequisites: 231, 234, and special permission. Provides study in medical assisting specialties.

290 SPECIAL TOPICS: MEDICAL ASSISTING
1.5 credits
Prerequisite: permission. Selected topics or workshops of interest in medical assisting technology.
RADIOLOGIC TECHNOLOGY

2760:

101 INTRODUCTION TO RADIOLOGIC TECHNOLOGY
Prerequisite: admission to the program. Introduction to field of radiology including history of medicine and radiology. Ethical and professional responsibilities of radiologic technologist. Basic protection and skills. Orientation to radiology departments of affiliated hospitals. General patient care.

106.7 ANATOMY FOR RADIOLOGIC TECHNOLOGY I, II
Prerequisites: 101 and 161. Fundamental principles of disease processes, functional arrangement. Background in pathology needed for radiographer will be provided by lecture and demonstrations.

140 MEDICAL AND SURGICAL DISEASES, RADIOLOGY
Prerequisites: 286 and permission. Clinical performance with supervision. Application at an affiliated hospital. Applicable to students who are interested in radiologic technology.

156.5 RADIOPHICPRINCIPLES, II
Prerequisites: 161. Elementary principles of ionizing radiation and their application in medical setting. Radiographic accessories and chemical processing of exposed x-ray film.

170 RADIOGRAPHIC POSITIONING I
Corequisite: 101. Introductory course in instructing student in basic positioning nomenclature and radiologic positions. Positioning laboratory experience included.

171 RADIOGRAPHIC POSITIONING II
Prerequisite: 170. Continuation of 170. Includes additional positioning and refinement of positioning strategies. Laboratory.

184 CLINICAL APPLICATION I
Corequisites: 101 and 161. Introduction to a variety of positions in radiology departments. Lectures and laboratory experience correlated and clinical experience closely supervised. Film critique stressed. Observation rotation through nuclear medicine, therapy and diagnostic techniques. Largely student observation.

185 CLINICAL APPLICATION II
Prerequisite: 184. Continuation of 184 with more involvement by student continuing under close supervision. Special procedures introduced. Student observations and participation.

230 RADIOGRAPHIC TECHNIQUE AND CONTROL
Prerequisite: 261. Technique and control as related to basic positioning procedures for various parts of the body. Relationship among electricity, time, distance, film and contrast on radiograph. A student performs experiments to demonstrate effects of these factors. Encouraged but non-clinical equipment utilized.

261 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY II

272 RADIOGRAPHIC POSITIONING III
Prerequisite: 171. Continuation of 171. Includes additional positioning and refinement of positioning strategies. Laboratory.

273 RADIOGRAPHIC POSITIONING IV
Prerequisite: 272. Continuation of 272 utilizing advanced techniques and providing concentration of different age groups in positioning care and special techniques for pediatric and geriatric patients. Laboratory.

286 CLINICAL APPLICATION III
Prerequisite: 273. Summer clinic internship in which student practices all radiographic procedures under supervision. Some independent performance with minimal supervision.

287 CLINICAL APPLICATION IV
Prerequisites: 286 and permission. Clinical performance with supervision. Application at an advanced level. Special techniques, nuclear medicine, therapy, medical surgical pathology. Film examination and critique. Maintenance of equipment, department administration, equipment, legal and professional responsibilities. Clinical experience in hospital radiology departments.

288 CLINICAL APPLICATION V
Prerequisite: 287. Clinical experience and minimally supervised clinical procedures of diagnostic radiography.

289 CLINICAL APPLICATION VI
Prerequisite: 288. Continuation of 288. Final internship. Terminal course including review, lecture on correlation and interpretation of radiologic technology. Prepares student for certification examination.

290 SPECIAL TOPICS: RADIOLOGIC SCIENCE
(May be repeated with a change in topics)
Prerequisite: permission. More advanced study in one or more topics in radiological sciences. Emphasis and topics vary from year to year but will be in areas where a formal course is not otherwise available.

SURGICAL ASSISTING

2770:

100 INTRODUCTION TO SURGICAL ASSISTING TECHNOLOGY
Prerequisite: admission to the program. Study of basic principles which underlie patient care in the operating room. Role of operating room technician and legal and ethical responsibilities defined.

121 SURGICAL ASSISTING PROCEDURES I
Prerequisite: 100. Didactic and laboratory practice in principles and practices of surgical assisting. The surgical patient, surgical procedures, care and maintenance of equipment and materials, immediate postoperative responsibilities and emergency situations in operating room.

131 CLINICAL APPLICATION I
Corequisites: 100 and 121. Student assigned to surgical service of affiliated hospital. Emphasis on aseptic techniques and skills associated with their implementation.

222 SURGICAL ASSISTING PROCEDURES II
Prerequisite: 121. Continuation of 121.

232 CLINICAL APPLICATION II
Prerequisites: 222 and 232. Student assigned to surgical service of affiliated hospitals. Emphasis on "scrubbing" on general surgery and gynecology procedures.

233 CLINICAL APPLICATION III
Prerequisites: 222 and 232. Student assigned to surgical service of affiliated hospitals. Emphasis on "scrubbing" in the specialty areas.

234 CLINICAL APPLICATION IV
Prerequisites: 232 and 242. A student is assigned to surgical services of affiliated hospitals. Assignments in surgery and carries out preoperative and postoperative care procedures as assigned by, and under the supervision of, the surgeon or the resident surgical staff.

235 CLINICAL APPLICATION V
Prerequisite: 234. A student is assigned to surgical services of affiliated hospitals. Assist in surgery and carries out preoperative and postoperative procedures as assigned by, and under the supervision of, the surgeon or the resident surgical staff.

236 CLINICAL APPLICATION VI
Prerequisite: 235. A student is assigned to surgical services of affiliated hospitals. Assist in surgery and carries out preoperative and postoperative care procedures as assigned by, and under the supervision of, the surgeon or the resident surgical staff.

241 SURGICAL ANATOMY
Prerequisites: 100 and 310.020, 207. Surgical anatomy of the human body as it relates to the various surgical specialties.

242 SURGICAL LABORATORY PROCEDURES
Prerequisites: 121, 241. Introduction to surgical techniques, procedures.

243 INTRODUCTION TO MEDICINE
Prerequisites: 241, 242. Pathophysiology, clinical manifestations, therapeutic management of surgically related disorders.

244 MEDICAL HISTORY AND PHYSICAL EVALUATION
Prerequisites: 241, 242. Introduction to techniques of obtaining medical histories and physical evaluations. Techniques of interviewing and physical diagnosis.

245 ROENTGENOGRAM ASSESSMENT
Prerequisite: 242. Roentgenogram assessment and its use as a diagnostic tool. Recognition of gross abnormalities in roentgenograms of the head, neck, chest, abdomen, pelvis and extremities.

246 MEDICAL LABORATORY PROCEDURES
Prerequisite: 242. Introduction of collection, preparation, and analysis of biological fluids and other substances through standard procedures utilized in medical laboratories to aid the physician in diagnosis, treatment and prevention of disease.

247 PULMONARY ASSESSMENT AND ELECTROCARDIOGRAPHY
Prerequisite: 242. Oxygen administration, humidity control, breathing exercises, postural drainage, percussion techniques, intermittent positive pressure breathing, management of ventilators and bedside ventilation measurements. Electrocardiogram recording techniques, interpretation of electrocardiographic abnormalities-arrhythmias.

250 SPECIAL TOPICS: SURGICAL ASSISTING
Prerequisite: permission. Selected topics or workshops of interest in surgical assisting technology.

ALLIED HEALTH

2780:

101 INTRODUCTION TO PHYSICAL THERAPY
Prerequisite: admission to the program. History of physical therapy, survey of treatment procedures. Role and rationale for physical therapist assistant. Legal, ethical responsibilities.

290 SPECIAL TOPICS: ALLIED HEALTH
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in allied health.
RESPIRATORY THERAPY

2790:

121 INTRODUCTION TO RESPIRATORY THERAPY TECHNOLOGY 3 credits
Prerequisites: 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
Prerequisites: 121. Covers basic hospital practices in sterile technique, suctioning and postural drainage. Lecture/laboratory.

123 MECHANICAL VENTILATORS 3 credits
Prerequisites: 122. Introduction to different brands of ventilators and their functions. Airway and airway complications.

131 CLINICAL APPLICATIONS I 3 credits
Prerequisites: 121 and admission to program. Introduction to working in hospitals and hands-on experience on hospital equipment. Laboratory.

132 CLINICAL APPLICATIONS II 2 credits
Prerequisites: 122. First of several rotations through hospitals. Mechanical ventilation is stressed.

133 CLINICAL APPLICATIONS III 5 credits
Prerequisites: 123, 134, 141, 201. Semester is broken into three, five-week rotations; one at each hospital to cover specialty area for that site. Laboratory.

134 CLINICAL APPLICATIONS IV 5 credits
Prerequisites: 133, 142, 223. Semester has three, five-week sessions. 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 CARDIOPULMONARY SYSTEMS 3 credits
Prerequisite: 3100 206. Corequisite: 3100 207. Study of normal anatomy and physiology of heart and lungs. Lecture.

223 ADVANCED RESPIRATORY THERAPY 3 credits
Prerequisites: 123, 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, 142, 223. Covers area of pulmonary rehabilitation. Includes essentials of establishing a respiratory therapy department. Lecture/laboratory.

290 SPECIAL TOPICS: RESPIRATORY THERAPY (May be repeated for a maximum of three credits) 1-3 credits
Prerequisite: Permission. Selected topics or subject areas of interest in respiratory therapy technology.

CHEMICAL TECHNOLOGY

2840:

100 BASIC CHEMISTRY 3 credits
Elementary treatment of facts and principles of chemistry emphasizing biological application. Emphasis on compounds important in every day 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. Emphasis on atomic structure, gaseous state, periodic table, water, solutions, colors. For chemical technology and bachelor of technology students. Laboratory.

102 INTRODUCTORY AND ANALYTICAL CHEMISTRY 3 credits
Prerequisite: 101 or permission. Chemical equilibria, radiation, radioactivity. Properties of selected metals and nonmetals. Introduction to organic chemistry. Basic concepts of qualitative analysis. Identification of cations and anions. Laboratory.

105 CHEMICAL CALCULATIONS I 1 credit
Corequisite: 101 or permission of instructor. Calculations as applied to introductory chemistry courses. Topics include unit conversions, percentages, graphs, significant figures, moles. Suitable as a refresher course.

106 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, catalysis.

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
Corequisites: 2500/131. 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
Prerequisites: 151 and 2010/131. Principles of electricity and magnetism. Electromotors, 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 2010/131. 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
Prerequisite: 102. Theory of quantitative analytical chemistry including gravimetric, volumetric and titrimetric 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 chromatographic, spectrophotometric 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, 2010/132. Physical principles governing behavior of chemical systems. Introduction to thermodynamics, solution properties, chemical equilibria, 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 rubbers for specific end uses. The compounding 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 thermoplastic, thermosetting and elastomeric polymers.

290 SPECIAL TOPICS: CHEMICAL TECHNOLOGY (May be repeated for a total of four credits) 1-3 credits
Prerequisite: permission. Selected topics or subject areas of interest in chemical technology.

ELECTRONIC TECHNOLOGY

2860:

120 DC CIRCUITS 4 credits

122 AC CIRCUITS 3 credits
Prerequisite: 120. Corequisite: 2020/132. Sinusoidal voltage and current, reactance and impedance; methods of AC circuit analysis, AC power, transformers, resonance, polyphase circuits.

123 ELECTRONICS I 3 credits

225 ELECTRONICS II 3 credits
Prerequisite: 123. Linear devices and/or pertinent applications widely used in electronics. Topics include amplifier fundamentals, frequency response, operational amplifiers, special linear integrated circuits and power amplifiers.

227 MEASUREMENTS 2 credits
Prerequisites: 125 or 211. Principles and use of electrical and electronic instruments including measuring, cutoff, bridges, oscilloscopes and signal generators. Analysis of measurement errors.

231 CONTROL PRINCIPLES 3 credits
Prerequisite: 225 or 211. Corequisite: 2020/233. Principles and design of control of physical systems, mathematical and analog computer modeling of physical systems, principles of closed-loop control systems. Methods of analysis to predict performance. Design of simple servomechanisms.

237 DIGITAL CIRCUITS I 4 credits
Prerequisite: 123. Introduction to digital devices and techniques used in design of combinational logic circuits. Topics include number systems, binary arithmetic, codes, Boolean algebra, Karnaugh mapping, and integrated circuit. Application in combinational solutions such as data selection, coding, quantization and ROM synthesis.

238 DIGITAL CIRCUITS II 4 credits
Prerequisite: 237. Combination of combinational logic design plus introduction to sequential logic design and microcomputer. Integrated circuit information extended into MOS and CMOS devices. Microprocessors application.
242 MACHINERY AND CONTROLS
Prerequisites: 122 and 123 or 271. Principles, characteristics and applications of DC and AC generators and motors. Basic-circuiting layout for rotating machinery. Principles of industrial electronic devices used in machinery control such as unijunctions, SCRs, transistors, and thyristors. Laboratory practice with industrial machines in practical industrial circuits.
4 credits

251 COMMUNICATIONS CIRCUITS
3 credits

255 ELECTRONIC DESIGN AND CONSTRUCTION
2 credits

260 ELECTRONIC PROJECT
Prerequisite: Final semester or permission and 255. Design, construction and test by student of an electronic circuit of choice. Progress reports, oral and written reports required. Discussion of electronic design and fabrication techniques.
2 credits

270 SURVEY OF ELECTRONICS I
3 credits

271 SURVEY OF ELECTRONICS II
Prerequisite: 270. Corequisite: 202A, 212. Survey of most commonly used solid-state circuit components including typical applications. For non-electronic technology majors.
3 credits

290 SPECIAL TOPICS: ELECTRONIC TECHNOLOGY
Prerequisite: permission. Selected topics in subject area of interest in electronic technology. (May be repeated for a total of four credits)
1-2 credits

350 ADVANCED CIRCUITS
4 credits

351 INDUSTRIAL ELECTRICAL SYSTEMS
Prerequisites: 356 and 4100:206. Power system single-phase and three-phase analysis, balanced and unbalanced systems, fault calculations, symmetrical components with industrial applications.
3 credits

352 DIGITAL SYSTEMS
Prerequisite: 238. Corequisites: 350. Detailed study of several digital computing systems including topics in architecture, software and I/O. Specific systems studied include the 8085, 6802, respectively support circuits.
4 credits

353 CONTROL SYSTEMS
Prerequisites: 231, 350. System analysis and design using Laplace transform, frequency response, Bode diagram, root locus methods of analysis. Analysis and design of control of industrial process variables such as pressure, temperature, flow, liquid level, position, introduction into AC control systems, discrete control systems, digital control system.
4 credits

400 DATA ANALYSIS
Prerequisites: 4100:206 and 3470:252. Application of statistics to electronic data. Problems include quality control, failure estimation and synthesizing equations of dependence. Analysis methods include hypothesis estimation, curve fitting, regression analysis, and analysis of variance.
3 credits

406 COMMUNICATION SYSTEMS
Prerequisites: 251 and 350. Transmitter, receiver, modulation, communication systems, propagation, voice, radio and microwave. Problems encountered in communication systems.
3 credits

410 TECHNOLOGY PROJECT
Prerequisite: senior standing. Detailed study of problem selected by student. Includes problem definition, literature search, comparison of solutions and formal report.
1 credit

497 SENIOR HONORS PROJECT: ELECTRONIC TECHNOLOGY
Prerequisite: permission. Senior standing. An honors project: directed study of advanced topics in electronic technology. (May be repeated for a total of six credits)
1-3 credits

130 WORK MEASUREMENT PROCEDURES I
Prerequisite: 100. Familiarizes student with procedures for handwork and techniques for choosing the best method for accomplishing such tasks.
2 credits

141 SAFETY PROCEDURES
3 credits

260 MANUFACTURING PROFITABILITY
Prerequisite: 100. Production methods and cost control. Major influences in price and profit within market limitations discussed.
3 credits

210 CONTROLLING AND SCHEDULING PRODUCTION
Prerequisite: 100. Production order followed from sales order through requisitioning, plant loading, expediting, scheduling and shipping. Especially valuable for students in cost and scheduling.
2 credits

211 COMPUTERIZED MANUFACTURING I
Prerequisite: 100. Production order followed from sales order through requisitioning, plant loading, expediting, scheduling and shipping of product. Creation of a computerized control of a manufacturing plant. Emphasis on computerized and mechanical devices emphasizing electrical/mechanical interface. For non-electronic technology majors.
3 credits

231 PLANT LAYOUT
Prerequisite: 100. Solution of activities for a production facility. Optimum arrangements of factors of production: manpower, materials and equipment.
3 credits

232 LABOR MANAGEMENT RELATIONS
Prerequisite: 100. Study of historical background of labor movement, management viewpoints, legal framework for modern labor organizations and collective bargaining process.
3 credits

235 WORK MEASUREMENT PROCEDURES II
Prerequisite: 100. Continuation of I. Work measurement techniques and establishment of production standards for optimization of lowered costs.
2 credits

241 QUALITY CONTROL PROCEDURES
Prerequisite: 2020:131. Theory and practice of inspection and sampling techniques for measurement of quality. QC charts, sampling plans, inspection and quality assurance for production control order.
3 credits

290 SPECIAL TOPICS: INDUSTRIAL TECHNOLOGY
(For non-electronic technology majors)
Prerequisite: permission. (May be repeated for a total of four credits)
1-2 credits

INSTRUMENTATION TECHNOLOGY

2900:

121 FUNDAMENTALS OF INSTRUMENTATION
Prerequisites: 2860:161 and 2860:123 or 2860:270. Study of variables encountered in process instrumentation, indicating and recording devices and applications of physical principles affecting measurement and control.
4 credits

232 PROCESS CONTROL
Prerequisite: 2860:231. Study of analysis and design of process control systems with emphasis on techniques and instrumentation used in process control. Digital control fundamentals are introduced.
3 credits

239 PULSE CIRCUIT TESTING
3 credits

240 CALIBRATION AND STANDARDIZATION
Prerequisite: 2860:231. Laboratory experience in calibration and standardization of electric and electronic devices. Instrument measurement, maintenance, troubleshooting, specifications, performance and safe working practices included.
1 credit

241 INSTRUMENTATION PROJECT
Prerequisite: Final semester or permission. Design construction and testing of an approved instrumentation project by an individual student, promoting independent study, initiative, self-motivation, responsibility and application of skills attained in related courses.
2 credits

290 SPECIAL TOPICS: INSTRUMENTATION TECHNOLOGY
Prerequisite: permission. Selected topics or subject areas of interest in instrumentation technology.
1-2 credits

MECHANICAL TECHNOLOGY

2920:

121 TECHNICAL DRAWING I
Prerequisite: 121. Section and conventions, dimensions, allowances and tolerances, hand and fasteners, descriptive geometry, intersections, developments.
3 credits
497 SENIOR HONORS PROJECT IN MECHANICAL TECHNOLOGY
1-3 credits
Prerequisite: senior standing, honors standing, and permission of department head. Formerly 497: Honors project in mechanical technology. Independent research leading to completion of senior honors thesis or other original work.

DRAFTING TECHNOLOGY

140 SURVEY OF ENGINEERING TECHNOLOGY
3 credits
Prerequisite: 240:131. Survey of drafting, mechanical drawing, and mechanical design. Formerly 140: Introduction to mechanical drafting.

240 ELECTRICAL, ELECTRONIC, AND INSTRUMENTATION DRAFTING
3 credits
Prerequisite: 240:122. Familiarizes student with terms and drawing layouts for installation of systems and components. Formerly 240: Introduction to electrical drafting.

250 MECHANICAL SYSTEMS DRAFTING
3 credits
Prerequisite: 250:122. The drafting and production of working drawings for a variety of systems. Formerly 250: Advanced drafting.

290 SPECIAL TOPICS: DRAFTING TECHNOLOGY
1-3 credits
Prerequisite: 240:122. May be repeated for credit. Formerly 290: Special topics in drafting.

SURVEYING AND CONSTRUCTION TECHNOLOGY

122 BASIC SURVEYING
3 credits
Prerequisite: 240:122. Introduction to surveying, surveying procedures, and surveying equipment. Formerly 122: Basic surveying.

123 SURVEYING FIELD PRACTICE
2 credits
Prerequisite: 240:122. Practical experience in use of surveying equipment and methods of surveying. Formerly 123: Surveying field practice.
125 STATICS 3 credits
Prerequisites: 2840:151 and 2020:132 Forces, resultants and couples. Equilibrium of force systems. Trusses, frames, first and second moment of areas, friction.

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 survey, 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 measurements, triangulation, trilateration and bearings from celestial observations. 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.

227 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.

228 CONSTRUCTION 3 credits
Prerequisite: 222 or permission. Planning of construction operations. Construction equipment and selection for typical jobs. Emphasis on heavy construction.

223 CONSTRUCTION ADMINISTRATION 2 credits
Construction specifications, office organization, preparation of construction documents, bidding, bonds, construction management and supervision, agreements and contracts.

224 ELEMENTS OF STRUCTURES 3 credits
Prerequisite: 241. Principles of stress and structural analysis, members in steel, timber, and concrete connections.

227 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 mix.

228 MATERIALS TESTING II 2 credits
Prerequisite: 227, corequisite: 241. Mix design of concrete. Laboratory testing of ferrous and nonferrous metals, woods and concrete. Experiments demonstrate physical properties as related to design.

221 STRENGTH OF MATERIALS 3 credits
Prerequisite: 125. Stress, strain and stress-strain relationships. Tension, compression, torsion, beams. Shear and moment diagrams.

225 COST ANALYSIS AND ESTIMATING 3 credits
Quantitative surveys in construction. Elements of cost in construction. Determination of unit costs, analysis of cost records.

226 STRUCTURAL DRAFTING 2 credits
Prerequisite: 225. Duties of structural draftsmen in preparation of detailed working drawings for steel and concrete. Emphasis on portrayal, dimensions and notes on a working drawing.

229 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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>100</td>
<td>NATURE STUDY: PLANTS</td>
<td>3</td>
</tr>
<tr>
<td>101</td>
<td>NATURE STUDY: ANIMALS</td>
<td>3</td>
</tr>
<tr>
<td>104</td>
<td>ECOLOGY AND BIOLOGICAL RESOURCES FIELD LABORATORY</td>
<td>1</td>
</tr>
<tr>
<td>105</td>
<td>INTRODUCTION TO ECOLOGY</td>
<td>2</td>
</tr>
<tr>
<td>111</td>
<td>PRINCIPLES OF BIOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>112</td>
<td>PRINCIPLES OF BIOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>126</td>
<td>PRINCIPLES OF MICROBIOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>190/191</td>
<td>HEALTH-CARE DELIVERY SYSTEMS</td>
<td>1</td>
</tr>
<tr>
<td>192</td>
<td>BIOLOGY OF AGING</td>
<td>3</td>
</tr>
<tr>
<td>206/207</td>
<td>HUMAN ANATOMY AND PHYSIOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>211</td>
<td>GENERAL GENETICS</td>
<td>3</td>
</tr>
<tr>
<td>212</td>
<td>GENETICS LABORATORY</td>
<td>1</td>
</tr>
<tr>
<td>217</td>
<td>GENERAL ECOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>224</td>
<td>ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING</td>
<td>3</td>
</tr>
<tr>
<td>265</td>
<td>INTRODUCTORY HUMAN PHYSIOLOGY</td>
<td>4</td>
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<tr>
<td>290/291</td>
<td>HEALTH-CARE DELIVERY SYSTEMS</td>
<td>1</td>
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<tr>
<td>311</td>
<td>CELL BIOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>315</td>
<td>EVOLUTIONARY BIOLOGY DISCUSSION</td>
<td>1</td>
</tr>
<tr>
<td>316</td>
<td>EVOLUTIONARY BIOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>321</td>
<td>MICROBIOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>341</td>
<td>FLORA AND TAXONOMY</td>
<td>3</td>
</tr>
<tr>
<td>342</td>
<td>FLORA AND TAXONOMY II</td>
<td>3</td>
</tr>
<tr>
<td>351</td>
<td>INVERTEBRATE ZOOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>353</td>
<td>GENERAL ENTOMOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>355</td>
<td>PARASITOLOGY</td>
<td>4</td>
</tr>
<tr>
<td>356.1,2</td>
<td>HUMAN ANATOMY AND PHYSIOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>356</td>
<td>HISTOLOGY I</td>
<td>3</td>
</tr>
<tr>
<td>356.2</td>
<td>HISTOLOGY II</td>
<td>7</td>
</tr>
<tr>
<td>358</td>
<td>HUMAN GENETICS</td>
<td>2</td>
</tr>
<tr>
<td>363</td>
<td>LABORATORY TECHNIQUES AND INSTRUMENTATION IN BIOLOGY</td>
<td>2</td>
</tr>
<tr>
<td>384</td>
<td>TECHNIQUES AND INSTRUMENTATION LABORATORY IN BIOLOGY</td>
<td>1</td>
</tr>
<tr>
<td>400/400</td>
<td>FOOD PLANTS</td>
<td>2</td>
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*Field trips involved minor transportation costs.*
429/529 EVOLUTION, ECOLOGY, AND RESOURCES

Prerequisites: 217 or permission. Basic concepts for management of plant and animal resources and natural areas. Policy, 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 aquatic communities, community energetics, nutrient cycling. Limnological survey of a local lake. Laboratory.

425/525 FRESHWATER ECOLOGY FIELD AND LABORATORY STUDIES 3 credits
Prerequisite: 217 or permission of instructor. Field and laboratory studies of local lakes, ponds, and reservoirs. Collection, identification, and ecology of aquatic plants and animals, especially phytoplankton, zooplankton, and benthic organisms.

426/526 APPLIED AQUATIC ECOLOGY* 3 credits
Prerequisites: permission, biological methods for assessing quality of natural waterways. Emphasis given to use of benthic invertebrates as indices of water quality. Laboratory.

428/528 BIOLOGY OF BEHAVIOR 3 credits
Prerequisites: 211 and 516. Biological basis of behavior. Ethological theory and function. Clasification, significance, evolution and adaptability of behavior.

429/529 BIOLOGY OF BEHAVIOR LABORATORY 3 credits
Prerequisites: permission or corequisites: 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 3510. Biochemical activities in bacterial cells. Emphasis on enzymatic mechanisms of metabolic transformations. Energy relationships in catabolic and biosynthetic pathways favored.

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 soils and water and those involved in microbial biotechnological cycles. Laboratory.

433/533 PATHOGENIC BACTERIOLOGY 4 credits
Prerequisites: 331 and prerequisite or corequisite: 437. Study of major groups of bacteria which produce infections in man. Biochemical properties of microorganisms which engender virulence and cause host resistance. 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.

437/537 IMMUNOLOGY 4 credits

440/540 MYCOLOGY 4 credits
Prerequisite: 412. 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 their 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 and plant, 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 BIOSYSTEMS 3 credits
Prerequisites: Four credits of botany at 200 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.

458/558 ONTOLOGY* 3 credits
Prerequisite: 112. Introduction to biology of birds, classification, anatomy, physiology, behavior, ecology, evolution, natural history and field identification.

459/559 VERTEBRATE ZOOLOGY 4 credits
Prerequisite: 316 or permission. Biology of vertebrates, except birds — evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.

461/561 HUMAN PHYSIOLOGY 4 credits each
Prerequisite: senior or graduate standing. Detailed study of function of the human body with special emphasis on muscular, 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, organochemical, respiratory, cardiovascular, endocrine and neural mechanisms involved in understanding physiology of variety of vertebrate and invertebrate animals. Laboratory.

465/565 ADVANCED CARDIOVASCULAR PHYSIOLOGY 3 credits
Prerequisite: 462 or 562 or permission. Study of physiological mechanisms involved in heart attack, shock, fluid balance, hypertension and heart disease. Controversial issues in each area will be examined and current research presented.

467/567 DEVELOPMENTAL ANATOMY 4 credits each
Prerequisite: 112. Sequence designed to introduce processes of vertebrate development. Laboratory and lecture work includes descriptive and experimental embryology, phylogeny, development of major vertebrate orders and individual study research laboratory.

468/568 THE PHYSIOLOGY OF REPRODUCTION 2 credits
Prerequisite: 462/562 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 radioisotopes in laboratories.

471/581 ADVANCED GENETICS 3 credits
Prerequisite: 211. Nature of the gene, genetic codes, hereditary determinants, mutations and genes in population. Lecture and seminar.

481/584 PHARMACOLOGY 3 credits
Prerequisite: 311. Recommended: college-level physiology. Interactions of drugs and living systems, with emphasis on cellular and molecular mechanisms of action, drug metabolism and excretion and selected aspects of environmental toxicology. Concepts and specific drug therapies not considered in detail.

494/594 WORKSHOP IN BIOLOGY 1-3 credits
(credit will vary)
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 IN BIOLOGY 1-3 credits
(credit will vary)
Prerequisite: permission. Special courses of interest only if opportunity arises where no regular course exists. A maximum of six credits may be applied to requirements for a major.

496/607 BIOLOGICAL PROBLEMS 1-2 credits each
Prerequisite: permission. Honors-level work usually consisting of laboratory investigations.

499 SENIOR HONORS PROGRAM IN BIOLOGY 1-2 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
Prerequisites: 561, 562. Study of physiological reactions of healthy mammals to natural changes or extremes of physical environment.

681 CYTOLOGY 3 credits
Prerequisite: 311. Structure and functions of cells at ultrastructural level. Three lecture hours a week.

685 ANIMAL TISSUE CULTURE 3 credits
Tissue culture techniques: biology and physiology of animal cells and tissues under in vitro conditions; application of these techniques to radiobiology, cancer chemotherapy and animal cell genetics. Laboratory.

687 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 biology of social aspects of aging and experience in special research projects in the field.
688 PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY 3 credits
Prerequisites: 311 or 681 or equivalent. Modern cytological methods using transmission electron microscopy. Portfolio required to demonstrate proficiency in fixation techniques, use of ultramicrotome, light and electron microscopes and darkroom techniques.

689 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY 3 credits
Prerequisites: 311, 681 or equivalent. An introduction to modern cytological methods using the scanning electron microscope. A portfolio is required to demonstrate proficiency in fixation techniques, the use of supplemental equipment such as the critical point drying apparatus and the sputter-coating apparatus and the efficient use of the scanning electron microscope.

695 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.

697,8 BIOLOGY COLLOQUIUM 1 credit each
(May be repeated)
Prerequisite: permission. Attendance at all departmental seminars and presentation of seminar based on original research. Required of all thesis option students who shall present their thesis research.

699 MASTER'S RESEARCH 1-6 credits
(May be repeated)
A minimum of six credits is required for thesis option student.

BIOLOGY/NEOUCOM

3110:

520 MICROSCOPIC ANATOMY 4 credits
Prerequisites: graduate standing; permission and cell biology; histology suggested. Morphological basis for normal and disturbed functions; structure-function relationships in human microscopic anatomy. Lectures, special laboratory, learning techniques using human tissues.

530 HUMAN GROSS ANATOMY AND EMBRYOLOGY 3 credits
Prerequisites: graduate standing and permission. An intensive survey of human macroanatomy.

531 HUMAN GROSS ANATOMY AND EMBRYOLOGY LABORATORY 3 credits

541 FUNCTIONAL NEUROANATOMY 6 credits
Prerequisite: permission or graduate standing. Study of structure and function of mammalian nervous system with emphasis on human brain and human behavior. Laboratory.

543 NEUROPHYSIOLOGY 4 credits
Prerequisite: 641. The relation of aspects of the neurosciences to the fundamental properties of nervous tissue, establishing a firm base in experimental neurophysiology. Laboratory.

580 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.

695 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.

CYTOTECHNOLOGY

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 cytology laboratory. Areas covered include historical background of clinical cytology, microsopy and basic histology.

410 CYTOPREPARATION 2 credits
Combined lecture and laboratory of different cytotechnic techniques: stain preparation, staining procedures, mounting and cover slipping of specimens. Also included are pertinent laboratory measurements, record keeping and safety measures for cytopreparation laboratory.

411 GYNECOLOGIC CYTOPATHOLOGY 5 credits
Anatomy, histology and cellular morphology of female reproductive system. Study of disease processes and endocrinopathies, inflammation and benign lesions. Stressed are premalignant lesions of cervix and endometrium, as well as malignant neoplasms and their cellular characteristics. A study of extraneous and metastatic tumors is included.

412 GENITO-URINARY CYTOPATHOLOGY 3 credits
Study of anatomy, histology and cellular morphology of male reproductive system. Study of disease processes and endocrinopathies, inflammation and benign lesions. Stressed are premalignant lesions of urethra and bladder, as well as malignant neoplasms and their cellular characteristics. A study of extraneous and metastatic tumors is included.

413 RESPIRATORY CYTOPATHOLOGY 3 credits
Study of disease processes as related to cytology of respiratory tract. Covers general anatomy, normal histology and cytology, inflammation and specific diseases. Stresses disorders and malignant neoplasms with emphasis on their 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 synovial cavities are presented. Emphasis is placed on cytological and histological differential diagnosis. May be repeated with a change in topic.

415 CYTOPATHOLOGY OF THE ALIMENTARY TRACT 3 credits
Anatomy, histology and pertinent physiology of the oral cavity, esophagus, stomach, small and large intestines, rectum 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 3 credits each Sequential. Designed primarily for a student in medical technology. Fundamental laws and theories of chemistry, the more important elements and their compounds. Laboratory.

124 CHEMISTRY 3 credits Fundamentals of organic, inorganic and physiological chemistry. Discussion.

129.130 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 1 credit Introduction to basic facts and principles of chemistry including atomic and molecular structure, states of matter and thermodynamics. For chemistry major, pre-medical student and most other science majors. Laboratory.

133 PRINCIPLES OF CHEMISTRY II 3 credits Prerequisite: 132 Continuation of 132, including solution, reaction, chemical kinetics, equilibrium, electrochemistry and nuclear chemistry. For chemistry major, pre-medical student and most other science majors.

134 QUALITATIVE ANALYSIS 2 credits Corequisite: 130 Laboratory course applying principles of chemical equilibrium to inorganic qualitative analysis.

203 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 ORGANIC CHEMISTRY LECTURE I, II 3 credits each Sequential. Prerequisite: 134 or permission. Structure and reactions of organic compounds. Mechanism of reactions.

266 ORGANIC CHEMISTRY LABORATORY I, II 2 credits each Corequisites: 263, 294 Laboratory experiments to develop techniques in organic chemistry and illustrate principles.

303 ELEMENTARY PHYSICAL CHEMISTRY I, II 3 credits each Sequential. Prerequisites: 264, 3600 or 292, 3450 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 PHYSICAL CHEMISTRY LECTURE I, II 3 credits each Sequential. Prerequisites: 264, 3450 or 3600 or permission of instructor: Chemical thermodynamics, thermochemistry, solutions, state changes, chemical equilibrium, phase rule, chemical kinetics, electrochemistry, electrolytic equations, atomic and molecular structure.

315 PHYSICAL CHEMISTRY LABORATORY I, II 2 credits each Corequisite: 313 or 314. Laboratory designed for illustrating techniques and equipment used in physical chemical investigations.

356 ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS I, II 4 credits each Sequential. Prerequisites: 133, 134 or 122 Interested primarily for preparing to become a laboratory or hospital technician. 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 biochemical catalysts; structure, biochemistry of nucleic acids, lipids, and carbohydrates in energy storage, utilization.

402/502 BIOCHEMISTRY LECTURE II 3 credits Prerequisite: 401/501. Carbohydrate, lipid and amino acid metabolism, protein, nucleotide and protein biosynthesis, and enzymes.


409 THE PROFESSIONAL CHEMIST IN INDUSTRY 2 credits Prerequisite: junior year of degree in chemistry or chemical engineering or permission. Business, legal, social, economic and other non-chemical aspects of a chemist's profession.

411/511 PHYSICAL CHEMISTRY FOR BIOLOGY MAJORS 3 credits Prerequisites: 266 and 3450 or permission. Gases, thermodynamics, electrochemistry, chemical kinetics, macromolecules and colloids, special techniques 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.

416/516 INSTRUMENTAL METHODS OF ANALYSIS 3 credits Prerequisites: 415/515, Principles and applications of analytical chemical techniques based on physical measurements. Laboratory.

421/521 QUALITATIVE ORGANIC ANALYSIS 4 credits Prerequisite: 261. Identification and characterization of organic substances, separation and identification of components of organic mixtures. Laboratory.

423 QUANTITATIVE ANALYSIS 3 credits Prerequisite: 421. Theoretical principles of quantitative analysis. Techniques and calculations, gravimetric and volumetric methods.

425 QUANTITATIVE ANALYSIS LABORATORY 3 credits Corequisite: 423. Laboratory techniques employed in gravimetric, volumetric and instrumental analysis.

427 ANALYTICAL CHEMISTRY LECTURE 3 credits Prerequisites: 304 or 314. 362 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 and instrumental analysis. Emphasizes instrumental analysis.

463/563 ADVANCED ORGANIC CHEMISTRY 3 credits Prerequisites: 264, 304 or 314. 362 or permission. Introduction to study of mechanisms of organic reactions.

471/572 ADVANCED INORGANIC CHEMISTRY 3 credits Prerequisite: 304 or 314. Concepts of atomic structure integrated with systematic classification of elements. Periodic table, chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.

490/530 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 (May be repeated for a total of eight credits) Prerequisite, junior or senior standing, in Honors Program and permission of department honors preceptor. Independent research leading to completion of honors thesis under guidance of honors project advisor.

498 SPECIAL TOPICS: CHEMISTRY 1-3 credits

499 RESEARCH PROBLEMS 2 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

501.2 CHEMISTRY OF POLYMERS I, II 2 credits each Sequential. Prerequisites: 264 and 360 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.

605 CHEMISTRY OF POLYMERS LABORATORY I, II 2 credits each Sequential. Prerequisites: 264, 296 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.
198 3150: Chemistry

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 of preparing and purifying organic and inorganic compounds. Laboratory.

629,30 THEORETICAL INORGANIC CHEMISTRY I, II 1-2 credits each
Sequential. Prerequisites: 614, 472 or permission. Detailed treatment of chemistry of transition elements. Group theoretical applications, ligand field theory, kinetic and mechanistic, 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: 625. Applications of statistical thermodynamics to chemical systems in equilibrium. Theories of rate processes. Fundamentals of chemical kinetics; methods of investigation and interpretation of data.

649 CHEMISTRY OF ELASTOMERS 2 credits
Prerequisites: 264, 268 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 catalyzing reactions. Enzyme structure, methods of determining reaction mechanisms, kinetics and solvolytic and transfer reactions of phosphatides, glycerol 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, catalysts.

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, 402, 472 or permission of instructor. Survey of the structure and properties of lipid and complex membranes with emphasis on the structure and function of transmembrane proteins. Recent advances in membrane structural and functional studies.

665 BIOINORGANIC CHEMISTRY 2 credits
Prerequisites: 401, 402, 472 or permission of instructor. Survey of the structure and properties of metal ion complexes with emphasis on the structure and function of metalloproteins, with particular emphasis on metallochemical reactions.

667 ADVANCED BIOCHEMISTRY TECHNIQUES 2 credits
Prerequisites: 402, 401, 428 or permission of instructor. 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 biochemical techniques.

671 THERMIMALY TECHNIQUES 2 credits
Prerequisite: Permission. Methods of differential thermal analysis, thermogravimetry and related techniques and methods of programmed recording, data treatment, and analysis of 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 instrumental techniques.

673 STEROCHEMISTRY OF ORGANIC COMPOUNDS 2 credits
Prerequisite: 264. Stereochemistry and its application to reactions of organic compounds.

674,5 PHYSICAL CHEMISTRY OF POLYMERS I, II 2 credits each
Sequential. Prerequisite: 401, 428 or permission of instructor. Basic statistical ideas. Molecular weights, distributions, sizes and shapes. Kinetics and mechanism of polymerization, crystallization, degradation, thermodynamics of polymer solutions.

685,6 EXPERIMENTAL PHYSICAL CHEMISTRY OF POLYMERS I, II 2 credits for 685; 3-2 credits for 686
Sequential. Prerequisites or concurrently: 674, 675, respectively. Laboratory to illustrate methods and principles discussed in 674 and 675.

692 ADVANCED INSTRUMENTATION 2 credits
Prerequisites: 316, 428. Theory and application of instrumental measurements. Interpretation of data.

695 MASTER’S RESEARCH CHEMISTRY 1-6 credits
For properly qualified candidates. Masters 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 (may be repeated). Electroanalytical activation analysis, atomic absorption spectrophotometry, mass spectrometry, liquid-liquid, liquid-solid and gas chromatography, on exchange, thermodynamic 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, organometallic compounds, homogeneous catalysis;

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 major physical area.

714 SPECIAL TOPICS: POLYMER CHEMISTRY 1-2 credits
(May be repeated) Prerequisites: 265, 268, 264 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
(May be repeated) Prerequisite: permission. Consideration of topics in biochemistry such as enzymes, and disease. Genetic engineering, membrane structure and functions and recent developments in field.

783,4 PHYSICAL ORGANIC CHEMISTRY I, II 3 credits each
Sequential. Corequisite: 610 or permission. Consideration of physical-chemical principles that determine course of organic chemical reactions. Discussion of reactive intermediates. Applications.

786 THEORETICAL ORGANIC CHEMISTRY 2 credits
Prerequisite: 784. 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 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
Major writers of Ancient Greece and Greek influence on later classical literature. 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 etymology. No foreign language 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.

401,2/501,2 EGYPTOLOGY 3 credits each
(May be repeated) Prerequisite: permission of instructor. Classical Egyptian (standard hieroglyphic of 18th Dynasty) text, translation, reconstruction and understanding of texts illustrating the development of Egypt from its earliest dynastic history to the death of Amenhotep III.

404,5/604,5 ASSYRIOLOGY 3 credits each
(May be repeated) Prerequisite: permission of instructor. The Akkadian language and ancient materials of Mesopotamia.
447.8/547.8 ANCIENT NEAR EASTERN ARCHAEOLOGY 3 credits each
Prerequisites: permission of instructor. A survey of archaeology in the Near East and adjacent lands. 4 credits, 180 hours.

450/550 SELECTED TOPICS IN ANCIENT CULTURES 3 credits each
(May be repeated with change of subject.) Varieties of religion, art and architecture in different cultures. 3 credits each.

497.8/597.8 READING AND RESEARCH IN THE ANCIENT NEAR EAST 1-3 credits
Prerequisites: permission of instructor. Advanced work in various aspects of ancient Near Eastern Studies. 3 credits each.

499 HONORS PROJECT IN CLASSICS (May be repeated for a total of six credits)
Prerequisites: seniors standing in Honors Program and permission of the instructor. Independent study leading to completion of a senior honors thesis under the supervision of a member of the Department of Classics. 3 credits.

GREEK

3210:

121.2 ELEMENTARY GREEK 4 credits each
Sequential. Standard language of Hellenistic times with some attention to Modern Greek. 4 credits each.

223.4 INTERMEDIATE GREEK 3 credits each
Prerequisites: 121.2. A survey of readings of the less difficult authors such as Homer, certain dialogues of Plato, Hellenistic, New Testament or the like. 3 credits each.

303.4 ADVANCED GREEK (May be repeated with change of subject) 3 credits each
Prerequisites: 223.4. Tragedy, comedy, philosophy, lyric, tragic poetry, prose composition or equivalent. 3 credits each.

497.8/597.8 GREEK READING AND RESEARCH (May be repeated for credit with change of subject)
Prerequisite: permission of instructor. Homer, Sophocles, Plato or the like. 3 credits each.

LATIN

3220:

121.2 ELEMENTARY LATIN 4 credits each
Sequential. Some attention to development of Romance languages, especially Italian. 4 credits each.

223.4 INTERMEDIATE LATIN 3 credits each
Prerequisites: 121.2. A survey of readings of the less difficult authors such as Pindar, Caesar, Plutarch, Cicero's letters or equivalent material. 3 credits each.

303.4 ADVANCED LATIN (May be repeated with change of subject) 3 credits each
Prerequisites: 223.4. Satirists, dramatists, philosophical, religious writers, lyric and elegiac poets, medieval writers. 3 credits each.

497.8/597.8 LATIN READING AND RESEARCH (May be repeated for credit with change of subject)
Prerequisite: permission of instructor. Generally Latin epigraphy, prose composition of philosophy, numismatics or certain other archaeological topics may be offered. 3 credits each.

ECONOMICS

3250:

100 INTRODUCTION TO ECONOMICS 3 credits
May not be substituted for 201, 202, 244. Economics primarily considered in a broad social science context. Adequate amount of basic theory introduced. 3 credits.

201 PRINCIPLES OF MACROECONOMICS 3 credits
Study of the economic factors which affect the price level, national income, employment, and economic growth. 3 credits.

202 PRINCIPLES OF MICROECONOMICS 3 credits
Analysis of decisions of both the individual household and the market processes affecting price, quantity, and resource allocation. 3 credits.

244 INTRODUCTION TO ECONOMIC ANALYSIS 3 credits

248 CONSUMER ECONOMICS 3 credits
Prerequisites: permission of instructor. Direct influence of economic decisions, personal finance, tax planning, saving programs, installment buying. 3 credits.

330 LABOR PROBLEMS 3 credits
Prerequisites: 201, 202, 244. Labor economics; principles and public policy. Study of structure of labor market and impact union policies have on labor-management relations. 3 credits.

333 LABOR ECONOMICS 3 credits
Prerequisites: 201, 202. Theoretical tools used in analysis of problems of labor in an economic system. Emphasis on determination of demand for and supply of labor. 3 credits.

360 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY 3 credits
Prerequisites: 201, 202. Role of industrial structure and firm conduct in performance of industry as a whole and in which antitrust policy is designed to remedy practices where performance is unsatisfactory. 3 credits.

380 MONEY AND BANKING 3 credits
Prerequisites: 201, 202. Institutions of money, banking and credit, monetary expansion and contraction, public policies and financial system. 3 credits.

385 ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT 3 credits
Prerequisites: 100, 201, 202. Interrelationship of natural resources and environment. Problems of land, water and air pollution, natural resource scarcity, conservation, economic growth. 3 credits.

388 ECONOMICS OF ENERGY 3 credits
Prerequisites: 201, 202, 244. Energy, its sources and uses, effect of energy policies on society, economic growth and public policies to encourage use of energy. 3 credits.

400 MACROECONOMICS 3 credits
Prerequisites: 201, 202. Changes in national income, production, employment, price levels, long-run economic growth, short-run fluctuations of economic activity. 3 credits.

445 PUBLIC FINANCE 3 credits

460/506 STATE AND LOCAL PUBLIC FINANCE 3 credits
Prerequisite: 410. Beginning public finance. 3 credits.

410 MICROECONOMICS 3 credits
Prerequisites: 201, 202. The study of consumer demand, production, prices, market determinants of labor income. 3 credits.

420 MATHEMATICAL ECONOMICS I 3 credits
Prerequisites: 3450:144, 146, or permission of instructor. Mathematical treatment of economic theory. 3 credits.

421 MATHEMATICAL ECONOMICS II 3 credits
Prerequisites: 420 or permission of instructor. Use of mathematical methods to interpret economic phenomena. 3 credits.

475 ECONOMETRIC METHODS AND APPLICATIONS 3 credits
Prerequisites: 6500:321, 322 or the equivalent. Measurement of economic relationships. 3 credits.

472/527 ECONOMIC FORECASTING 3 credits
Prerequisites: 6500:322 or permission of instructor. Study of methods for forecasting, identification, filtering, and selection of economic variables. 3 credits.

476 HUMAN RESOURCE POLICY 3 credits
Prerequisite: 530. Comprehensive overview of human resource policies in business. 3 credits.

431 LABOR AND THE GOVERNMENT 3 credits
Prerequisite: 330. Development of public policy toward labor-management relations from 19th Century to present. 3 credits.

432 THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING 3 credits
Prerequisite: 202. Principles and organization of collective bargaining, labor-management agreements, issues in labor disputes and settlements, union structure and benefits, wage scales, labor-management, production standards, etc. 3 credits.

435/535 THE DEVELOPMENT OF AMERICAN CORPORATE STRUCTURE 3 credits
Prerequisites: 330. Development of American corporate structure from late 19th Century to present. Emphasis on changing dimensions of corporate structure and response of government. Case studies to be analyzed. 3 credits.

449/549 SPECIAL TOPICS: ECONOMICS 3 credits
Prerequisite: permission. Special topics. 3 credits.

450/550 COMPARATIVE ECONOMIC SYSTEMS 3 credits
Prerequisites: 201, 202 or permission of instructor. Systems of economic organization, ranging from the perfectly free market to the centrally planned economy. Historical development of economic systems, covering problems in theory and practice. 3 credits.
## Graduate Courses

### 600 FOUNDATIONS OF ECONOMIC ANALYSIS
- 3 credits
- Prerequisites: 201, 202. Basic problems in economic development. Theories of development. Government planning for development and development of underdeveloped countries. No credit for graduate majors in economics.

### 602 MACROECONOMIC ANALYSIS I
- 3 credits
- Construction of static macroeconomic models. Analysis in terms of comparative statics with only relatively brief mention of dynamic models.

### 603 MACROECONOMIC ANALYSIS II
- 3 credits

### 606 PUBLIC FINANCE
- 2 credits

### 610 FRAMEWORK OF MACROECONOMICS 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
- 2 credits

### 612 MICROECONOMIC THEORY II
- 3 credits
- Prerequisite: 611. Continuation of 611. Coverage of multivariate equilibrium, general equilibrium and welfare economics, and applications in public choice and applied welfare theory.

### 615 INDUSTRIAL ORGANIZATION
- 3 credits
- Prerequisite: 611 or permission. Examines link between market structure, firm conduct and economic performance. Measurement techniques and effects of monopoly power, industrial concentration and changes.

### 616 ANTITRUST ECONOMICS
- 3 credits
- Prerequisite: 615 or permission of instructor. 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. Examines rationale, methods, and success of government regulation of public utility, transportation and communications industries.

### 620 APPLICATIONS OF MATHEMATICAL MODELS TO ECONOMICS
- 3 credits
- Prerequisites: 201, 202. International trade and foreign exchange, policies of free and controlled trade. International monetary problems.

### 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.

### 622 STATISTICS FOR ECONOMETRICS
- 3 credits
- Prerequisite: 621. Credit only for graduate majors in economics.

### 626 ECONOMETRICS
- 3 credits
- Prerequisite: 622 or equivalent. Formulation of functional relation among economic variables suitable for statistical estimation from observational data. Contribution of multivariate econometric models and methods of estimation.

### 627 MACROECONOMIC ANALYSIS I
- 3 credits
- Prerequisite: 622. Credit only for graduate majors in economics.

### 628 SEMINAR IN RESEARCH METHODS
- 3 credits
- Prerequisite: permission of instructor. An introduction to research in economics. Emphasis on evaluation and hypothesis testing as a prelude to econometrics.

### 630 COLLECTIVE BARGAINING II
- 3 credits
- Prerequisite: 626 or permission of instructor. Examination of process of negotiation. Course is a credit contract negotiation. Student decides topics, positions and tactics, then negotiates contract.

### 631 LABOR LAW
- 3 credits
- Intensive study of labor-related issues. Topics include labor market policies, collective bargaining, strikes, picketing, unfair labor practices, labor union sanctions, and collective bargaining.

### 633 THEORY OF WAGES AND EMPLOYMENT
- 3 credits
- Analytical approach to integration of economic theory with observed labor market phenomena. Determination of wage and employment theories effects of unions, collective bargaining and federal legislation.

### 634 COLLECTIVE BARGAINING
- 3 credits
- Credit only for graduate majors in economics.

### 635 LABOR LAW
- 3 credits
- Credit only for graduate majors in economics.

### 636 COLLECTIVE BARGAINING II
- 3 credits
- Credit only for graduate majors in economics.

### 637 LABOR LAW II
- 3 credits
- Credit only for graduate majors in economics.

### 641 EXAMINATION OF LABOR LAW
- 3 credits
- Credit only for graduate majors in economics.

### 6500.321, 6560.336
- 3 credits
- Credit only for graduate majors in economics.

# ENGLISH

## 3300:

### 270 INTRODUCTION TO LINGUISTICS
- 2 credits
- Brief survey of topics in language and introduction to its scientific study. Topics include language origins and history, syntax, semantics, animal language, writing systems and language universals.
275 SPECIALIZED WRITING 3 credits
(May be repeated for different topics, with permission)
Principles and practice of style, structure, and purpose in writing, with special applications to writing demands of a specific career area.

277 INTRODUCTION TO POETRY WRITING 3 credits
Practice in writing poems. Study of techniques in poetry, using contemporary poems as examples. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.

278 INTRODUCTION TO FICTION WRITING 3 credits
Practice in writing short stories. Study of various techniques in fiction, using contemporary stories as models. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.

279 INTRODUCTION TO SCRIPT WRITING 3 credits
Practice in writing screenplays. Study of various techniques in screenwriting, using contemporary screenplays as examples. Class discussion of student work. Individual conferences with instructor to direct student's reading and writing.

280 POETRY APPRECIATION 3 credits
Close reading of a wide selection of British and American poems with emphasis on thematic situation, description, tone, language, and language meaning.

281 FICTION APPRECIATION 3 credits
Close reading of modern masters of short story and novel.

282 DRAMA APPRECIATION 3 credits
(May be repeated for credit as a text in a film appreciation course) Close reading and analysis of a variety of plays.

283 FILM APPRECIATION 3 credits
Introduction to dramatic choices made by filmmakers in scripting, directing, editing, and photographing narrative films.

301 ENGLISH LITERATURE I 4 credits
Survey of 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.

302 ENGLISH LITERATURE II 4 credits
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.

315 SHAKESPEARE: THE EARLY PLAYS 3 credits
Introduction to early drama of Shakespeare with close reading of tragedies and comedies. Includes explanatory lectures of both the plays and their backgrounds.

316 SHAKESPEARE: THE LATER PLAYS 3 credits
Study of Shakespeare's plays after 1598, beginning with mature comedies. Concentration on major tragedies and romances.

317 AMERICAN LITERATURE I 3 credits
Historical survey of major and minor American writers to 1865.

318 AMERICAN LITERATURE II 3 credits
Readings in major and minor American writers from 1865 to present.

320 BLACK AMERICAN LITERATURE 3 credits
Survey of representative black American writers from the 19th Century to present, with particular attention to historical and social backgrounds.

321 FICTION OF THE SOUTH 3 credits
A study of novels and short stories by major Southern authors such as Faulkner, O'Connor, and Styron.

320 THE OLD TESTAMENT AS LITERATURE 3 credits
History of希伯来语至586 B.C., as revealed through epic, fiction, saga, and poetry, viewed against background of the Oriental World.

321 THE NEW TESTAMENT AND APOCRYPHA AS LITERATURE 3 credits
These two bodies of literature read with emphasis on form of gospel and epistle, and concept of apocalypse. Both are viewed against their historical and social backgrounds.

326 EUROPEAN BACKGROUNDS OF ENGLISH LITERATURE 3 credits
Representative Continental texts from Homer to Cervantes selected both for their excellence and for their important influence on English and American literature.

327 INTERMEDIATE LINGUISTICS 3 credits
Prerequisite: 270 or permission. In-depth scientific look at language structure, especially the relation of sentences and their meaning, the variety of the English language's methods for constructing complex sentences both simple and complex ideas are investigated.

328 LEGAL WRITING 3 credits
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, arguing persuasively, manipulating rules of law, and other topics that will help those preparing for law school and the profession.

329 ADVANCED POETRY WRITING 3 credits
Prerequisite: 277 or permission. Advanced practice in writing poems. Emphasis on creating publishable works. Survey of market. Class discussion of student poems, individual conference with instructor.

330 FILM CRITICISM 3 credits
Application of literary critical theory to the study of film.

331 WOMEN IN MODERN NOVELS 3 credits
Students will read various modern novels to increase their awareness of how these texts reflect, resist, or move beyond traditional attitudes toward women, their places and circumstances.

332 SPECIAL TOPICS: LITERATURE AND LANGUAGE 3 credits
(May be repeated for credit as different topics are offered) Prerequisite: 1100/1200. Traditional and non-traditional topics in English literature and language. Supplementing course listed in this General Bulletin, generally constructed around thematic, genre, and language study.

333 PROFESSIONAL WRITING I 3 credits
Designed to help prepare students for a career as professional business writer. Stressing theory and practice of written and oral communication in business organization and group process, relating to: creating theme, concepts, choice of words. Functional writing as well as special needs of business are illustrated by actual cases. Adaptation, style and organization is practiced.

334 PROFESSIONAL WRITING II 3 credits
Designed to help prepare students for a career as professional technical writer. Covers principles and principles concerning editing companies, technical communications, such as specifications, manuals, technical reports, for technical products, services, scientific and technical proposals. Also teaches problem solving to materials in format, graphic display of technical information, adaptation of technical material to non-technical audience.

335 THE GOTHIC IMAGINATION 3 credits
A loosely chronological study of major British, American, and European authors in the Gothic tradition, from the 18th Century to the present. Attention will be paid to the literary conventions of Gothic fiction, to the "popular" nature of the literature and to its major themes and motifs.

400/500 ANGLO SAXON 3 credits
Studies in Old English language and Old English prose and poetry, including Beowulf.

403/503 DEVELOPMENT OF THE ARTU RIAN LEGEND 3 credits
Traces evolution of Arthurian material from 540 to 1500 and beyond, with emphasis on character, theme, events, and treatments.

406/506 CHAUCER 3 credits
Critical study of Chaucer's major works — The Canterbury Tales and Troilus and Criseyde in Middle English.

407/507 OLD TESTAMENT 3 credits
Survey of genres, topics, styles and writers of the Middle English literary works from 12th to 15th Centuries. Readings in Middle English.

412/512 SPENSER 3 credits
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 poetry.

416/516 METAPHYSICAL POETS 3 credits
Selected 17th 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.

418/518 MILTON 3 credits
Emphasis on Milton's major poems and prose works: Paradise Lost, Paradise Regained, Areopagitica, the Divinity School odes and poems of the 1645 edition. Student becomes acquainted with Milton the man and Milton the artist.

421/521 SWIFT AND POPE 3 credits
An intensive study of the major satires of Swift and Pope. Concentration on the historical strategies of each author within the context of the shifting intellectual and cultural milieu at the end of the 17th and beginning of the 18th Centuries.

424/524 EARLY ENGLISH FICTION 3 credits

425/525 STUDIES IN ROMANTICISM 3 credits
Literary, philosophical, psychological and social revolutions of romantic period as reflected in works of such major writers as Wordsworth, Byron and Keats.

430/530 VICTORIAN POETRY AND PROSE 3 credits
Poetry, prose of the late 19th Century, excluding fiction, with attention to Tennyson, Browning, Arnold, Carlyle, Ruskin and other major writers.

431/531 VICTORIAN FICTION 3 credits
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.

434/534 CHARLES DICKENS 3 credits
Growth of Dickens as a novelist, with attention to the social and political backgrounds of the novels and changes in his style and treatment of characters.

435/535 20th CENTURY BRITISH POETRY 3 credits
Concentrated study of major poets of Yeats, Eliot and Auden, with attention also to Hardy, Housman, Spender, E. D. Eynon, Dylan Thomas and others.

436/536 BRITISH FICTION: 1900-1925 3 credits
Study of Conrad, Joyce, U. 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 Mann.
453/553 MODERN BRITISH AND IRISH DRAMA
3 credits
Study of major British dramatists, primarily those of post-World War II. Focus figures are Shaw, Galsworthy, O’Casey, Osborne, Arene, and Pinter.

445/546 AMERICAN AUTOBIOGRAPHY
3 credits
An inquiry into the nature of autobiographical writing, with particular attention to the chronology of the "autobiographical" text. Includes such authors as Henry Adams, Sherwood Anderson, Mark Twain, Gertrude Stein, Langston Hughes, William Carlos Williams, Loren Eiseley, and Maya Angelou.

446/546 AMERICAN ROMANTIC FICTION
3 credits
Examination of early American fiction, tracing its genesis, romantic period and germinal movements toward realism. Writers discussed include Cooper, Poe, Hawthorne, Melville.

447/548 AMERICAN FICTION: REALISM AND NATURALISM
3 credits
Examination of American writers of realistic and Naturalistic fiction (e.g., Melville, Jack London, John Dos Passos, John Marterer, Steinbeck, Dreiser, Wolfe) and the development of American realism against a background of Romanticism.

450/550 MODERN AMERICAN FICTION
3 credits
Study of significant American short and long fiction from World War I to the present.

451/551 AMERICAN POETRY TO 1900
3 credits
Survey of American poetry of the 17th, 18th, and 19th centuries.

452/552 MODERN AMERICAN POETRY
3 credits
Survey of 20th century American poetry beginning with Edna St. Vincent Millay and ending with contemporary poets.

453/553 AMERICAN WOMEN POETS
3 credits
Study of modern poets and their various uses and revisions of tradition, relationship of women and men, and between women and race, with particular attention to the poetry of Marianne Moore, Emily Dickinson, Emily Ellyn, and Margaret Atwood.

454/554 20TH CENTURY AMERICAN DRAMA
3 credits
Examination of major established playwrights (including O’Neill, Miller, Williams) and sampling of new and rising ones.

455/555 THE AMERICAN SHORT STORY
3 credits
A study of the development of the short story as a particularly American genre, from Washington Irving to the present.

456/558 SHAKESPEAREAN DRAMA
3 credits
A study of Shakespeare’s plays and poetry. Particular emphasis will be on the major themes and devices of Shakespeare’s plays, with attention to the plays’ historical and cultural context.

457/557 MODERN EUROPEAN FICTION
3 credits
Representative European writers from approximately 1910 to the present, including T.S. Eliot, James Joyce, and Samuel Beckett.

458/559 ERÓS AND LOVE IN LATE WESTERN LITERATURE
3 credits
An analysis of the use of Eros and love in the literature of the Western World from the Renaissance to the present, with particular emphasis on the relationship of Eros to power, politics, and social change.

460/560 HISTORY OF ENGLISH LANGUAGE
3 credits
An examination of English language formation, beginning with its vocabulary, sounds, rules, semantic change, political and social influences on changes; dialect origins; connotation.

471/571 U.S. DIALECTS: BLACK AND WHITE
3 credits
Study of differences in pronunciation, vocabulary and grammar among U.S. language varieties, their regional and social dimensions, and their role in the development of American English.

472/572 SEMINAR IN TEACHING ESL: THEORY AND METHOD
3 credits
Theoretical issues in language teaching and language acquisition as relevant to learning of a second language. Theoretical principles of teaching English as a second language based on research in linguistics, psychology and second language pedagogy.

473/573 THEORY OF RHETORIC
2 credits
An investigation of the nature and history of rhetoric, with attention to classical rhetorical devices and their application to teaching of English.

474/574 THEORY AND TEACHING OF BASIC COMPOSITION
2 credits
Review of current research and exploration of specific instructional methods for teaching basic composition.

482 SENIOR HONORS PROJECT IN ENGLISH
1-3 credits
(Prerequisite: Senior standing in Honors Program and approval of honors committee. Open only to English majors enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.)

483/583 MYTH AND SCIENCE FICTION
3 credits
Selected British and American fantasy and science fiction from the 1880s to the present.

Graduate Courses

600 TEACHING COLLEGE COMPOSITION PRACTICUM
2 credits
Prerequisites: teaching assistantship, Orientation and weekly analysis of teaching rationale and practice, limited to teaching assistants in the Department of English.

615 SHAKESPEAREAN DRAMA
3 credits
Contemporary study of works of Shakespeare with emphasis on the development of critical theory and analysis.

616 SHAKESPEARE’S CONTEMPORARIES IN ENGLISH DRAMA
3 credits
Readings in major playwrights from 1623-1660, with particular attention to contemporary theories of literature.

627 KATIE AND HIS CONTEMPORARIES
3 credits
Writings of John Heap, studied against the background of romantic, poetic, and literary theory of his contemporaries.

629 THEORY AND PRACTICE OF MODERN POETRY
3 credits
Study of modern poetry, with particular attention to the development of critical theory and practice, and its relationship to contemporary American poetry.

633 SEMINAR IN SHAKESPEARE
3 credits
A seminar dealing with the major works of Shakespeare, with particular attention to the development of critical theory and practice, and its relationship to contemporary American poetry.

650 LITERARY CRITICISM
3 credits
An analysis of the major works in the theory and practice of literary criticism, with particular attention to the development of critical theory and practice, and its relationship to contemporary American poetry.

670 MODERN LINGUISTICS
3 credits
An introduction to the methods and findings of modern linguistics, focusing on syntax, semantics, phonology, and phonetics. Goals include understanding of language variation and background preparation for linguistic studies or literature.

673 THEORIES OF COMPOSITION
3 credits
Study of the development of theoretical and practical approaches to composition and its relationship to the field of literary criticism.

674 RESEARCH METHODOLOGIES IN COMPOSITION
3 credits
Research in composition pedagogy and its relationship to the field of literary criticism.

675 WRITING FOR MBAs
3 credits
Emphasis on business writing. Students learn the mechanics of business writing and are taught to write clearly and concisely.

676 SCHOLARLY WRITING
3 credits
Study of composition, analysis, and evaluation of academic arguments. Students are introduced to basic academic writing techniques such as research, writing, and revision.

678 SEMINAR IN SATIRE
3 credits
A study of satire in the Middle Ages through the late 20th Century, with particular attention to the techniques of satire in literature, the nature of satire, and its relationship to contemporary American poetry.

679 SEMINAR IN ENGLISH
2-3 credits
May be repeated with different topics. Special studies in literary and cultural studies, focusing on major figures or themes.

681 BIBLIOGRAPHY AND LITERARY RESEARCH
2 credits
A study of the role of research in the study of literature, including the use of bibliographic resources for literary research, such as literary journals, literary magazines, and literary periodicals.

698 INDIVIDUAL READING IN ENGLISH
1-3 credits
Individual study in the supervision of a professor who directs and coordinates student’s reading and research.
### GEOGRAPHY

#### 3350:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>INTRODUCTION TO GEOGRAPHY</td>
<td>2</td>
</tr>
<tr>
<td>310</td>
<td>PHYSICAL AND ENVIRONMENT GEOPHYSICS</td>
<td>3</td>
</tr>
<tr>
<td>314</td>
<td>CLIMATOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>320</td>
<td>ECONOMIC GEOGRAPHY</td>
<td>3</td>
</tr>
<tr>
<td>326</td>
<td>ENERGY AND ECOLOGY</td>
<td>2</td>
</tr>
<tr>
<td>335</td>
<td>RURAL AND URBAN SETTLEMENT</td>
<td>3</td>
</tr>
<tr>
<td>336</td>
<td>RECREATION RESOURCE PLANNING</td>
<td>3</td>
</tr>
<tr>
<td>337</td>
<td>CARTOGRAPHY</td>
<td>2</td>
</tr>
<tr>
<td>341</td>
<td>MAPS AND MAP READING</td>
<td>3</td>
</tr>
<tr>
<td>350</td>
<td>ANGLO AMERICA</td>
<td>3</td>
</tr>
<tr>
<td>351</td>
<td>OHIO: ENVIRONMENT AND SOCIETY</td>
<td>3</td>
</tr>
<tr>
<td>352</td>
<td>LATIN AMERICA</td>
<td>2</td>
</tr>
<tr>
<td>356</td>
<td>EUROPE</td>
<td>3</td>
</tr>
<tr>
<td>356.U.S.R.</td>
<td>Regional and topical analysis of cultural, economic and environmental patterns</td>
<td>3</td>
</tr>
<tr>
<td>360</td>
<td>ASIA</td>
<td>3</td>
</tr>
<tr>
<td>363</td>
<td>AFRICA SOUTH OF THE SADARA</td>
<td>3</td>
</tr>
<tr>
<td>385</td>
<td>PLANNING SEMINAR</td>
<td>1</td>
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<tr>
<td>397</td>
<td>SPECIAL PROBLEMS</td>
<td>1-3</td>
</tr>
<tr>
<td>405/505</td>
<td>GEOGRAPHIC INFORMATION SYSTEMS</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Year 422-522:

- **TRANSPORTATION SYSTEMS PLANNING**
  - Prerequisite: 320 or permission. Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problems and issues, elements of transportation planning.
  - 3 credits

- **INDUSTRIAL AND COMMERCIAL SITE LOCATION**
  - Prerequisite: 320 or permission. Relationship between land, resources, population, transportation, and industrial commerce. Location process.
  - 3 credits

- **URBAN, REGIONAL AND RESOURCE PLANNING**
  - Prerequisite: 320 or permission. Role of geographic investigation in city, regional, and resource planning.
  - 3 credits

- **URBAN LAND USE ANALYSIS**
  - Prerequisite: 320 or permission. Land use classification systems and their spatial variation in urban areas. Land use data are collected by student field work to analyze the associations and structure of subregions.
  - 3 credits

- **WORLD METROPOLITAN AREAS**
  - Prerequisite: 320 or permission. Comparative analysis of metropolitan regions. Urbanization, land use, housing, transportation, population, and role of cities in economic development in different cultures.
  - 3 credits

- **THEMATIC CARTOGRAPHY**
  - Prerequisite: 320 or permission. Principles and techniques used in thematic mapping. Stresses uses of maps to outline certain characteristics of classes of information both qualitative and quantitative.
  - 3 credits

- **MAP COMPOSITION AND REPRODUCTION**
  - Prerequisite: 320 or permission. Production of maps from map grids, aerial photographs, surveys, and other sources. Includes special cartographic considerations for photography, typography, and printing.
  - 3 credits

- **INTRODUCTION TO REMOTE SENSING**
  - Prerequisite: 320 or permission. Study of aerial and spacecraft photography. Imagery composed by radar, terrestrial, multispectral, and satellite sources. Emphasis on use in geographic, geological, biological, and engineering research.
  - 3 credits

- **AUTOMATED COMPUTER MAPPING**
  - Prerequisite: 320 or permission. Study of computer-assisted map compilation and execution. Emphasis on integration of computer and cartographic skills and techniques. Programs adapted to specialized interests of students.
  - 3 credits

- **ADVANCED REMOTE SENSING**
  - Prerequisite: 447/547 or permission. Current research in remote sensing. Applications in study of man's cultural and biophysical environment. Practical in planning, design, interpretation, and implementation.
  - 3 credits

- **DEVELOPMENT PLANNING IN THE THIRD WORLD**
  - A study of planning concepts and techniques for developing countries, including growth and development, planning stereotypes, regional inequalities, and alternative approaches.
  - 3 credits

- **MEDICAL GEOGRAPHY AND HEALTH PLANNING**
  - 3 credits

- **GEOGRAPHIC RESEARCH METHODS**
  - A critical study of research methods in contemporary geographic analysis. Knowledge and evaluation of the role of geographical data in research.
  - 3 credits

- **THREE SPECIAL TOPICS IN GEOGRAPHY**
  - May be repeated for a total of six credits.
  - 1-3 credits

- **WORKSHOP IN GEOGRAPHY**
  - May be repeated for a total of six credits.
  - Group studies of special topics in geography.
  - 1-3 credits

- **SOIL AND WATER FIELD STUDIES**
  - Prerequisite: 320 or permission. Properties, origins and uses of major soil and water regimes. Special emphasis on surface and ground water. Emphasis on soil and the hydrological cycle, urbanization, saltwater intrusion, and pollution. Field trips required.
  - 3 credits

- **FIELD RESEARCH METHODS**
  - Prerequisite: 481/581 or permission. Field work enabling students to become competent in collecting, organizing, and analyzing data while carrying out field research projects.
  - 2 credits

- **HONORS RESEARCH IN GEOGRAPHY**
  - (May be repeated for a total of six credits).
  - Prerequisite: permission of department and advisor. Independent study of research topics and issues in contemporary geography. Selection of evidence and writing of research paper in proper scholarly form under direction of faculty member.
  - 1-3 credits

**Graduate Courses**

- **600.17 SEMINAR**
  - (May be repeated for a maximum of six credits each).
  - Prerequisite: permission of department. Honors seminar on topics in geographic specialization indicated by consent of instructor.
  - 3 credits each
102 INTRODUCTORY HISTORICAL GEOLOGY

698 ENVIRONMENTAL GEOLOGY

271 CRYSTALLOGRAPHY

404/504 ASTROGEOLOGY

3 credits

350 PREREQUISITE: 231, 324. or permission. Use of geologic field equipment including Brunton compasses, alidade and plate tables, stereoscopes and aerial photographs.

350 PREREQUISITE: 101 or 231. Introduction to processes and environments of sedimentation and diagenetic principles employed in examination of sedimentary strata. Field specimens and sequences of sedimentary strata studied. Laboratory.


350 PREREQUISITE: 101 or permission. Origins and characteristics of fossils, faults, joints and rock cleavage. Structural features of sedimentary, igneous and metamorphic rocks. Laboratory.

300 ANALYTICAL CHEMISTRY

200 ADVANCED SPATIAL ANALYSIS

680 ADVANCED SPATIAL ANALYSIS

200 ADVANCED SPATIAL ANALYSIS

698 ENVIRONMENTAL GEOLOGY

271 CRYSTALLOGRAPHY

404/504 ASTROGEOLOGY

3 credits

350 PREREQUISITE: 231, 324. or permission. Use of geologic field equipment including Brunton compasses, alidade and plate tables, stereoscopes and aerial photographs.

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350 PREREQUISITE: 101 or permission. Origins and characteristics of fossils, faults, joints and rock cleavage. Structural features of sedimentary, igneous and metamorphic rocks. Laboratory.
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>401</td>
<td>HONORS SEMINAR: 3 credits&lt;br&gt;Prerequisite: permission of department head or instructor. Selected readings; writing of research papers. For students seeking to graduate with honors in history and for students in Honors Program.</td>
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<tr>
<td>402/502</td>
<td>SPECIAL STUDIES IN HISTORY: 3 credits&lt;br&gt;Includes experimental and interdisciplinary studies, as well as those subjects that are not listed in the General Bulletin. Students and instructors for the course are announced in the Bulletin.</td>
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<tr>
<td>403/503</td>
<td>UNITED STATES SOCIAL, CULTURAL, HISTORICAL TO 1777: 3 credits&lt;br&gt;Concepts and attitudes considered in their social, cultural, and historical framework. Emphasis on population growth, rural and urban life, literature, the arts, family history, slavery and impact of Civil War</td>
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<tr>
<td>404/504</td>
<td>UNITED STATES SOCIAL, CULTURAL, HISTORICAL SINCE 1777: 3 credits&lt;br&gt;Concepts and attitudes considered in their social, cultural, and political framework. Emphasis on population growth, rural and urban life, literature, the arts, family history, slavery and impact of Civil War</td>
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<tr>
<td>405/505</td>
<td>HISTORICAL METHODS: 2 credits&lt;br&gt;Teaches the techniques of 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.</td>
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<tr>
<td>406-506</td>
<td>THE AMERICAN REVOLUTIONARY ERA: POLITICAL, MILITARY, AND CONSTITUTIONAL ASPECTS: 3 credits&lt;br&gt;The struggle for the rights of Englishmen and independence; the impact of war on American society and the creation of republican institutions.</td>
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<tr>
<td>407/507</td>
<td>UNITED STATES DIPLOMACY TO 1919: 3 credits&lt;br&gt;Establishment of basic policies, diplomacy of expansion and emergence of a world power</td>
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<tr>
<td>408/508</td>
<td>UNITED STATES DIPLOMACY SINCE 1919: 3 credits&lt;br&gt;Prerequisite: 407/507 or permission. The functions and programs of historical agencies.</td>
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<tr>
<td>410/510</td>
<td>HISTORICAL ADMINISTRATION: 3 credits&lt;br&gt;Organization and administration of non-academic historical agencies (e.g., societies, museums, libraries, etc.). Some field experience in a local historical agency.</td>
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<tr>
<td>411/511</td>
<td>FUNCTIONS OF HISTORICAL AGENCIES: 3 credits&lt;br&gt;Prerequisites: 410/510 for permission. The functions and programs of historical agencies.</td>
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<tr>
<td>413</td>
<td>BLACK SOCIAL AND INTELLECTUAL HISTORY: 3 credits&lt;br&gt;Examination of black thought and activities reflective of Afro-American culture, conditions facing black people within America and efforts toward coordinated black activity.</td>
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<tr>
<td>414/514</td>
<td>HISTORY OF CANADA: 3 credits&lt;br&gt;Survey of Canadian history from the age of the explorers to the present. Special emphasis will be placed on the history of French Canadians, of economic development and on Canadian-American relations.</td>
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<tr>
<td>415/515</td>
<td>LATIN AMERICA: ORIGINS OF NATIONALITY: 3 credits&lt;br&gt;The Columbus civilizations, discovery and conquests; colonialism; struggle for independence and formation of new societies.</td>
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<tr>
<td>416/516</td>
<td>LATIN AMERICA: THE 20TH CENTURY: 3 credits&lt;br&gt;Social revolution, political ideology and contemporary problems.</td>
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<tr>
<td>417/517</td>
<td>THE UNITED STATES, LATIN AMERICA AND IMPERIALISM: 3 credits&lt;br&gt;Latin-American relations, militarism, dependency, Marxism and recent international and ideological trends.</td>
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<tr>
<td>418/518</td>
<td>MEXICO: 3 credits&lt;br&gt;History of Mexico from pre-Columbian civilizations to present with emphasis on relations with United States, social and political developments of the 20th Century Mexican Revolution.</td>
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<tr>
<td>419/519</td>
<td>CENTRAL AMERICA AND THE CARIBBEAN: 3 credits&lt;br&gt;Social and economic aspects of the history of Central American and Caribbean countries with emphasis on political and economic movements; political, social and cultural development, and change in the United States.</td>
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<tr>
<td>421/521</td>
<td>THE AMERICANS IN THE 17TH CENTURY: 1607-1713: 3 credits&lt;br&gt;Establishment of European colonies in America with special emphasis on English settlements and evolution of the Great Britain Empire to 1713.</td>
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<tr>
<td>425/525</td>
<td>THE CIVIL WAR AND RECONSTRUCTION: 1860-1877: 4 credits&lt;br&gt;Sectionalism; slavery and the causes of the Civil War; wartime activities of the Union and Confederacy; issues of personalities, problems of reconstruction and the new Union.</td>
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<tr>
<td>428/528</td>
<td>THE ORIGINS OF MODERN AMERICA, 1877-1917: 3 credits&lt;br&gt;United States from Reconstruction Era to World War I (1877-1920): emphasis on political responses to rise of an industrialized society, the popular and progressive movements.</td>
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<tr>
<td>429/529</td>
<td>AMERICA IN WORLD WARS AND DEPRESSION, 1917-1945: 3 credits&lt;br&gt;World War I and Versailles; the 1920's, the Great Depression and the New Deal; World War II</td>
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<tr>
<td>430/530</td>
<td>RECENT AMERICA: THE UNITED STATES SINCE WORLD WAR II: 3 credits&lt;br&gt;Nuclear age, cold war, foreign policy and domestic affairs to present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.</td>
<td></td>
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<tr>
<td>431/531</td>
<td>HISTORY OF AMERICAN TRANSPORTATION: 3 credits&lt;br&gt;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.</td>
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<tr>
<td>432/532</td>
<td>AMERICAN ECONOMY TO 1900: 3 credits&lt;br&gt;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.</td>
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<tr>
<td>433/533</td>
<td>AMERICAN ECONOMY SINCE 1900: 3 credits&lt;br&gt;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.</td>
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<tr>
<td>434/534</td>
<td>AMERICAN ENVIRONMENTAL HISTORY: 3 credits&lt;br&gt;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.</td>
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<tr>
<td>435/535</td>
<td>OHIO: Political, social, economic and intellectual history of Ohio, with special emphasis on Ohio's relationship to the Northwest and to the nation.</td>
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<tr>
<td>436/536</td>
<td>THE AMERICAN CITY: 3 credits&lt;br&gt;Development of urbanization and its consequences from colonial period to present.</td>
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<tr>
<td>437/537</td>
<td>AMERICAN FAMILY HISTORY: 3 credits&lt;br&gt;Evolution of American family, colonies to present. Including development in structure and social and economic trends, and roles of family members, and status of the aged. Exploration of methods for historical study of the family.</td>
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<tr>
<td>438/538</td>
<td>BRONZE AGE AND ARCHAIC GREECE: 3 credits&lt;br&gt;Survey of the history of Greece from the Neolithic to the Persian Wars. Attention will be given to the nature of the source material, ancient historiography, text criticism and the like.</td>
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<tr>
<td>439/539</td>
<td>CLASSICAL AND HELLENISTIC GREECE: 3 credits&lt;br&gt;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.</td>
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<tr>
<td>440/540</td>
<td>THE ROMAN REPUBLIC: 3 credits&lt;br&gt;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.</td>
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<tr>
<td>441/541</td>
<td>THE ROMAN EMPIRE: 3 credits&lt;br&gt;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.</td>
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<tr>
<td>442/542</td>
<td>MEDIEVAL EUROPE: 400-1200: 3 credits&lt;br&gt;Migration of peoples, Carolingian revivai, renewed invasions, social, economic and intellectual settings leading to &quot;birth of Europe.&quot;</td>
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<tr>
<td>443/543</td>
<td>MEDIEVAL EUROPE: 1200-1500: 3 credits&lt;br&gt;Focus on the Middle Ages and the Middle Ages: economic and political change, international wars: social unrest and religious crosscurrents.</td>
<td></td>
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<tr>
<td>445/545</td>
<td>THE RENAISSANCE: 3 credits&lt;br&gt;The European Renaissance (1350-1500). Economic and political trends with special emphasis on Protestant, Anglican and Catholic reforms.</td>
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</tr>
<tr>
<td>446/546</td>
<td>THE REFORMATION: 3 credits&lt;br&gt;Europe in the 16th Century, its religious, cultural, political and diplomatic development, with special emphasis on Protestant, Anglican and Catholic reforms.</td>
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</tr>
<tr>
<td>447/547</td>
<td>EUROPEAN ABSOLUTISM AND THE ENLIGHTENMENT: 1648-1789: 3 credits&lt;br&gt;Constitutional, diplomatic, cultural, intellectual and social developments of 17th Century Europe</td>
<td></td>
</tr>
<tr>
<td>448/548</td>
<td>EUROPE IN THE FRENCH REVOLUTIONARY ERA: 1789-1815: 3 credits&lt;br&gt;Developments of Revolution, Napoleon's regime and satellites</td>
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</tr>
<tr>
<td>451/551</td>
<td>19TH CENTURY EUROPE, 1815-1871: 3 credits&lt;br&gt;Europe in the 19th century: changes, revolution, romanticism, industrialization, democratization, first wars of the Industrial Age.</td>
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<tr>
<td>452/552</td>
<td>19TH CENTURY EUROPE, 1871-1914: 3 credits&lt;br&gt;Socialism, imperialism, nationalism and the great war. The belle époque and contemporary art and intellectual currents.</td>
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<tr>
<td>454/554</td>
<td>20TH CENTURY EUROPE, 1914-1939: 3 credits&lt;br&gt;Europe between world wars: Russian revolution, fascism and nationalism; pogroms, World War II</td>
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</tr>
<tr>
<td>455/555</td>
<td>20TH CENTURY EUROPE SINCE 1939: 3 credits&lt;br&gt;Europe in World War II, the cold war and attempts at unity.</td>
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<tr>
<td>458/558</td>
<td>RUSSIA TO 1801: 3 credits&lt;br&gt;Survey of Russian history from Kievian period to death of Paul, emphasizing development of autocratic government, Russian culture, life of Peter and Catherine.</td>
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<tr>
<td>459/559</td>
<td>RUSSIA SINCE 1801: 3 credits&lt;br&gt;Survey of 19th and 20th Centuries. Special emphasis on problems of modernization, the revolution and development of communism.</td>
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</tbody>
</table>
WAR AND WESTERN CIVILIZATION
Study of historical literature, sources of materials, and major interpretations of early European history from the 16th to the 17th Century. 4 credits

ENGLAND TO 1660
Survey of English history from the Anglo-Saxon period to the Revolution of 1660. Major events and personalities. 3 credits

ENGLAND SINCE 1660
Survey of English history from 1660 to the present. The role of English institutions and culture, the welfare state, society, and war. 3 credits

READING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN HISTORICAL HONORS
Research and writing in selected topics in European history to Napoleon's era. Prerequisites: 697, 899. 4 credits

WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN HISTORICAL HONORS
Research and writing in selected topics in European history since the early modern period. Prerequisites: 697, 899. 4 credits

WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN HISTORICAL HONORS
Research and writing in selected topics of modern European history. Prerequisites: 697, 899. 4 credits

WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN HISTORICAL HONORS
Research and writing in selected topics of modern European history. Prerequisites: 697, 899. 4 credits

WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN HISTORICAL HONORS
Research and writing in selected topics of modern European history. Prerequisites: 697, 899. 4 credits

WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN HISTORICAL HONORS
Research and writing in selected topics of modern European history. Prerequisites: 697, 899. 4 credits

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WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN WRITING SEMINAR IN MODERN HISTORICAL HONORS
Research and writing in selected topics of modern European history. Prerequisites: 697, 899. 4 credits

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Research and writing in selected topics of modern European history. Prerequisites: 697, 899. 4 credits
439/539 ADVANCED ENGINEERING MATHEMATICS II 3 credits
Prerequisites: 438/538 or both 235 and 312. Complex analysis, series solutions to differential equations, partial differential equations, integral transforms, partial differential equations, applications. Does not satisfy elective requirements for mathematical sciences degree.

441/541 CONCEPTS IN GEOMETRY 4 credits
Prerequisite: 222 or permission of instructor. Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions, and inversions.

442/542 PROJECTIVE GEOMETRY 3 credits
Prerequisite: 222 or permission. Complex projective planes, duality, projective coordinates, 1:1 correspondence, cross ratios, harmonic conjugates, conics, quadric surfaces, applications. Projective Euclidean geometry, quadric surfaces.

445/545 INTRODUCTION TO TOPOLOGY 3 credits
Prerequisite: 312 or permission. Introduction to topological spaces and topological mappings, cardinality, homeomorphism, connected spaces, metric spaces.

459/559 TOPICS IN MATHEMATICS 1-3 credits
May be repeated for a total of six credits. Prerequisite: permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.

191/591 WORKSHOP IN MATHEMATICS 1-3 credits
(May be repeated) Group study of special topics in mathematics and statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be used for elective credit only.

497 INDIVIDUAL READING 1-2 credits
Prerequisite: senior standing and permission. Mathematics major only. Directed studies designed as an introduction to research problems, under guidance of selected faculty member.

498 SENIOR NONRESIDENT PROJECT 1-3 credits
Prerequisite: 469 (honors). Directed study for senior student in the honors program who has completed 469 (honors). An intensive look to research problems in mathematical sciences under the guidance of selected faculty.

Graduate Courses:

601 INTRODUCTION TO ANALYSIS 4 credits
Prerequisite: permission. An introduction to analysis to include differentiation and integration, maxima and minima, Lagrange multipliers, topologies, infinite series, and surface integrals, improper integrals. May not be used in meet degree requirements for mathematical sciences majors.

610 MATRIX ALGEBRA 3 credits
Prerequisite: 235. Study of matrix theory and techniques concerning inverses, linear systems of equations, vector spaces, transformations, quadratic forms, the eigenvalue problem and Canonical forms.

611.2 ALGEBRAIC THEORIES AND II 3 credits each
Prerequisites: 311 and either 611 or 612. Sequential. In-depth analysis of algebraic theory—monoids, groups, rings, modules, vector spaces, fields, exponents, lattices, and algebras.

612.2 FUNCTIONS OF A REAL VARIABLE I and II 3 credits each
Sequential. Prerequisite: 422/522. Real number system, sets, limits, sequences, series and continuous functions, derivatives of functions, Riemann sums and definite integrals, measure, measurable sets, measurable functions, summability of measurable functions. Riemann-Lebesgue theorem, integration, multiple integration.

625 ANALYTIC FUNCTION THEORY 3 credits
Prerequisite: 422/522. Complex number system, holomorphic functions, continuity, differentiability, power series, complex integrals, residue theorem, singularities, analytic continuation, asymptotic expansion.

627.4 ADVANCED NUMERICAL ANALYSIS I and II 3 credits each

631 CALCULUS OF VARIATIONS 3 credits
Prerequisite: 235. Problems with fixed and movable end points, problems with constraints, generalization to natural variables, the maximum principle, linear time-optimal problems, the connection between classical theory and the minimax principle.

632 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 420/520 or permission. Existence, uniqueness, and stability of solutions to general classes of partial differential equations. Methods for solving these classes of equations, emphasizing both analytical and numerical techniques.

633 CONTINUOUS SYSTEMS I and II 1-3 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 in function spaces. Use of generalized functions, Green's functions, and spectral theory. Partial inclusion paid to evolution and potential equations as well as various other methods.

635 OPTIMIZATION 3 credits
Prerequisite: 422/522 or permission. Unconstrained and constrained optimization theory and methods in applied problems.

636 ADVANCED COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisite: 255. Theory and techniques of combinatorics as applied to network problems and graph theoretic problems.

644 DIFFERENTIAL GEOMETRY 3 credits
Prerequisite: 422/522. Analytic representation of space curves, surfaces, intrinsic, and extrinsic geometry of surfaces; geometry of surfaces in large.

645 TOPOLOGY 3 credits
Prerequisite: 422/522. Set theory, origins of cardinal numbers, topology, spaces, limits and nets, separation, compactification, metric spaces, homotopy, reduct topics.

689 ADVANCED TOPICS IN MATHEMATICS 1-3 credits
Prerequisite: permission of instructor. Topics within research interests of faculty members in mathematics and applied mathematics.

692 MATHEMATICS AND STATISTICS SEMINAR 2 credits
May be repeated for a total of four credits. For properly qualified candidate, seminar may obtain four credits within research interests of faculty members in mathematics and applied mathematics.

695 PRACTICUM IN MATHEMATICS AND STATISTICS 1-3 credits
Prerequisite: permission of advisor and of instructor. Selected topics in mathematics and applied mathematics. May be taken only on a credit/noncredit basis.

697 INDIVIDUAL READING 1-2 credits
Prerequisite: permission of advisor and of instructor. Selected topics in mathematics and applied mathematics. May be taken only on a credit/noncredit basis.

699 THESIS RESEARCH 2 credits
May be repeated for a total of four credits. Prerequisite: permission. Properly qualified candidate must be given four credits for research experience which culminates in presentation of faculty supervised thesis.

COMPUTER SCIENCE

3460:

125 DESCRIPTIVE COMPUTER SCIENCE 1 credit
Course content. Terminology, methods, media for data representation, storage, retrieval of a computing system. Data organization.

126 INTRODUCTION TO BASIC PROGRAMMING 1 credit
Prerequisite: 435/535. 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 computer capabilities. Special attention given to topics such as effects of computer on privacy, employment and education, ethics in computer community, potential for computer crime. Designing for non-majors.

138 ADVANCED BASIC PROGRAMMING 1 credit
Prerequisite: 127 or equivalent. A continuation of 127 to include such topics as arrays, files, graphics, simulations, debugging, file handling, structures. Hands-on experience in the Apple Lab with Macintosh.

201-7 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.

251 INTRODUCTION TO FORTRAN PROGRAMMING 2 credits
Prerequisites: 456/551, 112, 114 or 147 or equivalent. Does not meet computer science major or minor degree requirements.

252 INTRODUCTION TO COBOL PROGRAMMING 2 credits
Prerequisites: 456/551, 112, 114 or 147 or equivalent. Does not meet computer science major, minor or certificate requirements.

253 INTRODUCTION TO APL PROGRAMMING 2 credits
Prerequisites: 346/541, 112, 114 or equivalent.

254 INTRODUCTION TO PL/1 PROGRAMMING 2 credits
Prerequisites: programming experience and 456/551, 112, 114 or 147 or equivalent.

255 INTRODUCTION TO PASCAL PROGRAMMING 2 credits
Prerequisites: programming experience and 456/551, 112, 114 or 147 or equivalent. Does not meet computer science major, minor or certificate requirements.

256 INTRODUCTION TO C PROGRAMMING 2 credits
Prerequisites: programming experience and 456/551, 112, 114 or 147 or equivalent. Presents the student with additional programming skills allowing access to assembly or high-level languages.

257 INTRODUCTION TO SAS PROGRAMMING 2 credits
Prerequisites: programming experience and 456/551, 112, 114 or 147 or equivalent. Programming in the SAS language including SAS procedures to information storage and retrieval, data modification and programming, report writing and 78c handling.
270 COMPUTER PROGRAMMING I
Prerequisites: 3450/3451. Study of problem-solving techniques and algorithms using a high-level language. Emphasis on developing structured programs using techniques of good programming style.

271 COMPUTER PROGRAMMING II
Prerequisites: 270 and 3450/3451. Study of algorithm analysis, data structures, and programming techniques in a high-level language with the aid of modern programming tools. Focus on developing efficient and readable programs.

302 PROGRAMMING APPLICATIONS WITH COBOL
Prerequisite: 271. Applications of COBOL in business and industry. Emphasis on developing programs for specific business applications.

306 ASSEMBLY LANGUAGE PROGRAMMING
Prerequisite: 210. Assembly language programming on a typical digital computer. Study of assembly-language programming, macro instructions, and related concepts.

307 APPLIED SYSTEMS PROGRAMMING
Prerequisite: 210. Basic operating system and data base organization, with emphasis on writing languages and boot-strapping. The course requires a project which is designed and implemented by the student.

308 INTRODUCTION TO DATA STRUCTURES
Prerequisites: 210 and 3450/3451. Study of data structures, including stacks, queues, trees, graphs, and applications such as sorting and searching.

420/520 STRUCTURED PROGRAMMING
Prerequisite: 306. Introduction to structured programming languages and their applications, focusing on the use of high-level languages for writing large programs.

475/575 INTRODUCTION TO SOFTWARE ENGINEERING
Prerequisites: 210 and 3450/3451. Study of software development methodologies, including software project management, programming techniques, and software quality assurance.

491/591 WORKSHOP IN COMPUTER SCIENCE
Prerequisite: 3450/3451. Workshop introducing advanced topics in computer science and the use of modern programming tools. May be repeated for credit.

497/597 INDIVIDUAL READING IN COMPUTER SCIENCE
Prerequisite: Permission of instructor. Independent study for advanced students, covering topics not included in regular courses.

498 SENIOR HONORS PROJECT
Prerequisite: 3450/3451. Designed for seniors who are planning to pursue graduate studies in computer science. Students work closely with faculty members to design and complete a research project.

STATISTICS

3470:

151 INTRODUCTION TO STATISTICS
Prerequisites: One semester of college algebra. Introduction to statistical methods, including data analysis, probability, and statistical inference.

251 DESCRIBIVE STATISTICS AND PROBABILITY
Prerequisite: 3450/3451. Introduction to descriptive statistics and probability theory, with applications to real-world problems.

253 HYPOTHESIS TESTING (PARAMETRIC)
Prerequisite: 251. Introduction to hypothesis testing in parametric models, including t-tests and analysis of variance.

255 HYPOTHESIS TESTING (NONPARAMETRIC)
Prerequisite: 253. Introduction to hypothesis testing in nonparametric models, including rank and permutation tests.

256 REGRESSION AND CORRELATION
Prerequisite: 253. Introduction to regression analysis and correlation, including simple and multiple linear regression.

257 TIME SERIES AND INDEX NUMBERS
Prerequisite: 255. Introduction to time series analysis and index numbers, with applications to economics and finance.

258 STATISTICAL COMPUTATIONS ON THE MICROCOMPUTER
Prerequisites: 254, 255, and 3460/3461. Introduction to statistical software and the use of computers in data analysis.

259 EXPLORATORY DATA ANALYSIS
Prerequisites: 251, 252, 253, 255. Introduction to exploratory data analysis, including data visualization, summary statistics, and hypothesis testing.

450/550 PROBABILITY
Prerequisite: 3450/3451. Introduction to probability theory, with applications to real-world problems.

451/551 THEORETICAL STATISTICS I AND II
Prerequisite: 3450/3451. Introduction to the theory of statistics, including estimation, hypothesis testing, and linear models.

461/561 APPLIED STATISTICS
Prerequisites: 3450/3451 and 256. Application of statistical methods to real-world problems, including regression, analysis of variance, and quality control.

465/565 EXPERIMENTAL DESIGN
Prerequisites: 461/561 or 661. Introduction to experimental design, including randomized blocks, factorial designs, and analysis of variance.

466/566 DESIGN OF SAMPLE SURVEYS
Prerequisites: 251 and 253 or equivalent. Introduction to the design and analysis of sample surveys, including sampling methods and analysis of survey data.

480/580 STATISTICAL COMPUTER APPLICATIONS
Prerequisites: 3450/3451 and one semester course in statistics. Introduction to statistical software for data analysis and simulation.

489/589 TOPICS IN STATISTICS
Prerequisite: 3450/3451. May be repeated for credit. Topics include advanced statistical methods, applications, and case studies.
MODERN LANGUAGES

3500:

PLACEMENT PROCEDURES FOR NEW STUDENT

Students who have taken one or more of the following courses in high school should enroll in 101:

- Those who have taken more than one of a foreign language in high school should take the placement test (Writing and Speaking Tests, 161). For placement in third-year courses or higher, placement permission is required.

101, 2 BEGINNING FRENCH I AND II

4 credits each

May be repeated for a different language.

Sequenced, Reading, writing, listening, and speaking comprehension. Intensive oral and written communication; short stories, outside reading, and supplementary work in language laboratory.

102, 1, 2 INTERMEDIATE FRENCH I AND II

3 credits each

Sequenced. Prerequisites: 101 or equivalent. Audio-visual, reading, writing, and speaking comprehension. Short stories, plays, novels on intermediate level.

400/590 WORKSHOP

2 credits

May be repeated with change of topic. Group studies of special topics in modern languages.

3520:

101, 2 BEGINNING FRENCH I AND II

4 credits each

Study of grammar, vocabulary, and composition. A placement test is required.

201, 2 INTERMEDIATE FRENCH I AND II

3 credits each

Sequenced. Prerequisites: 101 or equivalent. Audio-visual, reading, writing, and speaking comprehension. Short stories, plays, novels on intermediate level. A placement test is required.

201, 2 SUMMER FRENCH

3 credits each

Prerequisites: 101 or equivalent. Audio-visual, reading, writing, and speaking comprehension. Short stories, plays, novels on intermediate level. A placement test is required.

306 FRENCH CIVILIZATION AND CONVERSATION

3 credits each

Prerequisites: 201 or equivalent. Free composition, special attention to vocabulary. Minor development of oral and written conversation.

356, 6 INTRODUCTION TO FRENCH LITERATURE

3 credits each

Prerequisites: 201 or equivalent. Survey of French literature from its origins to the present, with lectures, readings, and class discussion of representative works.

309, 10 FRENCH CIVILIZATION AND CULTURE

3 credits each

Prerequisites: 356 or permission. Audio-visual presentation of major discussions of French cultural heritage from its origins to the present. Conducted in French.

312 INDIVIDUAL STUDY ABROAD

1 credits

Prerequisites: 201 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.

315, 12 TRANSLATION: FRENCH

3 credits each

401 FRENCH PHONETICS

3 credits

401 FRENCH PHONETICS

3 credits

401 FRENCH PHONETICS

3 credits

401 FRENCH PHONETICS

3 credits

103, 3 ADVANCED FRENCH COMPOSITION AND CONVERSATION

3 credits each

Prerequisites: 306 or equivalent. Thorough analysis of syntax, morphology, phonetics, and grammatical structure.

407, 507 FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE

4 credits

Prerequisites: 306 or permission. Reading and discussion of selected Medieval and Renaissance literary works. Conducted in French.

411, 11 17TH CENTURY FRENCH LITERATURE

4 credits

Prerequisites: 356 or permission. Reading and discussion of selected works of the 17th century. Conducted in French.

415, 515 18TH CENTURY FRENCH LITERATURE

4 credits

Prerequisites: 356 or permission. Reading and discussion of selected works of the 18th century. Conducted in French.
Graduate Courses

419/519 19TH 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 20TH CENTURY FRENCH LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of the most representative works of period. Conducted in French.

440 EXPLANATION DE TEXTES 2 credits
Prerequisite: 302 or 320 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

GERMAN

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.

201.1 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. Reading of German texts in culture and civilization, discussion in English, translation and grammatical analysis. Not open to majors.

250 20TH CENTURY GERMAN LITERATURE IN TRANSLATION 2 credits
Reading and discussion of works in Mann, Rilke, Hesse, Kafka, Bataille, Frisch, Durrenmatt, Böll, Grass: may not be taken for credit toward major in German.

251 19TH CENTURY GERMAN LITERATURE IN TRANSLATION 2 credits
Reading and discussion of works of Heine, Hölderlin, Heine, Hölderlin, Keil, 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

402.4 ADVANCED GERMAN CONVERSATION AND COMPOSITION 3 credits each
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and general idiom.

406.7 GERMAN CULTURE AND CIVILIZATION 3 credits each
Prerequisite: 302 or 306 or equivalent. Particular emphasis on customs, traditions, literary trends and artistic movements that constitute German's contribution to Western civilization.

419/519 THE AGE OF THEOLOGI 3 credits
Prerequisite: 302 or 306 or permission. Enlightenment and development of German literature: Faust, selections from parts 1-3. Binary, Faust, Schiller, Kleinl, Grillparzer. Conducted in German.

420/520 THE AGE OF THEOLOGI 3 credits
Prerequisite: 302, 306 or permission. Faust, selections from parts 1-3. Biblical, Faust, Schiller, Kleinl, Grillparzer. Conducted in German.

431/531 100 YEARS OF GERMAN DRAMA 3 credits
Prerequisite: 302, 306 or permission. Major works of the major dramatists, Meyer, Hebel, Hauptmann, Wedekind. Conducted in German.

432/532 200 YEARS OF GERMAN DRAMA 3 credits
Prerequisite: 302 or 306 or permission. Major works of the major dramatists, Meyer, Hebel, Hauptmann, Wedekind. Conducted in German.

433/533 GERMAN SHORT STORY 3 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of representative works of German realism, including Zweisick, Faust, E.T.A. Hoffmann, Binnomo, Eisenhardt. Conducted in German.

438/538 GERMAN SHORT STORY 3 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of works representative of the period, including those of Christof Hulschopp, Stifter. Meyer, Storm. Conducted in German.

439/539 20TH CENTURY LITERATURE I 3 credits
Prerequisite: 302 or 306 or permission. Clash of the old and the new at the turn of the century: Works of T. Mann, Hauptmann, Keil, Hoffmannsthal, Rilke, Wedekind, and others. Conducted in German.

440/540 20TH CENTURY LITERATURE II 3 credits
Prerequisite: 302 or 306 or permission. Impact of Modernity. Reading and discussion of writings of Hesse, Kafka, Dürrenmatt, Weiher, and others. Conducted in German.

471/571 GERMAN LANGUAGE READING PROFICIENCY 4 credits
Designed to develop proficiency in reading comprehension.

471,8 INDIVIDUAL READING IN GERMAN 1-3 credits each
Prerequisite: permission.

ITALIAN

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.

201.1 INTERMEDIATE ITALIAN I AND II 3 credits each
Sequential. Prerequisite: 102 or equivalent. Grammar review, reading, writing, speaking, listening comprehension; short stories, plays, novels; 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 literature 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, Petrarch, Boccaccio, Ariosto, Machiavelli, Celini, Tasso, Bruno and Pirandello De Filippo.

301.2 ITALIAN COMPOSITION AND CONVERSION 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 of representative works.

471 INDIVIDUAL READING IN ITALIAN 1-3 credits each
Prerequisite: permission.
### RUSSIAN

#### 3570:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>101.2</td>
<td>BEGINNING RUSSIAN I AND II</td>
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<td>201.2</td>
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<td>207.8</td>
<td>INTERMEDIATE RUSSIAN I AND II READING OPTION</td>
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<td>305.8</td>
<td>INTRODUCTION TO RUSSIAN LITERATURE</td>
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<td>309.18</td>
<td>RUSSIAN CIVILIZATION AND CULTURE</td>
<td>3</td>
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<td>351.2</td>
<td>TRANSLATION: RUSSIAN</td>
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<td>464</td>
<td>ADVANCED RUSSIAN COMPOSITION AND CONVERSATION</td>
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<td>411.9</td>
<td>SCIENTIFIC RUSSIAN</td>
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<td>421.2</td>
<td>RUSSIAN LITERATURE OF THE 19TH CENTURY: ROMANTICISM AND REALISM</td>
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<td>427.8</td>
<td>RUSSIAN LITERATURE OF THE 20TH CENTURY</td>
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<td>439</td>
<td>ADVANCED RUSSIAN SYNTAX, GRAMMAR AND CONVERSATION</td>
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<td>497.8</td>
<td>INDIVIDUAL READING IN RUSSIAN</td>
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### SPANISH

#### 3580:

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<td>201.2</td>
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<td>301.8</td>
<td>SPANISH COMPOSITION AND CONVERSATION</td>
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<td>305</td>
<td>INTRODUCTION TO HISPANIC LITERATURE</td>
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<td>311</td>
<td>SPANISH SPANISH-AMERICAN CULTURAL EXPERIENCE</td>
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<td>350</td>
<td>CONTEMPORARY LATIN AMERICAN FICTION IN TRANSLATION</td>
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### Graduate Courses

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<tr>
<td>501</td>
<td>SEMINAR ON MEDIEVAL SPANISH LITERATURE</td>
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<tr>
<td>605.5</td>
<td>SEMINAR IN HISPANIC LINGUISTICS</td>
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PHILO3600: Philosophy

101 INTRODUCTION TO PHILOSOPHY 3 credits
Introduction to philosophical problems and attitudes through acquaintance with the thoughts of various philosophers.

120 INTRODUCTION TO ETHICS 3 credits
Introduction to problems of moral conduct through readings from historical and classical sources.

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 scientific judgments.

170 INTRODUCTION TO LOGIC 3 credits
Introduction to logic and critical thinking, including such topics as meaning, inferential logic, propositional logic, predicate logic, and symbolic logic.

211 HISTORY OF ANCIENT PHILOSOPHY 3 credits
History and development of ancient Greek philosophy from pre-Socratic to Aristotle, including primary sources in translation.

216 AMERICAN PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. Movement of ideas in America from colonial to present.

232 PHILOSOPHY OF RELIGION 3 credits
Prerequisites: two courses in philosophy. Discussion of major problems of religious experience, God's nature, existence, immortality, sin, faith, reason, and revelation.

280 SOPHOMORE TOPICS IN PHILOSOPHY 3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selected topics in philosophy at the sophomore level.

312 HISTORY OF MEDIEVAL PHILOSOPHY 3 credits
History of Western philosophy from the fall of the Roman Empire to the Renaissance. Major philosophers include St. Augustine, St. Thomas Aquinas, and Duns Scotus.

313 HISTORY OF MODERN PHILOSOPHY 3 credits
Analysis of major philosophical issues of the 17th and 18th Centuries through the readings of Kant. Readings of primary sources in translation.

314 19TH CENTURY PHILOSOPHY 2 credits
Prerequisite: one course in philosophy or permission of instructor. In-depth study of significant philosophical ideas of Hegel, Marx, Schopenhauer, and Nietzsche.

322 ADVANCED TOPICS IN ETHICS 3 credits
Prerequisite: one course in philosophy or permission of instructor. An examination of selected topics in ethical theory, such as the Naturalistic Fallacy, Ethics, Non-Cognitivism, Prescriptivism, Theories of Rights, Theories of Punishment, Nihilism, Relativism, Moral Skepticism. Specific topics will be announced in the course syllabus.

324 SOCIAL AND POLITICAL PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. An examination of the normative foundations of social, political institutions, and practices. Analyzes concepts such as rights, justice, equity, and the justification of political institutions as well as contemporary points of view. Application to particular social issues.

332 DIALECTICAL MATERIALISM 3 credits
Prerequisite: 324 or permission of instructor. Includes Hegelian and other forms of dialectical materialism. Development of historical philosophy of nature, man, ethics, aesthetics.

350 PHILOSOPHY OF ART 3 credits
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, style, and aesthetic value. Interpretation of the art of the 20th Century.

371 PHILOSOPHY OF MIND 3 credits
Nature of mind and the relationship between mind and body. Specific topics include the limits of human rationality and whether machines can think and are considered.

374 SYMBOLIC LOGIC 3 credits
Prerequisite: 124 or permission of instructor. Detailed consideration of propositions and quantifiers. Introduction to logic, model theory, and axiomatics.

380 JUNIOR TOPICS IN PHILOSOPHY 3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selected topics in philosophy at the junior level.

390 JUNIOR HONORS SEMINAR 1 credit
Prerequisite: standing in junior honors program or permission of instructor. Major or minor in philosophy. Open to junior and senior majors.

411/511 LATER DIALOGUES OF PLATO 3 credits
Prerequisites: one introductory course and 211 or permission of instructor. Readings of late dialogues of Plato, including Parmenides, Symposium, Phaedrus, and Gorgias.

418/518 ANALYTIC PHILOSOPHY 3 credits
Prerequisites: 211, 312, and 313 or permission of instructor. Study of major contemporary philosophers such as Russell, Carnap, Ayer, Moore, and Wittgenstein.

419/519 BRITISH EMPIRICISM 3 credits
Prerequisite: one introductory course and 313 or permission of instructor. Critical analysis of major works of Descartes, Berkeley, and Hume.

421/521 PHILOSOPHY OF LAW 3 credits
Prerequisite: one course in philosophy or permission of instructor. Philosophical inquiry into the nature of law and legal institutions.

422/522 CONTINENTAL (Continental) 3 credits
Prerequisites: one introductory course and 313 or permission of instructor. Critical analysis of major works of Kant, Fichte, and Hegel.

424/524 EXISTENTIALISM 3 credits
Prerequisite: one introductory course. Study of existentialism, Freudian and psychoanalytic approaches to existentialism.

426/526 PHENOMENOLOGY 3 credits
Prerequisite: one introductory course. Selected readings in phenomenology.

432/532 ARISTOTLE 3 credits
Prerequisites: 211, 312, and 313 or permission of instructor. In-depth study of Aristotle's Metaphysics, philosophy of nature, man, and society.

434/534 KANT 3 credits
Prerequisite: 313 or permission of instructor. Study of Kantian system of thought and its relation to the philosophy of science. Includes thorough examination of one or more of Kant's major philosophical works.

444/544 PROBLEMS IN PHILOSOPHY 3 credits
Prerequisites: two courses in philosophy or permission of instructor. Thorough critical examination of one major philosophical problem.

462/562 THEORY OF KNOWLEDGE 3 credits
Prerequisites: three courses in philosophy. Examination of knowledge, theories of perception, belief, and justification. Problem of induction and the relation of language to knowledge.

464/564 PHILOSOPHY OF SCIENCE 3 credits
Prerequisites: 211, 170, and 211 or permission of instructor. Nature of scientific inquiry, types of explanation, laws and causality, theoretical concepts and reality. Also considers fields beyond traditional scientific inquiry.

471/571 METAPHYSICS 3 credits
Prerequisites: 211, 312, and 313 or permission of instructor. Study of metaphysics, including topics such as causality, existence, and the nature of reality.

480/580 SEMINAR 3 credits
(May be repeated) Prerequisite: permission of instructor.

491/591 PHILOSOPHY OF LANGUAGE 3 credits
Prerequisites: 170 and 110 or permission of instructor. Contemporary philosophical theories about the nature of language and its relation to reality and human thought, including discussion of views of linguists such as Chomsky.
490 SENIOR HONORS PROJECT IN PHILOSOPHY 1-6 credits
(May be repeated for a total of six credits)
Prerequisite: 390 or senior standing in Honors Program or senior honors standing as philosophy major or permission of instructor or completion by department faculty member. Research leading to completion of senior honors entails original work under faculty supervision.

497/597 INDIVIDUAL STUDY 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: completion of required courses of philosophy major or permission of instructor and department head. Directed independent study of philosophy or philosophical problem under guidance of selected faculty member. Subject matter determined by selected faculty member in consultation with student. Graduate credit requires significant additional work which may include additional examination paper.

Graduate Courses

615 SEMINAR: HISTORY OF PHILOSOPHY 2 credits
(May be repeated for a total of 12 credits)
Prerequisite: permission of instructor; Study in philosophical works of one major philosopher.

626 ETHICAL THEORY 3 credits
Examines 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.

676 LOGICAL THEORY 3 credits
Advanced topics in logic such as modal logic and axiomatics. Recommended for law students; all logic of non-native systems is treated. It is suggested that a graduate student be familiar with material covered in a course like 374 before taking this course.

680 SEMINAR 2 credits
(May be repeated for a total of nine credits)

699 SEMINAR: THESIS SUPERVISION 2 credits
(May be repeated)

PHYSICS

3650:

120 DESCRIPTIVE ASTRONOMY 3 credits
Qualitative and non-mathematical introduction to subjects of astronomy and astrophysics. Offered primarily as a first science course for students not majoring in physical science.

133 MUSIC, SOUND AND PHYSICS 3 credits
Qualitative introduction to sound production, perception, and reproduction, with emphasis on music.

137 LIGHT 3 credits
Introduction, qualitative course dealing with nature of light, and interaction of light with material objects to produce common visual effects.

138 PROPERTIES OF LIGHT LABORATORY 1 credit
Prerequisite or concurrent: 137 or permission. Introductory laboratory dealing qualitatively 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 available, conservation and utilization by man. Energy resources; conversion efficiencies; environmental effects of energy production and recent developments.

146 PHYSICS IN SPORTS 3 credits
An introduction to physics, particularly mechanics. Athletic activities utilized to illustrate principles.

261 PHYSICS FOR THE LIFE SCIENCES I 4 credits
Prerequisite: high school algebra and trigonometry or 2440 1-4 as concurrent or permission.
Introductory course for professional work in biology, and health professions and clinicians. Emphasis is on 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; radiology.

267,8 LIFE SCIENCE PHYSICS COMPUTATIONS I AND II 1 credit each
Concurrent: 261 (with 267), 262 (with 268). Optional computation courses. 261, 262 provide additional computational experience in applications of physics to life sciences, emphasizing use of algebra and trigonometry. Particularly recommended for student with modest mathematical preparation.

291 ELEMENTARY CLASSICAL PHYSICS I 4 credits
Concurrent: 3450 1-2. Introductory physics for student of science and engineering. Classical statics, kinematics and dynamics, as related to contemporary physics. 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 PHYSICS COMPUTATIONS I AND II 1 credit each
Concurrent: 291 (with 293), 292 (with 294). Optional computation courses to 291, 292 provide experience in problem solving, and laboratory application of calculus to simple physical phenomena. Particularly recommended for student with moderate 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, topics in modern and solid-state physics.

310 ELECTRONICS 3 credits
Prerequisite: 292, 296, and DC circuit theory. Operation of logic circuits, counters, digital waveforms, A to D and D to A conversion and applications.

320 OPTICS 3 credits
Prerequisite: 292 and 3450 223. Geometric optics, refraction, reflection, lenses, optical instruments, Physical optics: waves, superposition, coherence, interference, diffraction, absorption, scattering, dispersion, double refraction, polarization, special 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.

322,23 INTERMEDIATE LABORATORY I AND II 2 credits each
Prerequisite: 292 and 293. Laboratory course stressing measurement techniques with protection, safety laboratory apparatus. Experiment design, instrument calibration and reporting emphasis. Modern physics experiments and measurement of fundamental natural constants.

325 LABORATORY DATA ANALYSIS 3 credits
Prerequisite: 292 and 3460 209. Numerical methods for analysis of laboratory data. Computer methods and programs to draw correct conclusions and maximize usefulness of laboratory data.

331,2 ASTROPHYSICS I AND II 3 credits each
Prerequisite: 292 or 296. One-year comprehensive, qualitative course recommended for student majoring in physics or natural science, and for secondary school teachers and others desiring a comprehensive survey of astronomy and astrophysics at intermediate level.

346 THERMAL PHYSICS 3 credits
Prerequisite: 292 or 293. Basic principles of thermal and statistical physics. Essentials: laws of thermodynamics, equilibrium, inversion, equilibrium theorem, canonical distribution, Maxwell distribution, phase changes, cyclic processes, transport processes.

350 COMPUTATIONAL PHYSICS 3 credits
Prerequisite: 292, or 293 and 3450 221, or 3460 210, or 4100 206. Numerical techniques to computer solutions to physics problems, including mechanics, gravitation, electricity and magnetism, and modern physics.

399 UNDERGRADUATE RESEARCH 1-6 credits
(May be repeated).
Prerequisite: permission of instructor. Participation in research projects in department under supervision of faculty member.

400/500 HISTORY OF PHYSICS 3 credits
Prerequisite: 292 or 296. Study of origin and evolution of major principles and concepts in early and contemporary physics.

406/506 WAVES 3 credits
Prerequisite: 292 or 296. Analysis of phenomena common to all waves, including waves, forced oscillations, forced vibrations, traveling waves, reflection, polarization, interference and diffraction. Water, sound, electromagnetic, seismic and de Broglie waves examined.

431/531 MECHANICS I 3 credits
Prerequisite: 292 and 3450 236. Mechanics at intermediate level: Newtonian mechanics, motion of a particle under dimensional, central field potential, system of particles, conservation laws, rigid bodies, gravitation.

432/532 MECHANICS II 3 credits
Prerequisite: 431 /531. Advanced mechanics at the senior or beginning graduate level, moving coordinate systems, mechanics of continuous media, Lagrange's equations, tensor algebra and stress analysis, rotation or rigid body, vibration theory.

438/538 ELECTROMAGNETISM I 3 credits
Prerequisite: 292, 293, or permission of instructor. Electricity and magnetism at intermediate level. Electrostatics and magnetostatics, electric fields, basic potential, electrostatics, Lagrange's equations, currents, magnetic field, vector potential, magnetic materials, and induction.

437/537 ELECTROMAGNETISM II 4 credits
Prerequisite: 438/538. Special relativity, four vectors. Maxwell's equations in covariant form, propagation, reflection and refraction of electromagnetic waves. Microwave radiation.

438/538 METHODS OF APPLIED PHYSICS 3 credits
Topics: design, performance, interpretation, reporting of physical measurements. The scientific method, measurements, their uncertainties, principles of experimentation, measurement devices, data verification and analysis, inference.
441/541 QUANTUM PHYSICS I
Prerequisites: 301 and 3450.336. Laboratory course involving measurement techniques with a modern laboratory apparatus. Design, calibration, and reporting of experiments. Modern quantum mechanics and measurements. 3 credits.

488/588 SELECTED TOPICS IN PHYSICS I
Prerequisite: 332 or permission of instructor. Applications of electronic and solid-state devices. 2 credits each.

451/551, 552 ADVANCED LABORATORY I AND II
Prerequisites: 323 or permission of instructor. Problems in contemporary physics. 2 credits each.

468/568 DIGITAL DATA ACQUISITION
Prerequisite: 262 or 292. Designed to introduce science and mathematics students to use of digital techniques of interfacing instruments to microcomputers. 3 credits.

470/570 INTRODUCTION TO SOLID-STATE PHYSICS
Prerequisite: 441 or permission of instructor. The basic physics of solids, emphasis on fundamentals in their processes and periodicity of crystaline lattice. 3 credits.

471/571, 572 NMR SPECTROSCOPY I AND II
Prerequisites: 292, 3450.235 and 332. Spectroscopy of nuclear and solid state problems. Observation of nuclear moments. 3 credits each.

482/582, 583 METHODS OF MATHEMATICAL PHYSICS I AND II
Prerequisites: 292, 3450.235 and 332. Course in mathematical methods. Theory and application of high-resolution NMR spectra. 3 credits each.

487/587 LABORATORY PROJECTS
Prerequisite: 332 or permission of instructor. 1-3 credits.

488/588 SELECTED TOPICS PHYSICS
Prerequisite: 332 or permission of instructor. 1-4 credits.

490/590 WORKSHOP
Courses of special topics in physics. May not be used to meet undergraduate or graduate major requirements in physics. 1-4 credits.

497/597 INDEPENDENT STUDY
Prerequisite permission. Further investigations of various special topics in physics, under guidance of faculty member. 1-4 credits.

Graduate Courses

605 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS I
Prerequisite: permission. Review of FORTRAN and basics in computer science. Numerical solutions to physics problems, including Newton's and Schrödinger's equations. Treatment of reduction of linear and nonlinear sets of equations. 3 credits.

606 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II
Prerequisite: 605 or permission. Data reduction, calculation of properties of theoretical models with data, error analysis, and non-linear least squares curve-fitting. 3 credits.

615 ELECTROMAGNETIC THEORY I
Prerequisite: 437/537 or permission of instructor. Electrodynamics and magnetostatics. Advanced level for graduate students. Biot-Savart law, Lorentz's laws, Maxwell's equations, and electromagnetic waves. 3 credits.

616 ELECTROMAGNETIC THEORY II
Prerequisite: 615. Scattering and emission, plasma physics, special relativity, dynamics of relativistic particles, fields, collisions of charged particles. Radiation from moving charged, electromagnetic fields. 3 credits.

625 QUANTUM MECHANICS II
Prerequisites: 441/541, 488/588 or permission of instructor. Dirac's formalism, perturbation theory, scattering, transition probabilities. 3 credits.

631 PHYSICS OF POLYMERS I
Prerequisite: 3450.235 or permission of instructor. Introduction to polymer science. Local, structure, linear theory, and properties of polymers. 3 credits.

632 PHYSICS OF POLYMERS II
Prerequisite: 631 or permission. Phase transitions, temperature dependences of mechanical and electrical properties, polymer physics. 2 credits.

635, 656 PHYSICS OF POLYMERS LABORATORY I AND II
Prerequisite: 291, corequisites 631, 632. Selected laboratory experiments illustrating principles and methods discussed in 631, 632. 2 credits each.

641 LAGRANGIAN MECHANICS
Prerequisite: 432/532 or permission of instructor. Introduction to Lagrangian and Hamiltonian mechanics. 3 credits.

651 STATISTICAL MECHANICS
Prerequisite: 442/542 or permission of instructor. Probability concepts, statistical mechanics. 3 credits.

661 SOLID-STATE PHYSICS I
Prerequisite: 3450.235 or permission of instructor. Introduction to solid-state physics. Elements of quantum mechanics, electronic structure of solids, band theory. 3 credits.

664 ADVANCED NUCLEAR PHYSICS
Prerequisite: 661. Quantum mechanics applied to nuclear physics. 3 credits.

666 SOLID-STATE PHYSICS II
Prerequisites: 661, 664. Spectroscopy of crystalline solids. Photons and neutron scattering, nuclear reaction analysis. 3 credits.

667 SOLID-STATE PHYSICS III
Prerequisites: 661, 664. Nuclear and solid state effects, quantum theory of materials. 3 credits.

684 SPECIAL PROBLEMS IN THEORETICAL PHYSICS
May be repeated. 1-4 credits.

697 INDEPENDENT STUDY
May be repeated. 1-5 credits.

699 SEMINAR IN THEORETICAL PHYSICS
May be repeated. 1-3 credits.

700 SEMINAR IN NMR SPECTROSCOPY
May be repeated. 1-3 credits.

701 SEMINAR IN SOLID-STATE PHYSICS
May be repeated. 1-3 credits.

767 GRADUATE RESEARCH
Prerequisite: permission. Students may be admitted to Ph.D. status in any field. Offered. 1-5 credits.

789 SPECIAL TOPICS IN PHYSICS
Prerequisite: permission. 1-4 credits.

797 MASTER'S THESIS RESEARCH
Prerequisite: permission. 1-3 credits.

POLITICAL SCIENCE

3700:

100 GOVERNMENT AND POLITICS IN THE UNITED STATES
4 credits

120 CURRENT POLICY ISSUES
3 credits

Examinations of American political system with emphasis on fundamental principles, ideas, institutions, and problems of modern government. Lecture and discussion format (day classes only).
200 COMPARATIVE POLICIES 4 credits
Introduction to comparative political analysis, description of political systems of Great Britain, France, Germany and Soviet Union; contrasts between democracy and totalitarianism.

201 INTRODUCTION TO POLITICAL RESEARCH 3 credits
Introduction to the research process in political science through an introduction to the logic of social science inquiry and contemporary techniques of analysis.

210 STATE AND LOCAL GOVERNMENT AND POLITICS 3 credits
Examination of institutions, processes and intergovernmental relations at state and local levels.

220 AMERICAN FOREIGN POLICY 3 credits
Examination of American foreign policy making process, public opinion and other limitations on policy, specific contemporary problems in selected areas.

232 AMERICAN POLITICAL IDEAS 3 credits
Study of major thinkers and writers of American political thought.

233 MODERN POLITICAL THOUGHT 3 credits
Survey of major ideas and concepts of Western political theory from pre-Socratics through period of Enlightenment.

234 MODERN POLITICAL THOUGHT 4 credits
Examination of central concepts of political thought from 17th 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 other countries.

322 SOVIET AND EAST EUROPEAN POLITICS 3 credits
Theory and practice of government and politics in Soviet Union compared 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
Consideration of the formulation, decision, 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 POLITICAL 3 credits
An examination of the institutions and pre-cursors 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 at all levels. Presidential and congressional conflict examined.

342 MINORITY GROUP POLITICS 2 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 policy making and implications on judicial power.

370 THE AMERICAN BUREAUCRACY 4 credits
Examination of structure and function of public administration, organizational and administrative emphasis.

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 and national units of government will be considered.

391 HONORS IN POLITICAL SCIENCE 3 credits
Prerequisites: 12 credits and a 3.25 average in political science and permission of advisor.

392 SELECTED TOPICS IN POLITICAL SCIENCE 3 credits
Topics of substantial current importance, specialized topics within political science or experiential courses.

393 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 officeholders, party groups, governmental agencies, interest groups.

394 INDEPENDENT STUDY 1-4 credits
May be repeated for a total of four credits. Prerequisites: Senior standing, 3.00 grade-point average and permission of advisor.

402 POLITICAL 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: 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 at 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
Prerequisites: 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: 301. Involves variety of methods available for analyzing public policies. Techniques of cost benefit analysis, evaluation, research techniques and methods covered as well as considerations of ethical issues in policy analysis, the practical problems facing policy analysts.

451/561 THE SUPREME COURT AND CONSTITUTIONAL LAW 4 credits
Prerequisites: 100 or 201 or permission. Interpretation of the United States Constitution by Supreme Court; judicial review in democratic political process. Special emphasis on legal 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: 360 or permission. Intensive study of selected problems in public policy.

490/590 WORKSHOP 1-3 credits
Group study of special topics in political science. May not be used to meet graduate requirements in political science. Elective credit only.

497 SENIOR HONORS PROJECT IN POLITICAL SCIENCE 1-3 credits
May be repeated for a total of six credits. Prerequisites: Senior standing in Honors Program and permission. Open only to 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
Prerequisites: 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
Prerequisites: six credits of political science, including 440 (or a satisfactory equivalent) or permission of instructor. Techniques of qualitative research methodology in political science: utility and limitations of quantitative analysis.

610 SEMINAR IN INTERNATIONAL POLITICS 3 credits
Prerequisites: six credits of political science or permission. Analysis of current problems in theory and practice of politics and organization.
Graduate Courses

610 PSYCHOLOGY CORE I: ORGANIZATIONAL, SOCIAL AND APPLIED
4 credits
Prerequisite: Graduate standing in psychology or the joint doctoral program in counseling psychology or permission of the instructor.

620 PSYCHOLOGY CORE II: DEVELOPMENTAL, PRACTICAL AND INTELLIGENCE TESTING
4 credits
Prerequisite: Graduate standing in psychology or the joint doctoral program in counseling psychology or permission of the instructor.

630 PSYCHOLOGY CORE III: COUNSELING, INDIVIDUAL AND ABNORMAL
4 credits
Prerequisite: Graduate standing in psychology or the joint doctoral program in counseling psychology or permission of the instructor.

640 PSYCHOLOGY CORE IV: SENSORY, BIOPSYCHOLOGICAL AND EXPERIMENTAL
4 credits
Prerequisite: Graduate standing in psychology or the joint doctoral program in counseling psychology or permission of the instructor.

655 GROUP COUNSELING
4 credits
Prerequisite: 660 or 664 or 350 and 610 or permission of instructor.

671 PRE-PRACTICUM IN COUNSELING PSYCHOLOGY
2 credits
Prerequisite: 630. Graduate standing in psychology or permission of instructor.

672 COUNSELING PRACTICUM
4 credits
Prerequisite: 671. Graduate standing in psychology and permission of instructor.

673 COUNSELING ASSESSMENT PRACTICUM
4 credits
Prerequisite: 671 for psychology and permission of instructor.

674 PERSONNEL PRACTICUM
1-4 credits
Prerequisite: 610. Graduate standing in psychology. 14 credits of graduate psychology and departmental permission.

675 DEVELOPMENTAL PRACTICUM
1-4 credits
Prerequisite: 610. Graduate standing in psychology. 14 credits of graduate psychology and departmental permission.

690 THESIS RESEARCH
1-4 credits
May be repeated.

700 SURVEY OF PROJECTIVE TECHNIQUES
4 credits
Prerequisite: 630 or instructor's permission.

701 PSYCHOLOGIST AS EXPERT WITNESS
4 credits
Prerequisite: 700. Preparation of psychological testing to problems of diagnosis and evaluation.

704 THEORIES OF PERSONALITY
3 credits
Prerequisite: 630. Recommended: Historical consideration of personality. Psychoanalytical and developmental theories.

706 CURRENT ISSUES IN COUNSELING
4 credits
Prerequisite: 630. Advanced study of the background, theoretical foundations, techniques, and applications of counseling psychology as a science and profession.

707 SUPERVISION IN COUNSELING PSYCHOLOGY I
3 credits
Prerequisite: Doctoral standing or permission. Instruction and experience in supervising graduate students in counseling.

710 THEORIES OF COUNSELING PSYCHOLOGY
4 credits
Prerequisite: 630 or departmental permission.

711 VOCATIONAL BEHAVIOR
4 credits
Prerequisite: 630 or departmental permission.

712 PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING
4 credits
Prerequisite: 630 or graduate standing in counseling psychology.

713 ADVANCED SEMINAR IN COUNSELING
4 credits
Prerequisite: Doctoral standing or permission. A study of legal, ethical and personal and professional issues in counseling.

714 OBJECTIVE PERSONALITY EVALUATION
4 credits
Prerequisite: completion of 3750/450/500, 3750/420/520 and 5750/650/645, or permission of instructor.

715 DEVELOPMENTAL PSYCHOLOGY: PREGNATAL, INFANT AND EARLY EXPERIENCE
4 credits
Prerequisite: 620 or permission.

716 CHILD PSYCHOLOGY
4 credits
Prerequisite: 620 or permission.

717 PSYCHOLOGY OF ADULTHOOD AND AGING
4 credits
Prerequisite: 620 or permission.

718 SOCIAL DEVELOPMENTAL PSYCHOLOGY
4 credits
Prerequisite: 620 or permission. Examination of selected theoretical and methodological issues in study of social psychology from developmental perspective.

719 THEORIES OF LEARNING
4 credits
Prerequisite: 620 or departmental permission.

721 COGNITIVE DEVELOPMENT
4 credits
Prerequisite: 620 or permission.

722 DEVELOPMENTAL BIOPSYCHOLOGY
4 credits
Prerequisite: 620 and 640 and graduate standing in psychology or permission of instructor.

723 THE PSYCHOLOGY OF MENTAL RETARDATION
4 credits
Prerequisite: 620 or standing in psychology or permission of instructor.

727 THE PSYCHOLOGY OF LEARNING DISABILITIES
4 credits
Prerequisite: 620 or graduate standing in psychology or permission of instructor.

738 APPLIED DEVELOPMENTAL PSYCHOLOGY
4 credits
Prerequisite: 620 and graduate standing in psychology or permission of instructor.
3850: Sociology

100 INTRODUCTION TO SOCIOLOGY
Basic terminology, concepts and approaches in sociology, including introduction to analysis of social problems and response to social problems. Credit. Lecture. 4 credits

104 SOCIAL PROBLEMS
Prerequisite: 100 or permission. Analysis of selected contemporary problems in society. Credit. Lecture. 3 credits

101 METHODS OF SOCIAL RESEARCH I
Prerequisites: 100 and 3450/1110, 1112, 1113 or permission. Combination lecture and a laboratory course at least a five-hour laboratory period per week. Credit. Lecture/laboratory. 3 credits

102 METHODS OF SOCIAL RESEARCH II
Prerequisite: 101. Continuation of 101. Required of majors. Credit. Laboratory. 3 credits

315 SOCIOLOGICAL SOCIAL PSYCHOLOGY
Prerequisite: 100. The reciprocal influence of individuals and groups. How interpersonal relationships produce and affect group structure. How groups affect the development and behavior of the social person. Credit. Lecture. 3 credits

320 SOCIAL INEQUALITY
Prerequisite: 100 or permission. Study of social inequalities in sociology. How the study of social inequality affects a social problem. Credit. Lecture. 3 credits

321 POPULATION
An introduction to the study of social demography, sociological demography, and social demography. Credit. Lecture. 3 credits

323 SOCIAL CHANGE
Prerequisite: 100 or permission. Introduction to theories and processes of social change. Credit. Lecture. 3 credits

324 SOCIAL MOVEMENTS
Prerequisite: 100 or permission. Social movements as distinguished from other forms of collective behavior: analysis of social situations which lead to social movements and their role in social change. Credit. Lecture. 3 credits

330 CRIMINOLOGY
Prerequisite: 100. Social factors influencing crime and criminal behavior. Credit. Lecture. 3 credits

333 SOCIAL BEHAVIOR IN ORGANIZATIONS
Prerequisite: 100 or permission. Analysis of the social behavior of organizations and the social structure of the social organization. Credit. Lecture. 3 credits

336 SOCIOLOGY OF WORK AND OCCUPATIONS
Prerequisite: 100 or permission. Survey of the study of work and occupational situations. Credit. Lecture. 3 credits

341 THE FAMILY
Prerequisite: 100 or permission. Analysis of the family as a social system. Credit. Lecture. 3 credits

342 THE FAMILY I
Prerequisite: 100 or permission. Analysis of the family as a social system. Credit. Lecture. 3 credits

343 THE SOCIOLOGY OF AGING
Prerequisite: 100 or permission. Examination of process of aging from the perspectives of behavioral and social aspects. Credit. Lecture. 3 credits

344 THE SOCIOLOGY OF SEX ROLES
Prerequisite: 100 or permission. Examination of change in social roles, typically women including theory, evidence on origins and determinants of differences, and stability change in sex roles. Credit. Lecture. 3 credits

355 SPECIAL TOPICS IN SOCIOLOGY
Special topics including the role of gender, race, and age in sociology. Credit. Lecture. 1-3 credits

370 PSYCHOLOGICAL TESTS
Prerequisite: 301. Credit. Lecture. 3 credits

371 SOCIAL ORGANIZATION
Prerequisite: 301. Credit. Lecture. 3 credits

372 PSYCHOLOGICAL ORGANIZATION AND ORGANIZATIONAL PSYCHOLOGY
Prerequisites: 301 and permission. Analysis of the structure of such complex organizations as the family. Credit. Lecture. 3 credits

374 PERSONAL SELECTION AND PERFORMANCE EVALUATION
Prerequisites: 301 and standing in psychology. Credit. Lecture. 3 credits

375 ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS
Prerequisites: 301 and standing in psychology. Credit. Lecture. 3 credits

376 TRAINING AND ORGANIZATIONAL DEVELOPMENT
Prerequisites: 301 and standing in psychology. Credit. Lecture. 3 credits

377 ROLE OF ATTITUDES AND VALUES IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY
Prerequisites: 301 and standing in psychology. Credit. Lecture. 3 credits

378 ORGANIZATIONAL MOTIVATION AND LEADERSHIP
Prerequisites: 301 and standing in psychology. Credit. Lecture. 3 credits

379 ENGINEERING PSYCHOLOGY AND JOB DESIGN
Prerequisites: 301 and standing in psychology. Credit. Lecture. 3 credits

380 JOB EVALUATION AND EQUAL PAY
Prerequisite: 301. Credit. Lecture. 3 credits

381 ADVANCED COUNSELING PRACTICUM
Prerequisites: 301 and permission of instructor. Credit. Lecture. 3 credits

382 COUNSELING PRACTICUM
Prerequisites: 301 and permission of instructor. Credit. Lecture. 3 credits

383 INDEPENDENT READING AND/OR RESEARCH
Prerequisite: 301. Credit. Lecture. 3 credits

385 DISCUSSION-RESEARCH
Prerequisite: open to a properly qualified student. Credit. Lecture. 3 credits

SPECIAL TOPICS IN SOCIOLOGY
Prerequisites: 100 or permission. Special topics in sociology and non-core courses. Credit. Lecture. 1-3 credits

SOCIOLOGICAL READINGS
Prerequisites: 100 or permission. Independent study of problems area of specific interest to individual student under guidance of department member. Credit. Lecture. 1-3 credits
**Graduate Courses**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>600</td>
<td><strong>FUNDAMENTALS OF SOCIOLOGY</strong></td>
<td>3 credits</td>
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<td>603</td>
<td><strong>SOCIOLOGICAL RESEARCH METHODS</strong></td>
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<td>604</td>
<td><strong>SOCIAL RESEARCH DESIGN</strong></td>
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<td>607</td>
<td><strong>COMPUTER APPLICATIONS IN SOCIAL SCIENCES</strong></td>
<td>3 credits</td>
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<td>613</td>
<td><strong>SOCIOLOGY OF PROGRAM EVALUATION AND PROGRAM IMPROVEMENT</strong></td>
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<td>615</td>
<td><strong>EPIDEMILOGICAL METHODS IN HEALTH RESEARCH</strong></td>
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<td>617</td>
<td><strong>SOCIOLOGICAL THEORY</strong></td>
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<td>620</td>
<td><strong>GENERAL SYSTEMS THEORY</strong></td>
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<td>631</td>
<td><strong>SOCIAL PSYCHOLOGY</strong></td>
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<td>632</td>
<td><strong>SMALL GROUP THEORY</strong></td>
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<td>634</td>
<td><strong>PERSONALITY AND SOCIAL SYSTEMS</strong></td>
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<td>636</td>
<td><strong>CRITIQUE OF MASS COMMUNICATIONS RESEARCH</strong></td>
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<td>639</td>
<td><strong>SOCIOLOGY OF SEX ROLES</strong></td>
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<td>645</td>
<td><strong>SOCIAL ORGANIZATION</strong></td>
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<td>646</td>
<td><strong>SOCIAL STRATIFICATION</strong></td>
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<td>648</td>
<td><strong>COMPLEX ORGANIZATIONS</strong></td>
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<td>649</td>
<td><strong>SOCIOLOGY OF WORK</strong></td>
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<td>651</td>
<td><strong>SEMINAR IN RACE RELATIONS</strong></td>
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<td>652</td>
<td><strong>CONFLICT</strong></td>
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680 SOCIOLOGY OF EDUCATION

678

664 URBAN HEALTH CARE

Prerequisite permission in the department.

657 SOCIAL ANALYSIS

READINGS IN CONTEMPORARY SOCIOLOGICAL LITERATURE

Prerequisite: permission in the department.

656 URBAN ECOLOGY

649 URBAN ECOLOGY

648 POPULATION

647 SOCIAL CHANGE

646 SOCIOLOGY OF EDUCATION

645 POLITICAL SOCIOLOGY

644 FAMILY ANALYSIS

643 SOCIOLOGICAL THEORIES AND METHODS

642 RESEARCH IN SOCIAL MOVEMENTS

641 SOCIAL DISORGANIZATION

640 RESEARCH IN SOCIAL PSYCHOLOGY

639 SOCIAL STRATIFICATION

638 SOCIAL STRESS

637 SOCIAL CLIMATE

636 DEVIANCE AND DISORIGANIZATION

635 FIELD RESEARCH IN URBAN LIVES

634 SOCIOLOGY OF CRIME

633 RESEARCH HABITS AND TECHNIQUES

632 RESEARCH DESIGN AND METHODOLOGY

631 SOCIAL RESEARCH

630 SOCIAL ANALYSIS

629 SOCIAL PROBLEMS AND SOCIAL SERVICES

628 SOCIOLOGY OF RELIGION

627 SOCIOLOGY OF LAW

626 SOCIOLOGY OF ART

625 SOCIOLOGY OF MARRIAGE AND THE FAMILY

624 SOCIOLOGY OF WELFARE

623 SOCIOLOGY OF POPULATION

622 SOCIOLOGY OF AGRICULTURE

621 SOCIOLOGY OF ECONOMICS

620 SOCIOLOGY OF POLITICAL TRENDS

619 SOCIOLOGY OF THE STATE

618 SOCIOLOGY OF THE CITY

617 SOCIOLOGY OF THE FAMILY

616 SOCIOLOGY OF THE GROUP

615 SOCIOLOGY OF THE INDIVIDUAL

614 SOCIOLOGY OF THE COMMUNITY

613 SOCIOLOGY OF THE NATION

612 SOCIOLOGY OF THE WORLD

611 SOCIOLOGY OF THE UNIVERSE
ANTHROPOLOGY

3870:

150 CULTURAL ANTHROPOLOGY 4 credits
Introduction to study of culture and cultural evolution through technology, social organization, and ideology. Lecture.

151 EVOLUTION OF MAN AND CULTURE 3 credits

270 CULTURES OF THE WORLD 3 credits
Prerequisite: 150 or permission of instructor. An examination of diversity in pre-industrial cultures, the ways in which cultures differ and the major processes which produce cultural differences.

355 INDIANS OF SOUTH AMERICA 3 credits
Prerequisite: 150 or 3850 100 or permission. Survey of aboriginal peoples of South America, with emphasis on culture areas and continuity of cultural patterns. Lecture.

356 ARCHAEOLOGY OF THE AMERICAS 3 credits
Prerequisite: 150 or 3860 100 or permission. Survey of prehistoric cultures of North, Mide and South America beginning with peopling of Western Hemisphere and ending with European contact. Lecture.

357 MAGIC, MYTH AND RELIGION 3 credits
Prerequisite: 150 or 3850 100. Analysis and discussion of the data concerning the origin, roles, and functions of magic and religion in a broad range of human societies, with emphasis on the non-Western, pre-industrial societies. Examination of belief and ritual systems of such societies.

359 INDIANS OF NORTH AMERICA 3 credits
Prerequisite: 150 or permission. Ethnographic survey of native cultures of North America, with emphasis on variations in ecological adaptations, social organization and modern American Indians in anthropological perspective. Lecture.

391 ANTHROPOLOGICAL RESEARCH 1-3 credits
Prerequisite: permission. Individual study of problem areas or of specific interest to an individual student under guidance of a faculty member.

455/555 CULTURE AND PERSONALITY 3 credits
Prerequisite: 150 or permission. Examination of functional and causal relationships between culture and individual cognition and behavior. Lecture.

457 CULTURE AND MEDICINE 3 credits
Prerequisite: 150 or permission. An analysis of various aspects of Western and non-Western medical systems from an anthropological perspective. Compares traditional medical systems around the world.

461 LANGUAGE AND CULTURE 3 credits
Prerequisite: 150 or permission. Examination of language structure and interaction of language, cognition and culture. Lecture.

463/563 SOCIAL ANTHROPOLOGY 3 credits
Prerequisite: 150 or permission. Comparative study of non-Western systems of kinship and social organization in terms of status, role, reciprocal expectation, normativity, nuclear and extended households and other key groupings. Lecture.

472/572 SPECIAL TOPICS: ANTHROPOLOGY 3 credits
(May be repeated) Prerequisite: 150 or permission. Designated to meet needs of students with interests in selected topics in anthropology. Offered in interdepartmental context when resources and opportunities permit. May include archaeological field school, laboratory research or advanced course work not presently offered by department on regular basis.

491/591 WORKSHOP IN ANTHROPOLOGY 1-3 credits
(May be repeated) Group studies of special topics in anthropology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only.

Graduate Courses

611 SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS 3 credits

617 THE WORLD OF THE INDIAN 3 credits
Prerequisite: permission of instructor. Designed to meet needs of students with interests in the study of culture, social organization, and role and function of such societies. Lecture.

651/751 SEMINAR IN POLYMER SCIENCE 3 credits
Prerequisite: permission. Principles of polymer science. Study of polymer chemistry, processing, and properties. Lecture.

651/751 SEMINAR IN POLYMER SCIENCE 3 credits
Prerequisite: permission. Principles of polymer science. Study of polymer chemistry, processing, and properties. Lecture.

663 INHUMAN ECOLOGY 3 credits
Prerequisite: permission. Interaction of society with environment. Lecture.

687 RESEARCH IN ANTHROPOLOGY 1-3 credits
Prerequisite: 687. Continuation of 687. Student prepares a major research paper based on theoretical material covered in 780. Lecture.

699 DISSERTATION 1-10 credits
(Must be repeated for a minimum of 30 credits) Dissertation. (Same as KSO 6989)
417 ADHESIVES AND COATING
2 credits
Prerequisite: 307 or permission. This course involves the fundamentals of adhesives and coatings technology. The chemical and physical properties of adhesives and coatings will be discussed and will be related to molecular structure. Specific materials, applications and testing procedures will be discussed and practical experience gained by experimentation in the laboratory.

418 COMPOSITES, CELLULAR STRUCTURES AND TIRE TECHNOLOGY
4 credits
Prerequisite: 302 or permission. The importance and science of composite structures will be taught and applied to the technology of foam and tire manufacture. Laboratory experiments will be used to illustrate the principles involved.

490/590 WORKSHOP IN POLYMER SCIENCE
1-3 credits
(May be repeated with permission)
Group studies on selected topics involving polymers. May not be used to meet undergraduate or graduate major requirements in polymer science. May be used for elective credit only.

Graduate Courses

601 POLYMER CONCEPTS
2 credits
Prerequisites: 3150:264 and 3150:314 or equivalent courses or permission of instructor. Introduction to basic concepts in polymer science, including polymerization, copolymerization, processes and naturally occurring polymers. Polymer nomenclature, definitions and classifications. Polymer stereochemistry and structure-property relationships.

602 SYNTHESIS AND CHEMICAL BEHAVIOR OF POLYMERS
2 credits
Prerequisite: 601 or instructor's permission. Introduction to fundamentals and practical aspects of polymer synthesis and reactions of polymers; general knowledge of laboratory and commercial methods for polymer preparation; practical laboratory.

604 SPECIAL PROJECTS IN POLYMER SCIENCE
1-3 credits
Prerequisite: permission. Research projects of limited nature assigned to student entering polymer science program. Intended to familiarize student with typical problems and techniques in this field.

605 POLYMER CHEMISTRY LABORATORY
2 credits
Prerequisites: basic knowledge of organic chemistry and 602 or equivalent. Preparation and identification of polymers to illustrate different methods of polymerization such as step reactions and chain reaction.

607 POLYMER SCIENCE SEMINAR I AND II
1 credit each
Prerequisite limited to first- and second-year resident graduate students. Participants are to present a 20-minute lecture on some aspect of polymer science and to participate in discussions of lectures presented by other seminar participants.

610 INORGANIC POLYMERS
2 credits
Prerequisite: 3150:472/572 or 3940:601 or permission. Survey course designed to broaden outlook of typical graduate student beyond chemistry and physics of carbon chains.

613 POLYMER SCIENCE LABORATORY
2 credits
Prerequisites or corequisites: 701, 3150:601 or permission of instructor. Laboratory experiments in synthesis, characterization, physical properties and processing and testing of polymers.

631 PHYSICAL PROPERTIES OF POLYMERS I
2 credits
Prerequisite: permission of instructor. Thermodynamic and molecular basis of rubber elastic behavior; time-dependent mechanical properties of polymeric materials; melt flow and entanglements; the morphology of crystalline polymeric materials. Theory of polymers.

632 PHYSICAL PROPERTIES OF POLYMERS II
2 credits
Prerequisite: 631 or permission of instructor. Normal-coordinate theories of molecular motion and applications to time-dependent mechanical behavior. Electrical and scattering properties of polymeric systems; time-temperature superposition, free volume, WLF relation, fracture, glass transition.

489 SYNTHESIS AND TECHNOLOGY OF ELASTOMERS
2 credits
Prerequisites: 307 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 these properties in physical characteristics of the elastomers described.

674 POLYMER STRUCTURE AND CHARACTERIZATION
2 credits
Prerequisites: 3150:313 and 3150:314 or permission of instructor. Presentation of statistical 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 correlating polymer solutions, polymer phase equilibria, 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, osmometry, swelling, x-ray diffraction, microscopy, thermal analysis, spectrophotometry, and chromatography.

680 POLYMER PROCESSING
2 credits
Prerequisite: permission. Study of process engineering in polymer conversion industry, emphasizing analytical treatment of heat transfer, mass flow, mixing, shaping and molding of polymeric materials.

681 DESIGN OF RUBBER COMPONENTS
2 credits
Prerequisite: 4500:337 or equivalent. Principles of design of elastomeric products, emphasizing analytical treatment of elastic behavior and mechanisms of failure of resilient mountings, springs, seals, bearings and lines.

699 MASTER'S RESEARCH
1-6 credits
Departmental approval. For 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, extrusion, calendaring and mingling, molding, mixing, bond operations, engineering properties, rubber springs, viscoelastic analysis, design consideration. Lecture/Laboratory.

704 CONDENSATION POLYMERIZATION
2 credits
Prerequisites: 3150:463/563 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 IONIC AND MONOMER INSERTION REACTIONS
2 credits
Prerequisite: 3150:463/563 or permission of instructor. Covers the scope, kinetics and mechanisms of polymerizations initiated by anions, carbenium ions and cations as well as polymerizations induced by coordination catalysts. Living polymerizations, molecular weights, molecular weight distributions, stereochemistry, solvolyte, ion effects, counter-ion effects, temperature effects, polymerization of polyacrylates, graft and block copolymer synthesis.

707 KINETICS OF POLYMERIC PROCESSES
2 credits
Prerequisites: 632 and 675 or permission of instructor. Principles of kinetic theory and statistical mechanics are applied to polymer diffusion, polymerization kinetics, polymer adsorption, membrane transport, polymer phase transformations, gel formation and colloidal destabilization.

708 MACROMOLECULAR CHAIN STRUCTURE
3 credits
Prerequisites: 3150:341, 3600:301 or 4200:305 or permission. Chain-like structure of large molecules, fundamental theories of chemical conformation 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 substances, and including laboratory work where applicable.

713 CHAIN STRUCTURE LABORATORY
2 credits
Prerequisite or corequisite: 708 or permission of instructor. Designed to apply principles discussed in 708 to laboratory determination of polymer structure.

899 DOCTORAL RESEARCH IN POLYMER SCIENCE
2-16 credits
Open only to properly qualified student accepted as candidate for Doctor of Philosophy in Polymer Science, depending on availability of staff and facilities.

URBAN STUDIES 3980:

Graduate Courses

550 WORKSHOP
1-3 credits
(May be repeated)
Group studies of special topics in urban studies. May not be used to meet graduate major requirements in urban studies. May be used for elective credit only.
600 BASIC ANALYTICAL RESEARCH 3 credits
Prerequisite: permission. Examines basic framework of social science research methodologies and basic complementary statistical techniques, including probability and sampling most useful in urban studies.

601 ADVANCED RESEARCH AND STATISTICAL METHODS 3 credits
Prerequisite 610. Extends study of social science to include more advanced research designs and multivariate statistical techniques.

602 AMERICAN URBAN DEVELOPMENT 3 credits
Examination of major literature on processes of urbanization in United States and selected facets of urban institutional development.

610 URBAN POLITICS 3 credits
Prerequisite: permission. Empirical analysis of urban political structure and major political problems.

611 URBAN ADMINISTRATION 3 credits
Prerequisite: permission. Organization and management characteristics of various types of governmental units examined within framework of organization and management theory.

612 NATIONAL URBAN POLICY 4 credits
Prerequisite: permission. Major federal policies that relate to urban problems examined in regard to policy-making processes, implementation and impact.

613 INTERGOVERNMENTAL MANAGEMENT 3 credits
Prerequisite: permission. Examines the field of intergovernmental relations as it applies to urban administration and management.

614 ETHICS AND PUBLIC SERVICE 3 credits
Prerequisite: permission. Examination of the ethical problems and implications of decisions and policies made by those whose actions impact on the broad public. Case studies of decision making in both the public and private (business and professions) spheres and its relevance to classical literature in ethical theory.

620 SOCIAL SERVICES PLANNING 3 credits
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 SOCIETY AND SERVICE SYSTEMS 4 credits
Prerequisite: permission. Analysis of social bases of urban society, hierarchy, social problems, relationships to planning, public services.

630 INTRODUCTION TO PLANNING PRACTICE AND THEORY 3 credits
Introduction to the history, theories and forms of urban planning.

631 FACILITIES PLANNING 3 credits
Study of need, process and limitation of urban facilities planning.

632 LAND-USE CONTROL 3 credits
Prerequisite: permission. Acquaints student with past and present approaches to land use control in the United States and examines the political, economic, social and legal forces which have shaped existing land-use legislation.

636 PARKS AND RECREATION 3 credits
Prerequisite: permission. Deals with theory, practice, evaluation of recreational administration, planning, parks planning.

637 FIELD METHODS IN URBAN AND REGIONAL PLANNING 3 credits
Prerequisite E303. Taught jointly with E303 to provide students with extensive experience in applying the quantitative methods and analytic procedures of urban planning to actual public policy issues.

638 FIELD METHODS IN URBAN AND REGIONAL PLANNING/LABORATORY 3 credits
Prerequisite E303. This course is taught jointly with E303 to provide students with extensive experience in applying methods and analytic procedures to urban planning to actual public policy issues.

640 FISCAL ANALYSIS 3 credits
Prerequisite: permission. Study of revenue and expenditure patterns of the city's government.

641 URBAN ECONOMIC GROWTH AND DEVELOPMENT 4 credits
Prerequisite: permission. Examination of urban economic unit and its susceptibility to social, economic and political change.

842 MUNICIPAL BUDGETING 2 credits
Prerequisite: permission. Theories, premises, assumptions, methodologies upon which municipal budgeting are based.

643 URBAN POLICY ANALYSIS 3 credits
Prerequisite: permission. Development and application of conceptual models and policy tools in urban studies.

650 COMPARATIVE URBAN SYSTEMS 3 credits
Prerequisite: permission. Conceptual schemes and methodology for comparative urban analysis among a number of major cities selected from each continent.

670 RESEARCH FOR FUTURE PLANNING 3 credits
Prerequisites: 600 and 610 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.

671 PROGRAM EVALUATION IN URBAN STUDIES 3 credits
Prerequisite: 610 or equivalent. Major considerations appropriate for conducting evaluations of a wide variety of urban service programs and policies affecting urban and metropolitan areas.

672 ALTERNATIVE URBAN FUTURES 3 credits
Overview of topics and issues associated with alternative urban futures and their implications for planning and public policy in urban communities.

680, 1 SELECTED TOPICS IN URBAN STUDIES 1-3 credits each
Prerequisite: permission. Selected topics in specific areas of urban planning. In various urban development processes of cities, in various urban policy and administrative issues. (A maximum of 27 credits may be earned in 680 and 681.)

690 URBAN STUDIES SEMINAR 3 credits
Prerequisites: 18 credits of urban studies core plus qualitative methods. Urban research methods applied to specific urban research areas. Comprehensiye paper required.

695 INTERNSHIP 1-3 credits
(May be repeated for a total of three credits) Prerequisite: permission. Faculty-supervised work experience in which student participates in policy planning, administrative operations in selected urban, state and federal governments and urban agencies.

697 INDIVIDUAL STUDIES 1-3 credits
(May be repeated for a total of four credits) Directed individual readings or research on specific area or topic.

709 ADVANCED RESEARCH METHODS I 3 credits
Prerequisite: for master's level satisfies admission. Introduction to statistical techniques and methodologies in doctoral and postdoctoral research. Emphasis on conceptual and mathematical interrelationships.

709 ADVANCED RESEARCH METHODS II 3 credits
Prerequisite: 700 or equivalent. Continuation of 700. Emphasis placed upon concepts and mathematical interrelationships of multiple structural techniques as well as application of these techniques through computer analysis of urban data sets.

702 URBAN POLICY: THE HISTORICAL PERSPECTIVE 2 credits
Prerequisite: permission. Historical examination of major ideas about the city from Aristotle to 20th Century and impact of urbanization on society and public policy.

703 SYSTEMS AND PROCESSES OF POLICY DEVELOPMENT 3 credits
Analysis of administrative process within public organizations, federal, state and local, in United States, emphasis on urban community.

704 BUREAUCRACY AND URBAN CONSTITUENCIES 3 credits
Prerequisite: permission. Seminar designed to analyze public bureaucracy and public interest as central phenomena of contemporary public administration in urban America.

705 ECONOMICS OF URBAN POLICY 3 credits
Prerequisite: master's level satisfies admission. Use of research techniques of economic analysis in a seminar format to examine options available to urban policy makers in operation of public services and economic development of cities.

706 PROGRAM EVALUATION 3 credits
Prerequisite: permission. Provides concepts for student evaluation of programs, both external and internal to work settings.

707 URBAN PLANNING AND MANAGEMENT STRATEGIES 3 credits
Prerequisite: permission. Analysis of urban planning policies and strategies for implementation. Emphasis on use of planning process as integrative mechanism.

708 URBAN ADMINISTRATION 3 credits
Prerequisite: permission. Intensive study of urban administration 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.

709 DISCUSSION RESEARCH 3-15 credits
(May be repeated) Open to graduate students qualified as candidates for Doctor of Philosophy degree. Students must register for at least three credits each semester until dissertation is accepted. Minimum of 15 credits required.
**College of Engineering**

### GENERAL ENGINEERING 4100:

- **180 ENGINEERING DESIGN** 1 credit
  - Introduction of freshman engineering student in program solving techniques in engineering design. Required of all entering engineering freshmen in Evening College.

- **201 ENERGY AND ENVIRONMENT** 2 credits
  - Interactions between energy production, consumption, and environment. Case studies. Not for engineering, chemistry or physics majors.

- **202 ATMOSPHERIC POLLUTION** 2 credits

- **205 FORTRAN (SCIENCE/ENGINEERING)** 2 credits
  - Prerequisite: 200, 234 or 345-221. Introductory use of digital computer in scientific and engineering applications. For student majoring in engineering physics. No credit for person having completed 345-221.

- **300 COOPERATIVE EDUCATION WORK PERIOD** 0 credits
  - Elective for cooperative education student who has completed sophomore year. Practice in industry and comprehensive written reports of this experience.

- **301 COOPERATIVE EDUCATION WORK PERIOD** 0 credits
  - Required of cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered spring semester of third year.

- **302 COOPERATIVE EDUCATION WORK PERIOD** 0 credits
  - Required of cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year.

- **403 COOPERATIVE EDUCATION WORK PERIOD** 0 credits
  - Required of cooperative education student only. Practice in industry and comprehensive written reports of this experience. Offered summer after fourth year.

### CHEMICAL ENGINEERING 4200:

- **120 ENGINEERING FUNDAMENTALS** 1 credit
  - Introduction to problem solving and formal, computational exercises, dimensionality, physical measurements.

- **200 MATERIAL AND ENERGY BALANCES** 4 credits
  - Prerequisites: 101, 410-211, 340-221, and 350-134. Introduction to material energy balance calculations applied to solution of chemical problems.

- **225 EQUILIBRIUM THERMODYNAMICS** 4 credits
  - Prerequisites: 200 and 345-222. Second law of thermodynamics, entropy, applications, comprehensive treatment of pure and mixed fluids; phase and chemical equilibria; flows, processes, power production and refrigeration processes covered.

- **305 MATERIALS SCIENCE** 2 credits
  - Prerequisites: 3150-119 and 3630-232. Structure, processing and properties of metals, ceramics, and polymers. Special topics such as composites, corrosion and wear.

- **371 TRANSPORT PHENOMENA I** 3 credits
  - Prerequisites: 206 and 345-222. Constitutive equations for momentum and energy transport, diffusion of microscopic and macroscopic momentum and energy equations, analysis and dimensions correlation. Problems and applications in unit operations of chemical engineering.

- **322 TRANSPORT PHENOMENA II** 3 credits
  - Prerequisite: 301. Constitutive equations for mass transfer. Development of microscopic and macroscopic momentum and mass transfer equations for binary systems. Problem applications and unit operations of chemical engineering.

- **330 CHEMICAL REACTION ENGINEERING** 3 credits
  - Prerequisite: 225. Nonideal systems processes including chemical reaction mechanisms, rate equations and ideal reactor design applied to homogenous and heterogeneous systems.

- **351 FLUID AND THERMAL OPERATIONS** 3 credits
  - Prerequisite: 351. Applications of fluid mechanics, including piping, pumping, compressors, mixing, agitation, separators. Applications of heat transfer by conduction, convection, radiation and design of process equipment.

### Graduate Courses

- **602 TRANSPORT PHENOMENA** 3 credits
  - Prerequisite: 322 or permission. Systematic presentation of conservation of momentum, energy and mass at microscopic and macroscopic levels in conjunction with illustrative examples and applications.

- **605 CHEMICAL REACTION ENGINEERING** 3 credits
  - Prerequisite: 351 or permission. Kinetics of homogenous and heterogeneous systems. Reaction design for ideal and nonideal flow systems.

- **610 CLASSICAL THERMODYNAMICS** 3 credits
  - Prerequisite: 225. Discussion of laws of thermodynamics and their application. Probability and correlation of thermodynamic data. Phase and reaction equilibria.

- **630 CHEMICAL PROCESS DYNAMICS** 2 credits
  - Prerequisite: 500. Development and solution of mathematical models for chemical processes including models based on transport phenomena principles, population balance methods and systems analysis.

- **631 CHEMICAL ENGINEERING ANALYSIS** 2 credits
  - Prerequisites: 322, 325, 330. Mathematical analysis of problems in transport processes, chemical reactions and control systems. Solution techniques for these problems and their practical significances are stressed. Numerical proofs will be given for necessary theory developments.

- **635 ADVANCED POLYMER ENGINEERING** 3 credits
  - Prerequisite: 320 or permission. Reaction procedures, polymer characterization, polymer processing, polymer chemistry.
640 ADVANCED PLANT DESIGN
Prerequisite, permission. Topical treatment of process and equipment design: scale-up, optimization, process synthesis, process economics. Case problems. 3 credits.

596 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 chemical engineering coal and synthetic fuels processing, process synthesis, simultaneous heat and mass transfer phenomena and new separation techniques.

598 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., Ph.D. degree. Designed to expand an area of interest by consultation with a faculty member and independent study with a faculty member available to pursue a course. Credit dependent upon nature and extent of project as determined by faculty member and department head.

691 ADVANCED TRANSPORT PHENOMENA
Prerequisite: 600. Advanced theory of transport phenomena such as applied tensor analysis, constitutive equations, multicomponent reactive transport and multiphase transport. Illustrative practical examples presented. 3 credits.

702 MULTIPHASE TRANSPORT PHENOMENA
Prerequisite: 600. General transport theorems, kinematics, Cauchy's lemmas and the jump boundary conditions are developed following the theory of multiphase flow. The single phase equations are then solved to obtain the multiphase equations of change. The techniques used in these equations and their practical significance is also considered in detail. 3 credits.

706 ADVANCED REACTION ENGINEERING
Prerequisite: 600. Kinetics of heterogeneous systems, steady and unsteady state; mathematical modeling of chemical reactors, fluidization and pertinent topics drawn from current literature. 3 credits.

711 ADVANCED CHEMICAL ENGINEERING THERMODYNAMICS
Prerequisite: 610. Advanced thermodynamics, including phase and reaction equilibrium at high pressure, phase equilibrium for multi-phase systems, reaction equations in multi-phase systems, thermodynamics of surfaces, thermodynamics of systems under stress, non-equilibrium thermodynamics and current topics from literature. 3 credits.

715 MOMENTUM TRANSPORT
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids. 3 credits.

716 NON-NEWTONIAN FLUID MECHANICS
Prerequisite: 600. Tensor application, coordinates, Newtonian kinematics. Development of non-Newtonian constitutive equations. Special and general flows of various convective models. 3 credits.

720 ENERGY TRANSPORT
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer starting with equations of continuity, motion and energy. 3 credits.

721 TOPICS IN ENERGY TRANSPORT
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat transfer problems found in chemical engineering. 3 credits.

723 MASS TRANSFER
Prerequisite: 600. Theory of mass transfer with applications to absorption, adsorption, distillation and heterogeneous catalysis. 3 credits.

731 PROCESS CONTROL
Prerequisite: 630. Introduction to modern control theory of chemical processes including cascade control, multivariable control and data sampled control. 3 credits.

736 POLYMER ENGINEERING TOPICS
1 credit
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, polyphase materials, multiphase flow, artificial liver engineering, etc. 1 credit.

750 POLLUTION CONTROL ENGINEERING
Prerequisite: 463 or permission. Advanced waste treatment methods as applied to chemical process industries. 3 credits.

794 ADVANCED SEMINAR
1-4 credits
(May be repeated for a total of six credits. Prerequisite: permission of department head. Advanced projects, readings and other studies in various areas of chemical engineering. Intensive for student seeking Ph.D. in engineering. 1-4 credits.

898 PRELIMINARY RESEARCH
1-15 credits
(May be repeated for a total of 15 credits. Prerequisite: approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject. 1-15 credits.

899 DOCTORAL DISSERTATION
May be taken more than once. Prerequisites: completion of preliminary examination and approval of Advisory Committee. Original research by Ph.D. candidate. 1-15 credits.

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CIVIL ENGINEERING

4300:

130 INTRODUCTION TO ENGINEERING
2 credits
Introduction to civil engineering for freshman engineering student. Tasks and opportunities of civil engineer. Introduction to engineering problem-solving techniques. Required of all civil engineering freshmen.

201 STATICS
3 credits
Constituents: 3430-222 and 3650-291. Forces, resultants, couple, equilibrium of force systems, equilibrium of forces, centers of gravity of simple structures, moments of inertia, kinematics.

202 INTRODUCTION TO MECHANICS OF SOLIDS
3 credits
Prerequisite: 201. Axial force, bending moment diagrams, stress and deformation, stress-strain diagrams, torsion, Newtonian stress, frictional sliding stress, complicate stresses, indeterminate beams, columns.

230 SURVEYING
3 credits
Basic tools and computations for survey measurement of distance elevation and angles. Traverse surveys. Laboratory field practice.

306 THEORY OF STRUCTURES
3 credits
Prerequisite: 202. Stability and determinacy, statically determinate frames and trusses, approximate frame analysis methods, load, virtual work analysis, moment area theorems, theorem of three moments, moment distribution of continuous beams and frameworks.

313 SOIL MECHANICS
3 credits
Prerequisite: 202 or permission. Physical properties of soils. Soil water and ground water flow, stress distribution, volume changes, consolidation within a soil mass. Soil strength. Compression, earth pressure.

314 GEOTECHNICAL ENGINEERING
3 credits
Prerequisite: 313. Limiting equilibrium within soil mass. Design of retaining walls, embankment, shallow, deep foundation systems, slope stability. Laboratory study of soil properties and behavior.

323 WATER SUPPLY AND WASTEWATER DISPOSAL
3 credits
Prerequisites: 3150.133, 4600.310. Quality of water supplies. Study of water treatment processes and methods. Characteristics of wastewater, wastewater treatment, wastewater filtration, sludge treatment and disposal, construction, maintenance, and operation of treatment facilities.

341 HYDRAULIC ENGINEERING
3 credits
Flow in pipelines and pipe networks. pumps and pumping stations. elements of hydraulics, flow in open channels, design of hydraulic structures, water resources engineering.

361 TRANSPORTATION ENGINEERING
3 credits
Prerequisite: junior standing. Introductory survey of transportation topics including transportation planning requirements and techniques, introduction to design of highways, airports and railroads and introduction to traffic engineering.

395 ENGINEERING MATERIALS LABORATORY
2 credits
Prerequisite: 202. Study of laboratory instrumentation and standard techniques in testing of engineering materials. Data analysis.

401 STEEL DESIGN
3 credits
Prerequisite: 306. Tension, compression members, beams, beams in bending, beam-columns, bolted, welded connections.

402 REINFORCED CONCRETE DESIGN
3 credits
Prerequisite: 306. Ultimate strength analysis and design; compression steel, diagonal tension, stress development, crack width, crack depth. prestressed concrete elements, composite action, control of shrinkage, deformation.

404 ADVANCED STRUCTURAL DESIGN
3 credits
Prerequisites: 401, 403. Composite design, plate girders, plastic design, cable-stayed bridges, suspension bridges, R/C members, continuous beam, bridge design.

407 ADVANCED MECHANICS OF SOLIDS
3 credits
Prerequisites: 304, 403. Inelastic theory of solids, bending of non-circular bars and thin-walled members, bending of variate geometrical sections, metallic beam bending, beams of two materials curved beams, analysis of columns in flexural-shear form. Yield criteria, stress distributions, Castigliano's theorems, composite beams.

414 DESIGN OF EARTH STRUCTURES
3 credits

418/518 SOIL AND ROCK EXPLORATION
3 credits
Prerequisites: 314 or permission. Soil exploration methods 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 radiometric measurements. Air photo interpretation.
245/532 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, wastewater treatment.

424 WATER-WASTEWATER LABORATORY 1 credit
Corequisite: 323 or permission. Analysis of water and wastewater.

426/526 ENVIRONMENTAL ENGINEERING DESIGN 3 credits
Prerequisite: 323. 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 stream 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 and 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 problems 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. Steady channel mechanics, sedimentation, coastal engineering.

445 HYDROLOGY 3 credits

448 HYDRAULICS LABORATORY* 1 credit
Prerequisite: 341. Introduction to laboratory and field devices for hydraulic measurements. Reduction and presentation of data. Individual assignments of model studies of hydraulic structures.

450 URBAN PLANNING 2 credits
Historical developments urban planning, urban planning techniques and patterns, comprehensive master planning studies, planning regulations, 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
Prerequisite: 306. Basic concepts in structural optimization. Mathematical programming methods, including unconstrained minimization. Multidimensional minimization and constrained minimization.

453/563 TRANSPORTATION PLANNING 3 credits
Prerequisite: 361. Theory and techniques for development, analysis and evaluation of transportation systems plans. 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: 351. Step by step study of modern highway design techniques and construction practices.

465/565 PAVEMENT ENGINEERING 3 credits
Prerequisite: 351. Theories of elasticity, of viscoelasticity and of layer systems as applied to pavements. Pavement materials characterization, pavement design, pavement design, pavement design restoration for rigid and flexible pavements.

466/566 TRAFFIC ENGINEERING 3 credits
Prerequisite: 361. Vehicle and urban travel characteristics, traffic flow theory, traffic studies, accident occurrence 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, scheduling using critical path method.

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
Prerequisite: 360. 4000/305. Composition, structure and mechanical behavior of structural materials taken as concrete, wood, masonry, plastics and composite materials. Discussion of applications and principles of evaluating materials properties.

474/574 UNDERGROUND CONSTRUCTION 2 credits
Prerequisite: 314. Description of practices and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems and linings.

461 CIVIL ENGINEERING SYSTEMS 2 credits

482 SPECIAL PROJECTS 1-3 credits
Prerequisite: senior standing and permission. Directed individual or group research or study in student's field of interest. Topic subject to approval by adviser.

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 2 credits

605 STRUCTURAL STABILITY 3 credits

606 ENERGY METHODS AND ELASTICITY 3 credits

607 PRESTRESSED CONCRETE 3 credits

608 MULTISTORY BUILDING DESIGN 3 credits
Prerequisite: 601. Floor systems, staggered truss system, framed beam design, unbraced frame design, drift ratio. Monocoque (tube and partial tube) systems. Earthquake design, fire protection. Analysis by STRUDL.

609 FINITE ELEMENT ANALYSIS I 3 credits
Prerequisite: 601. Introduction to development of finite element methods as applied to various topics from continuum mechanics. Such areas as plate, axisymmetric and 3-D stress analyses, conduction, fluid mechanics, transient problems and geometric and material nonlinearity.

610 INTRODUCTION TO COMPOSITE MECHANICS 3 credits
Prerequisite: 601 or equivalent. Fundamental concepts of composites, composite micromechanics. Macromechanics and laminate theory are discussed from geometric relations. Laminates and their analysis for stiffness and strength. Geotechnical, mechanical, hydraulic 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 a 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: 510, 612. Theory and practice of static and dynamic in situ and laboratory soil testing. Testing procedures, applicability, limitations. Universal evaluation of geotechnical parameters for routine and special site conditions. One lecture, two laboratories per week.

614 FOUNDATION ENGINEERING I 3 credits
Prerequisite: 313 or permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundation systems. Pre-driving and load test procedures and analysis. Theory and design of earth-retaining structures including retaining walls, bulkheads and bulkheads.

615 FOUNDATION ENGINEERING II 3 credits
Prerequisite: 614 or permission. Bearing capacity design and applications to underground structures. Use of computer for design. Design and construction of underwater and underground structures retaining walls, bulkheads and bulkheads.

616 ROCK MECHANICS 2 credits
626 SANITARY ENGINEERING PROBLEMS
Prerequisite: 323. Application of both laboratory methods and theory to solution of sanitary engineering problems involving water pollution, stream regeneration, special industrial wastes, septic tanks, and others.

621 WATER AND WASTEWATER LABORATORY
Prerequisite: 615 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
Prerequisite: Permission. Design of water treatment plants for potable, industrial, and commercial use. Development of water sources, pretreatment methods, and financing used to design best practical methods in terms of cost efficiency.

623 WASTEWATER TREATMENT PLANT DESIGN
Prerequisite: Permission. Application of theory and fundamentals to design of wastewater treatment plants. System design methods used for biological and chemical stabilization of wastewater to meet waste quality criteria. Economic analyses made to determine best practical designs to be utilized.

624 ENGINEERING MANAGEMENT OF WATER UTILITIES
Prerequisite: Permission. Comprehensive study of various functions of water utility and engineering management operations pertaining to intricate and complex processes. Fundamentals of responsibility and duties applicable to water utility systems.

625 WATER AND WASTEWATER PROCESSES
Prerequisite: 423. Theory, current research associated with physical/chemical processes, the impact on design-coagulation/flocculation, sedimentation, filtration, absorption processes emphasized.

626 WATER AND WASTEWATER PROCESSES II
Prerequisite: 423. Theory, current research associated with biological processes, related physical/chemical processes, the impact on design activated sludge, fixed film processes, gas transfer, sludge stabilization, sludge dewatering processes emphasized.

640 ADVANCED FLUID MECHANICS

644 OPEN CHANNEL HYDRAULICS
3 credits
Application of basic principles of fluid mechanics to flow in open channels. Categorization of systems, methods for transforming systems to simple systems, study of movement and transportation of sediments. Design problems utilizing numerical techniques.

645 APPLIED HYDROLOGY
3 credits
Discussion of water cycle such as precipitation, evaporation, stream flows, floods, and evaporation. Methods of analysis and their application to studies of water demand, storage, transportation including mathematical modeling of urban runoff and statistical hydrology.

646 COASTAL ENGINEERING
3 credits

646 ADVANCED ENGINEERING MATERIALS
3 credits
Selected topics on principles governing mechanical behavior of materials with respect to elastic, plastic, and creep response, stress rupture, and high cycle and thermal fatigue. Failure theories and fracture phenomena in brittle and ductile materials. Crack propagation and site prediction of engineering materials.

682 ELASTICITY
3 credits

683 PLASTICITY AND VISCOELASTICITY
3 credits

684 ADVANCED REINFORCED CONCRETE DESIGN
3 credits

685 ADVANCED STEEL DESIGN
3 credits

686 EXPERIMENTAL METHODS IN STRUCTURAL MECHANICS
3 credits

697 SPECIAL PROBLEMS
1-2 credits
Prerequisite: Permission. Supervised research or directed individual study in student’s major field. Topic selected by student, subject to approval by adviser.

699 SPECIAL PROBLEMS
1-2 credits
Prerequisite: Permission. Research and thesis on some suitable topic in civil engineering as approved by department. Defense of thesis is by final examination.

701 EARTHQUAKE ENGINEERING

702 PLATE AND SHELLS
3 credits

703 APPLICATION IN PLASTICITY AND VISCOELASTICITY
3 credits
Prerequisite: 610. 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

710 ADVANCED COMPOSITE MECHANICS
3 credits

712 DYNAMIC PLASTICITY
3 credits
Prerequisites: 683 or 703. Impulsive and transient loading. Structures and structural elements (beams, plates, shells, etc.) in which plastic deformation occurs. Topics include: long- and short-wavelength plastic wave propagation in thin rods, propagation of plastic hinges, von-Mises yield surfaces, elastic-plastic waves, transverse impact on beams and plates, high-rate deformation, blast loading, plate perforation, shock waves in solids.

717 SOIL DYNAMICS
3 credits
Prerequisite: 614 or permission. Vibration and wave propagation through soils, soil structures andquipments. Dynamic Behavior of soils. Design of foundations for dynamic loading impact, pulsating and shock loads.

740 SEEPAGE
2 credits
Discussion of parameters determining permeability of various soils. Analytical, numerical and experimental methods to determine two- or 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 fields of civil engineering. Intended for student seeking Ph.D. in civil engineering.

899 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 problems. Research and preparation for preliminary examination.

999 DOCTORAL DISSERTATION
1-15 credits
(May be taken more than once) Prerequisite: Completion of preliminary examination and approval of Advisory Committee. Original research by Ph.D. candidate.

**ELECTRICAL ENGINEERING 4400:**

101 INTRODUCTION TO ELECTRICAL ENGINEERING
1 credit

231 CIRCUITS I
3 credits

232 CIRCUITS II
3 credits

333 CIRCUITS III
3 credits
Prerequisites: 232, 3450.125, 4100.206. Application of Laplace and state space variable to time invariant and transient responses. Network topology and computer aided circuit design.

343 ACTIVE CIRCUITS
3 credits
Prerequisite: 345. Applications of operational amplifiers including design of transistor circuits. Sizing, scaling, cascade design, band-pass filters. Frequency response, stability, delay, open loop. Feedback design. Theoretical and practical aspects of design, analysis, and design of linear and nonlinear elements.
Graduate Courses

631 CIRCUIT ANALYSIS
Prerequisites: Graduate standing. Operational methods, time-domain analysis, state variable methods, and matrix techniques applied to circuit analysis. Realizability and synthesis of active devices and polynomials.

641 RANDOM SIGNAL ANALYSIS
Prerequisite: 637. Analysis, interpretation, and understanding of engineering data through application to statistical and probability methods.

642 STATISTICAL COMMUNICATIONS
Prerequisite: 640. Selection and estimation of signals in communication systems. Linear and nonlinear systems, bandwidth limitations, narrow band systems, mean squared error, filter design, and information theory.

643 DIGITAL SIGNAL PROCESSING
Prerequisites: 532, 641, and 640. Discrete-time signals and systems, digital filter design, spectral analysis, and DSP applications.
651 ELECTROMAGNETIC FIELDS
Prerequisite: graduate standing in electrical engineering. Introduction to advanced electromagnetics concepts at graduate level. 3 credits

552 ADVANCED ELECTROMAGNETICS
Prerequisite: 651. Application of Maxwell's equations. Propagation of waves and antenna analysis. 2 credits

661 DESIGN OF DIGITAL SYSTEMS
Prerequisite: 651. Applications of logic circuits in modern digital electronic computer and in digital communication systems. Computer organization and control input/output schemes and interface standards. Advanced topics in computers. 3 credits

662 TOPICS IN ELECTRICAL ENGINEERING
Prerequisite: permission of department head. Discussions of recent advances in electronics. 3 credits

663 DISCRETE CONTROL SYSTEMS
Prerequisite: 472/572 or permission. Theory, techniques for analysis, design of discrete control systems. Z-transform/mulse, stability analysis, frequency response. Optimization. Digital computer control. 3 credits

674 CONTROL SYSTEM THEORY
Prerequisite: 472/572. Advanced modern control theory for linear, nonlinear systems, controllability, observability, state variable feedback, estimation, control nonlinear system analysis, stability problems. 3 credits

675 SYSTEM SIMULATION
Prerequisite: 472 or permission of the instructor. This course is designed to provide the control engineer with tools necessary to simulate continuous systems on a digital computer. Topics include linear multistep methods, Runge-Kutta methods, state equations, optimization, parallel computing and simulation languages. 3 credits

676 RANDOM PROCESS ANALYSIS
Prerequisite: 474. Analysis and design of control systems with stochastically defined input to estimation filters. 3 credits

681 POWER SYSTEM ANALYSIS
Prerequisite: 461. Static and transient stability of power systems with emphasis on computer solution. Transient machine analysis. 3 credits

682 POWER SYSTEM STABILITY
Prerequisite: 681. Steady state and transient stability of power systems with emphasis on computer solution. 3 credits

683 ECONOMICS OF POWER SYSTEMS
Prerequisite: 681. Analysis and operation of power systems for economic dispatching using a computer. 3 credits

684 PROTECTIVE RELAYING
Prerequisite: 680. Principles and application of relays as applied to protection of power systems. 3 credits

685 SURGE PROTECTION
Prerequisite: 680. Phenomena of lightning and switching surges on electrical systems. Protection of systems and apparatus by fine design application of protective devices and insulation coordination. 3 credits

693 SPECIAL PROBLEMS
(May be taken more than once.) Prerequisite: permission of department head. For a qualified graduate student. Supervised research or investigation in major field of training or experience. Credit dependent upon magnitude and extent of project. 1-3 credits

699 MASTER'S THESIS
Prerequisite: permission of department head. Research and thesis on some suitable topic in electrical engineering. 1-6 credits

703 TOPICS IN ELECTROMAGNETICS
Prerequisite: 801. Introduction to advanced topics in electromagnetics. Topics include application of Maxwell's equations and related boundary value problems. 3 credits

716 OPTIMAL CONTROL
Prerequisite: 674. Formulation of optimization problems, approximation of variational calculus, maximum principle and optimality principle for control problems. Computational techniques in optimization. 3 credits

717 OPTIMAL CONTROL II
Prerequisite: 716. Formulation of optimization problems for optimal control system identification. Implementation of optimal control and adaptive control. 3 credits

778 ADAPTIVE CONTROL
Prerequisite: permission of instructor. This course will present the advanced graduate student with the techniques required for the design and implementation of adaptive control for nonlinear systems. Topics include linear quadratic optimal control, Kalman filtering, minimum variance control, LQG control and stochastic adaptive control. 3 credits

779 ADVANCED TOPICS IN CONTROL
Prerequisite: 778. Discussions of recent advances in control systems. 3 credits

794 ADVANCED SEMINAR
(May be taken more than once.) Prerequisite: permission of department head. Advanced level coverage of special topics. For student seeking Ph.D. in engineering. 1-3 credits

893 PRELIMINARY RESEARCH
(May be repeated.) Prerequisite: completion of qualifying examination and approval of student advisory committee. Preliminary investigation of Ph.D. dissertation subject. 1-3 credits

899 DOCTORAL DISSERTATION
(May be repeated.) Prerequisite: completion of candidacy examination and approval of student advisory committee. Original research by a Ph.D. candidate. 1-3 credits

ENGINEERING COMPUTER SCIENCE
4450:

410 COMPUTER METHODS
Prerequisite: 410/520 or equivalent in FORTRAN, and 3450/320. Numerical methods and techniques in use of central computer facilities to solve problems in science and engineering. Plotting and other FORTRAN library routines. Job Control Language. Interactive computing. 3 credits

420/520 SOFTWARE ENGINEERING
Prerequisite: 3450/320 and instructor's permission. Software life cycle, Specification, design and implementation of team projects. 3 credits

432 SYSTEM SIMULATION
Prerequisite: 410. Principles of modeling and simulation of discrete and continuous time systems using FORTRAN and S 360 CSMP. Discrete event models and GPSS, SIMSCRIPT, and other languages. 3 credits

470/570 INTEGRATED SYSTEM DESIGN
Prerequisite: 370. 4400/5400. Prior permission of 570. 4400 and 4540. Introduction to computer structure, design methods and development tools for VLSI systems, digital devices and fabrication, programming and control design, layout, high level simulators and design systems. 3 credits

497/597 SPECIAL TOPICS: COMPUTER SCIENCE
(May be taken more than once.) Prerequisite: permission of department head. Special topics in computer engineering. 1-2 credits

Graduate Courses

608 COMPUTER ARCHITECTURE
Prerequisite: 4400/570 or equivalent. Historical development of computer architecture. Design methodologies. Processor organization and design of instruction sets. Parallel processing. Control section implementation. Memory organization. System configuration. 3 credits

639 COMPUTER ALGORITHMS I
Prerequisite: 410/520, and 3450/320. Organization of scientific and engineering problems for computer solutions, analysis of error and convergence properties of algorithms. 3 credits

651 COMPUTER ALGORITHMS II
Prerequisite: 639. 235 or equivalent in Fortran. Study of algorithms and program design for minimum execution time and memory requirements. 3 credits

693 SPECIAL PROBLEMS
(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 magnitude and extent of project. 1-3 credits

794 ADVANCED SEMINAR
(May be taken more than once.) Prerequisite: permission of department head. Advanced level coverage of various topics. For student seeking Ph.D. in engineering. 1-3 credits

MECHANICAL ENGINEERING
4600:

125 ENGINEERING GRAPHICS
Prerequisite: 410. Frequent use of computer graphics techniques. Orthogonal projection and pictorial representation of simple machine elements. 2 credits

160 ENGINEERING DESIGN: MECHANICAL ENGINEERING
Prerequisite: 4400/4540. Introduction to engineering profession. Engineering curriculum and program of study. Introduction to use of the digital computer. 1 credit

205 DYNAMICS
Prerequisite: 3420/3420. Kinematics and kinetics of particles and rigid bodies. Principles of work, energy, momentum and impulse. 3 credits
301 THERMODYNAMICS II  
Prerequisites: 395.621 and 3650.291. Basic concepts of thermodynamics. The pure substance, the system and first and second laws of thermodynamics. Entropy, availability, power cycles.

305 THERMAL SCIENCE  

315 HEAT TRANSFER  
Prerequisites: 300 and 315. Introduction to fluid mechanics, perfect gas relations, and equations of state and solution methods. Introduction to conduction, convection and radiation heat transfer.

316 FLUID MECHANICS  
Prerequisites: 201. Properties of behavior of gases and liquids rest and in motion. Energy equations, fluid flows, and forces on bodies submerged in moving fluids. Dimensional analysis and simulation.

317 HEAT TRANSFER  
Prerequisites: 160, 300, 310, or 4100.206. Fundamentals of heat transfer by conduction, convection and radiation.

321 MECHANICAL METALLURGY  
Prerequisites: 125.313. Structure of common metallic materials and study of their macroscopic mechanical behavior. Phase changes and heat treatment. Modern theories of failure.

331 ANALYSIS OF MECHANICAL COMPONENTS  

333 DESIGN OF MECHANICAL COMPONENTS  

335 ENGINEERING ANALYSIS  
Prerequisites: 160, 3450.235, or 4100.206. Analytical and numerical methods of solution of mechanical engineering problems.

336 THERMAL SCIENCE  
Prerequisites: 310. Study of heat transfer in various systems and applications. Complexity analysis of real-life systems. Design project required.

337 MECHANICAL ENGINEERING  
Prerequisites: 160, 3450.235, or 4100.206. Analysis of stresses and strains in structures. Heat transfer and fluid mechanics.

340 THERMAL SCIENCE  
Prerequisites: 310. Study of heat transfer in various systems and applications. Complexity analysis of real-life systems. Design project required.

341 THERMAL SCIENCE  
Prerequisites: 310. Study of heat transfer in various systems and applications. Complexity analysis of real-life systems. Design project required.

342 THERMAL SCIENCE  
Prerequisites: 310. Study of heat transfer in various systems and applications. Complexity analysis of real-life systems. Design project required.

343 THERMAL SCIENCE  
Prerequisites: 310. Study of heat transfer in various systems and applications. Complexity analysis of real-life systems. Design project required.

344 THERMAL SCIENCE  
Prerequisites: 310. Study of heat transfer in various systems and applications. Complexity analysis of real-life systems. Design project required.

345 THERMAL SCIENCE  
Prerequisites: 310. Study of heat transfer in various systems and applications. Complexity analysis of real-life systems. Design project required.

Graduate Courses

500 THERMAL SCIENCE  
Prerequisites: 395.621 and 3650.291. Basic concepts of thermodynamics. The pure substance, the system and first and second laws of thermodynamics. Entropy, availability, power cycles.

240 HEAT TRANSFER  

250 THERMAL SCIENCE  

260 THERMAL SCIENCE  

270 THERMAL SCIENCE  

280 THERMAL SCIENCE  

290 THERMAL SCIENCE  

300 THERMAL SCIENCE  

310 THERMAL SCIENCE  

320 THERMAL SCIENCE  

330 THERMAL SCIENCE  

340 THERMAL SCIENCE  

350 THERMAL SCIENCE  

360 THERMAL SCIENCE  

370 THERMAL SCIENCE  

380 THERMAL SCIENCE  

390 THERMAL SCIENCE  
611 COMPUTATIONAL FLUID MECHANICS
Prerequisite: 610 or permission of instructor. Study of numerical methods in fluids: numerical analysis of stability and duality, boundary conditions, turbulence, spectral analysis and finite elements techniques.

615 CONDUCTION HEAT TRANSFER
Prerequisite: 315 or equivalent. Study of one-, two- and three-dimensional heat conduction. Development of analytical techniques for analysis and design.

616 CONVECTION HEAT TRANSFER
Prerequisite: 315 or equivalent. Study of forced convective transfer from laminar to turbulent flow, internal flows, convective heat transfer at high velocities. Heat transfer to liquid metals, high Prandtl number fluids.

617 RADIATION HEAT TRANSFER
Prerequisite: 315 or equivalent. Study of radiation heat transfer, black and gray objects, radiant interaction, radiative transfer, radiative transfer in solids.

618 BOILING HEAT TRANSFER AND TWO-PHASE FLOW
Prerequisites: 301, 315 or equivalent. Current techniques to determine heat transfer and pressure drop in components such as boilers, heat exchangers, and steam generators, with boiling mechanism, efficient heat flux and instability in boiling systems.

620 EXPERIMENTAL STRESS ANALYSIS I
Prerequisite: 423/522. Dynamic strain gage methods, transducer design, More fringes techniques and topics in photoelasticity.

621 INTRODUCTION TO TIRE MECHANICS
Prerequisite: Permission. Topics include tire as a vehicle component, tire traction and wear, tire modeling, tire stress and strain and advanced tire models.

622 CONTINUUM MECHANICS
Prerequisite: 316 or permission. Analysis of stress and deformation of a point. Derivation of fundamental equations of fluid and solid mechanics by analyzing basic laws of dynamics, conservation of mass and energy. Development of continuum laws.

623 APPLICATIONS OF STRESS ANALYSIS I
Prerequisite: 622. Combination of 622 with specific application to biomechanics. Development of energy theorems due to Reiner-Washizu and generalized Hamilton's principle. Solutions to static and dynamic problems.

624 FUNDAMENTAL OF FRACTURE MECHANICS
Prerequisite: 622 or permission of instructor. Methods of fracture analysis in elasto-plastic media. Analysis of three-dimensional trajectories, singularities, and stability. Development of approximative analytical methods.

625 MECHANICAL VIBRATIONS II
Prerequisite: 431-551 or equivalent. Study of vibrations of multiple degree of freedom systems including free and forced vibrations, transient and chaotic motion, normal mode vibrations and matrix formulation techniques. Application to seismic design and shock design.

631 KINEMATIC DESIGN
Prerequisites: 301 and permission of instructor. The geometry of non-linear motion. Analysis of relative plate motion using vectors and the digital computer. Curvature theory. Synthesis of curves and gearing. Introduction to computer-aided design.

632 RELIABILITY IN DESIGN

635 MODEL ANALYSIS IN VIBRATION
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 analysis.

635 STRESS WAVES IN SOLIDS AND FLUIDS

642 SYSTEM ANALYSIS AND CONTROL DESIGN
Prerequisites: 440 or equivalent. Uniform methods of modeling and analysis of linear and non-linear, stability, frequency and phase analysis, control system synthesis. Development of feedback controls for performance optimization of multivariable real-time control applications.

463 PROCESS IDENTIFICATION AND COMPUTER CONTROL
Prerequisite: 440 or equivalent. Obtaining mathematical models of processes from noisy observations. Methods of digital control design. Control studies on computer controlled selected processes.

650 TRIBOLOGY
2 credits
Fundamentals of friction and wear treated, includes basic theory, advanced topics, applications to bearings, gears, chains. Specific topics include adhesive and abrasive wear, friction and wear, boundary lubrication, fluid film lubrication and bearings, rolling element bearings, bearing dynamics.

663 ENGINEERING ANALYSIS
Prerequisite: B.S. in engineering. Study of analysis techniques as applied to specific engineering problems. Applications include beam deflections, buckling, heat conduction and hydrodynamic stability.

597 SPECIAL TOPICS
Prerequisite: Permission. For qualified candidates for graduate degree. Supervised research in student's major area of specialization. Credit dependent upon nature and extent of project as determined by advisor and department head.

619 MASTER'S THESIS
Prerequisite: Permission of advisor. Supervised research in a specific area of mechanical engineering.

704 FINITE ELEMENT ANALYSIS II
Prerequisites: 600/4300/702. Curved, planar, and brick elements, various meshes, various finite element models for composite materials. Thermoplasticity, frictional contact problems, finite element analysis of large-scale production programs.

705 FINITE ELEMENT ANALYSIS III
Prerequisites: 704. Static and dynamic contact problems, anisotropic materials, finite element models of composite materials, thermoplasticity, frictional contact problems. Finite element analysis of large-scale production programs.

710 DYNAMICS OF VISCOUS FLOW II
Prerequisite: 610. Introduction to turbulence. Turbulence modeling and turbulent boundary layers. Practical problems of solution of boundary layer problems. Transition phenomena.

712 HYDRODYNAMIC STABILITY

719 ADVANCED HEAT TRANSFER
Prerequisites: 615, 616. Topics include nonstationary or nonlinear boundary value problems of real conduction, heat transfer with melting, solidification and boiling, heat transfer in viscous systems and hydrodynamically and thermally unsteady convection.

723 APPLIED STRESS ANALYSIS II

726 NONLINEAR CONTINUUM MECHANICS
Prerequisite: 621. Finite deformation and strain energy, constitutive equations, strain energy functions. Solutions of finite deformation problems in hyperelasticity, coupled thermo-elasticity and poroelasticity, electroelasticity and micropolar theories.

730 MECHANICAL VIBRATIONS III
Prerequisite: 620. Continuation of 620. Analysis of cantilevered vibrating systems, using application of variables over the vibrating Rayleigh-Ritz and other approximate techniques. Concepts and solutions of integral equations as applied to continuous systems.

731 RANDOM VIBRATIONS
Prerequisite: 630 or equivalent. Stationary random processes, and their transmission through finite time intervals and discrete and continuous vibrating systems. Analysis of random data and interaction between mechanisms of failure.

741 OPTIMIZATION THEORY AND APPLICATIONS
Prerequisite: Permission. Theory of optimization in engineering systems. Development and solution of optimization problems for physical processes, large systems. Use of computer programming, operational research methods for system optimization, control.

750 ADVANCED METHODS IN ENGINEERING ANALYSIS
Prerequisite: 3450/235 or equivalent. Applications of finite difference and finite element methods, variational methods, integral methods, and similarity techniques to engineering problems. Heat and mass transfer, fluid mechanics and vibrations.

790 ADVANCED SEMINAR IN MECHANICAL ENGINEERING
(May be repeated for a total of nine credits)
Prerequisite: Permission of department head. Advanced projects and study in areas of mechanical engineering. Intended for student seeking Ph.D. in engineering degree.

818 PRELIMINARY RESEARCH
Prerequisite: Approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

899 DOCTORAL DISSERTATION
(May be taken more than once)
Prerequisite: Approval of Advisory Committee. Original research by Ph.D. candidate.

4700: POLYMER ENGINEERING

450 MECHANICAL ENGINEERING PROPERTIES AND PROCESSING OF POLYMERS
Prerequisites: 4000, 358, and permission. Introduction to engineering properties and processing of polymers. Analysis of mechanical tests of polymers in the glass, rubbery, and fluid states. Product design. Concepts of rheology, morphology, and aligning processing.
707 ADVANCED TOPICS IN POLYMER ENGINEERING
(3 credits)
Prerequisite: permission of instructor. Advanced special topics intended for Ph.D. students in polymer engineering.

89E PRELIMINARY RESEARCH
(1-15 credits)
Prerequisite: completion of qualifying examination, approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

89R DOCTORAL DISSERTATION
(1-15 credits)
Prerequisite: consent of candidacy examination of Student Advisory Committee. Original research by a Ph.D. candidate.

BIOMEDICAL ENGINEERING

4800:

49 INTRODUCTION TO BIOMEDICAL ENGINEERING RESEARCH
(3 credits)
Application of engineering principles to topical area medical research. Includes biomaterials, orthopaedics, artificial organs, biostereometrics, biometrics, biological signal and image analysis, biofluids, and computers in medicine.

Graduate Courses

530 BIOMEDICAL INSTRUMENTATION
(4 credits)
Prerequisites: 3103, 561, 582 and 4400, 320. Clinical instrumentation to measure and display physiologic and anatomic parameters. Basic concepts of instrument including design criteria and operational analysis. Practical experience gained through the use of instrumented mammalian models.

511 BIOMEDICAL SIGNAL PROCESSING
(3 credits)
Statistics and experimental design topics for the biomedical and biological engineering disciplines, including distributions, hypothesis testing and estimation, ANOVA, probability and non-parametric statistics.

513 BIOMATERIALS AND LABORATORY
(4 credits)
Corequisite: Biomedical Laboratory. Materials used in medical applications. Effects of physiological environment and sterilization on materials. Control of and uncontrolled degradation. Effect of materials on soft tissue and bone. Laboratory experiments using materials designed for biomedical use, exercising demonstrations of biological / materials interactions.

523 MECHANICS IN PHYSIOLOGY AND MEDICINE
(3 credits)
Preparatory, 4300, 310 and 4300, 320. General mechanics of microcirculation: finite deformation theory, thin plate mechanics, mechanics of blood and tissue circulation, kinematics and kinematics of orthopedic joints. Clinical applications.

532 PROCESSING OF BIOMEDICAL SIGNALS
(3 credits)
Prerequisites: graduate standing in the College of Engineering and 611 or equivalent. Concepts for the analysis of biological and physical signals and joint processes including circulatory and neural signals, hemodynamics, and biosignals.

634 BIOLOGICAL SIGNAL AND IMAGE PROCESSING
(3 credits)
Concepts for the analysis of biological and physical signals and joint processes including circulatory and neural signals, hemodynamics, and biosignals.

673 IMAGE FORMATION AND PROCESSING IN BIOMEDICINE
(3 credits)
Prerequisites: graduate standing in the College of Engineering and permission of instructor. The formation of medical images including CT, MRI, and ultrasound, data display, and processing techniques such as quantification, enhancement, restoration, and segmentation.

443 BIOMEDICAL COMPUTING
(4 credits)
Prerequisites: 4100, 205 or equivalent. Computer applications in health care. Clinical laboratory, AI, and medical records. Order entry, A.D.A Conversion, patient monitoring, peripheral devices, diagnostic algorithms, and medical information systems.

563 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE
(3 credits)
Prerequisites: 4400, 201 or equivalent. Basic definitions, cardiovascular models, and membrane transport systems. Mass transfer in physiological systems and artificial kidney and lung devices. Design implications. Analytical human thermal systems.

462 ARTIFICIAL ORGANS
(3 credits)
Prerequisites: graduate standing in the College of Engineering. Introduction to the design of artificial organs and their development.

597 SPECIAL TOPICS
(1-4 credits)
May be repeated. Prerequisite: permission of instructor. Current topics supervised in the area of biomedical engineering. Credit hours depend upon the nature and extent of the course or project.
CONSTRUCTION TECHNOLOGY

4980:

351 CONSTRUCTION QUALITY CONTROL 2 credits
Prerequisites: 2980 237, 238 or permission. Overview of quality control concepts and techniques as related to the construction industry; including the necessary statistical tools; exposure students to civil, mechanical and electrical inspection requirements.

355 FIELD MANAGEMENT 2 credits
Prerequisites: 2980 222, 245 or permission. Planning, scheduling and controlling of field work within time and cost constraints.

356 SAFETY IN CONSTRUCTION 2 credits

357 CONSTRUCTION ADMINISTRATION 2 credits

358 ADVANCED ESTIMATING 3 credits
Prerequisite: 355 or permission of instructor. This course focuses on estimating and bidding for public and private construction. Includes heavy/highway, industrial and building construction with microcomputers to facilitate bid pricing.

361 CONSTRUCTION FORMWORK 3 credits
Prerequisite: 2980 234 or permission. Introduction to design and construction of field structures. Emphasis on design and construction of formwork and temporary wood structures.

453 LEGAL ASPECTS OF CONSTRUCTION 2 credits
Study of business of contracting and legal problems therein, such as breach, partial performance, payment, insolvency, subrogation. Review of AIA standard contracts and construction industry rules of arbitration.

482 MECHANICAL SERVICE SYSTEMS 3 credits
Introduction to materials and equipment used in mechanical heating, ventilating, air conditioning, water and waste systems.

483 ELECTRICAL SERVICE SYSTEMS 3 credits
Introduction to materials and equipment in electrical and acoustical systems of buildings. Includes illumination, electrical sources, materials and distribution, acoustical problems and materials.

485 HEAVY CONSTRUCTION METHODS 3 credits
Prerequisite: 2980 232 or 4307 472. Management techniques in planning, estimating and directing heavy construction operations.

486 HYDRAULICS 3 credits
Prerequisite: 2020 253. Introduction to hydrology. Flow in closed conduits and open channels, distribution, systems, storage requirements and basic concepts of hydraulic structures. Basic concepts of water and pumping knowledge of pumps.

487 SPECIAL PROJECTS 1-3 credits
Prerequisites: senior standing and permission of instructor. Directed individual or group research or study in student's field of interest. Topic subject to approval by advisor.

488 CONSTRUCTION MANAGEMENT 3 credits
Prerequisites: senior-level standing, and 352 and 357. Construction Management focuses on the latest and advanced management methods and makes them revolve around an efficient, smooth working system.

479 ADVANCED CONSTRUCTION GRAPHICS 3 credits
This course focuses on construction graphics through micro-based CAD. Topics include microcomputer systems, digitizers, plotters, printers, menus, keyboards and mouse input, introduction and advanced techniques.
EDUCATIONAL FOUNDATIONS

5100:

150 INTRODUCTION TO PROFESSIONAL EDUCATION 3 credits
Nature and purpose of education in United States. Emphasis on social, historical, and philosophical foundations of public education and on roles of professional educators.

250 HUMAN DEVELOPMENT AND LEARNING 3 credits (15 clinical hours)
Prerequisite: 250. Study of principal, underlying, social, psychological, and physiological growth and development of human individuality, and of learning process with applications to instructional procedures.

258 SMALL GROUP INSTRUCTION 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: 250 and/or 2560/2560. Emphasis on group processes designed to facilitate classroom instruction. Student conducts small group instructional activities in the college setting.

310 EDUCATIONAL MEDIA AND TECHNOLOGY 3 credits
Examining media technology including video, motion pictures, film pictures, audio materials, and the role of computers in instructional settings. Emphasis on selection, evaluation, utilization, and preparation.

320 LEARNING AND INDIVIDUALIZED INSTRUCTION 2 credits
Prerequisite: 250 and permission of the department head. Concepts of instructional design and application of instructional methods in the design and management of instruction. Emphasis on the role of the advanced student in the development and coordination of instructional objectives and evaluation techniques with instructional strategies.

412/512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS 3 credits
Prerequisite: 310 or permission of the instructor. Production of media materials including overhead projection, transparencies, audio recordings, slide sequences, and opaque materials. The student is offered project choices.

414/514 ORGANIZING AND SUPERVISING EDUCATIONAL MEDIA PROGRAMS 3 credits
Prerequisite: 410 or permission of the instructor. Organization of educational media programs utilizing media facilities and services. Emphasis on the role of the advanced student in the development and coordination of instructional objectives and evaluation techniques with instructional strategies.

430/530 INTRODUCTION TO COMPUTER-BASED EDUCATION 3 credits
Prerequisite: 250. Introduction to the use of instructional computer-based systems. Focus on the role of the advanced student in the development and coordination of instructional objectives and evaluation techniques with instructional strategies.

430 SENIOR HONORS PROJECT: FOUNDATIONS 1-6 credits
Prerequisites: senior standing in Honors Program and permission of the department head. Students will develop and present a comprehensive research project. Emphasis on research methodology and the role of the advanced student in the development and coordination of instructional objectives and evaluation techniques with instructional strategies.

450 PROBLEMS IN EDUCATION 2 credits (12 field hours)
Prerequisite: senior status. Emphasis on research methodology and critical approach to problems of education. Emphasis on research methodology and critical approach to problems of education in classroom settings.

480 SPECIAL TOPICS: EDUCATIONAL FOUNDATIONS 1-4 credits
Prerequisites: permission of the instructor. Group study of special topics of critical and contemporary concern in professional education.

Graduate Courses

600 PHILOSOPHIES OF EDUCATION 3 credits
Prerequisite: 250 and permission of the instructor. Examination of philosophical foundations of education and their application to educational practice.

502 COMPARATIVE AND INTERNATIONAL EDUCATION 3 credits
Prerequisite: 250 and permission of the instructor. Study of educational systems in other countries and their influence on American education.

507 INDEPENDENT STUDY 1-3 credits
Prerequisites: permission of the department head and the instructor. Specific area of study determined in accordance with program and professional goals.

490/590 WORKSHOP 1-3 credits
Individual work under the guidance of an instructor. May be repeated for a total of six credits.

494/594 EDUCATIONAL INSTITUTIONS 1-4 credits
Prerequisite: 250 and permission of the instructor. Study of educational institutions and their impact on society.

701 HISTORY OF EDUCATION IN AMERICAN SOCIETY 3 credits
Prerequisite: 250 and permission of the instructor. Study of the historical development of education in the United States, including its impact on society.

703 SEMINAR: HISTORICAL AND PHILOSOPHICAL ISSUES IN HIGHER EDUCATION 3 credits
Prerequisite: 250 and permission of the instructor. Examination of historical and philosophical issues in higher education.
331 EARLY ELEMENTARY EDUCATION I
Prerequisite: 330. Curriculum needs of primary aged child.
3 credits

333 SCIENCE FOR THE ELEMENTARY GRADES
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.
3 credits

334 TEACHING ART IN THE ELEMENTARY SCHOOL
Prerequisites: 141 and 321. Art education major, junior standing, elementary education majors. Visual arts in elementary schools. Art education concepts with studio orientation including history of an education, developmental stages, curriculum and organization, methods, evaluation and research, and practical participation.
2 credits

335 TEACHING THE LANGUAGE ARTS
Prerequisites: 286 and 5100/250. Course for elementary teacher stressing methods and materials for skills development, and trends in various language arts.
5 credits (15 clinical hours)

336 TEACHING OF ELEMENTARY SCHOOL MATHEMATICS
Prerequisite: 5100/250. Trends in instruction in elementary schools. Procedures for development of mathematical concepts and skills.
3 credits

337 TEACHING OF READING
Prerequisites: 335, 337 and 5100/250. Elementary reading program, together with modern methods of teaching reading at various levels.
3 credits

338 THE TEACHING OF SOCIAL STUDIES
Prerequisite: 5100/250. Social studies in elementary school and varied means of implementing program.
1 credit

339 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING
3 credits
Prerequisite: 337. Nature of reading problems. Classroom setting. Methods and materials employed in corrective reading program by classroom teacher.

340 EARLY ELEMENTARY EDUCATION I — LABORATORY
Corequisite: 333. 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.
1 credit

341 EARLY ELEMENTARY EDUCATION II — LABORATORY
Corequisite: 333. 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.
1 credit

343 SCIENCE FOR THE ELEMENTARY GRADES — LABORATORY
Corequisite: 333. 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.
1 credit (30 clinical field hours)

345 TEACHING ART IN THE ELEMENTARY SCHOOL — LABORATORY
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.
1 credit (30 clinical field hours)

346 TEACHING SOCIAL STUDIES — LABORATORY
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.
1 credit (30 clinical field hours)

347 TEACHING OF READING — LABORATORY
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.
1 credit (30 clinical field hours)

350 MULTICULTURAL EDUCATION: CONCEPTS, PROGRAMS AND PRACTICES
Corequisite: 333. 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.
3 credits (15 clinical hours)

351 NURSERY SCHOOL LABORATORY
Prerequisite: 5100/250. Concentrated study and experience in nursery school programming under direction of supervising teachers.
3 credits

355 COMPREHENSIVE MUSICIANSHIP FOR THE ELEMENTARY CLASSROOM TEACHER
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.
3 credits (25 clinical hours)

370 CURRICULUM FOR PRESCHOOL LEARNING CENTERS — LABORATORY
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.
1 credit

371 INTRODUCTION TO EARLY CHILDHOOD EDUCATION
2 credits

373 CURRICULUM FOR PRESCHOOL LEARNING CENTERS — LABORATORY
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.
1 credit

374 ART FOR THE GRADES
Prerequisite: 141. An enrichment in elementary grades. Laboratory work to give teachers knowledge of materials and media and skills in handling them.
2 credits (15 clinical hours)

380 EARLY ELEMENTARY EDUCATION I
Prerequisite: 5100/250. First of two courses designed to introduce student specifically to primary-aged child and his learning style.
3 credits
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 linkages 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 as means to 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.

666 INDIVIDUALIZED INSTRUCTION: LEARNING STYLE IDENTIFICATION AND RESOURCE PRESCRIPTION 3 credits
Prerequisites: permission of instructor and 630. Individual learning style characteristics, practical applications, individualization of instruction, multisensory resource development.

695 FIELD EXPERIENCE: MASTER'S 1-2 credits each
Prerequisites: permission of advisor and department head. On-the-job experience related to student's course of study.

697 INDEPENDENT STUDY 1-3 credits
Prerequisites: permission of advisor and department head. Selected areas of independent investigation as determined by advisor and related to student's academic needs.

698 MASTER'S PROJECT 2-4 credits
Prerequisites: 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 elementary education.

699 DISSERTATION 3 credits
Prerequisites: consent of adviser. Individualized investigation. Research and study of special problem pertinent to elementary education.

732 SUPERVISION OF INSTRUCTION IN THE ELEMENTARY SCHOOL 2 credits
Supervised role of elementary principal and other supervisory personnel.

780 SEMINAR IN ELEMENTARY EDUCATION 2 credits
(May be repeated.) Intensive examination of following areas of elementary school instruction: children's literature, curriculum development, language, art, mathematics, reading, science, social studies, early childhood, and critical analysis of children's literature, art, human sexuality, computers, and media school.

791 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 advisor and department head. Independent study. Research projects dealing with teaching and learning in the curriculum and an area of specialization related to the student's academic needs.

955,6,7 FIELD EXPERIENCE FOR ELEMENTARY DOCTORAL STUDENT 1-2 credits each
Prerequisites: permission of advisor and department head. In-depth investigation of special problem pertinent to elementary education.

899 DISSERTATION 3 credits
Prerequisites: permission of advisor and department head. Study and in-depth analysis of a research problem in elementary education.

READING
5250:

341 LABORATORY PRACTICUM IN READING 3 credits
Prerequisite: 5200.335. 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 3 credits
Prerequisite: 5200.339. Professional problems of selection and evaluation of reading materials and classroom organizations explored.

440/540 DEVELOPMENTAL READING IN THE CONTENT AREAS—ELEMENTARY 3 credits
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 as taught in the elementary classroom teacher.
Graduate Courses

680 TRENDS IN READING INSTRUCTION
Prerequisites: 5200:339 or 5300:425. Survey course assigned to update reading background of student who has not had a recent course in reading.

681 DIAGNOSIS AND CORRECTION OF READING PROBLEMS
Prerequisite: 680. Relation of growth to reading development and reasons for retardation. Implementation of diagnostic and corrective techniques by developing case studies in supervised setting.

682 CLINICAL PRACTICES IN READING
Prerequisite: 681. Nature and etiology of reading difficulties experienced by selected children. Supervised practica and independent work with children in conjunction with staff from other disciplines.

683 READING DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS AND SUPPORT PERSONNEL
Prerequisites: 5200:339 or permission of instructor. 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.

5200:630 or permission of instructor. 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.

5200:655
Prerequisites: 5200:339 or permission of instructor. 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.

684 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION
Survey of research sampling and evaluation of programs, design and development of projects in reading through group individual study.

685 SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION
Related to general curriculum: procedures for teaching reading in all curriculum areas, examination of children's literature and resource instructional reading by supervisors and consultants.

SECONDARY EDUCATION

5300:

10 PRINCIPLES OF TEACHING IN THE SECONDARY SCHOOL
3 credits (30 clinical hours)
Prerequisite: 5100:210, Corequisite: 275. Designed to familiarize the preservice teacher with the nature of secondary education and teaching in secondary schools. Microteaching laboratory participation is required.

271 EXPLORATORY EXPERIENCES IN SECONDARY EDUCATION (SOPHOMORE)
1 credit (6 clinical hours, 30 field hours)
Corequisite: 210. Field work with secondary school pupils, teachers and other professional personnel.

296 EXPLORATORY EXPERIENCES IN SECONDARY SCHOOLS/MAINSTREAMING
1-2 credits
Field work for the special education major.

311 INSTRUCTIONAL TECHNIQUES IN SECONDARY EDUCATION
4 credits (30 clinical hours, 20 field hours)
Prerequisites: 210, 325, and 5100:350. Open to student who has completed certification requirements in all content fields. Techniques of planning, instruction and evaluation in secondary teaching fields.

316 METHODS IN TEACHING ART
2 credits
Prerequisites: completion of required course for art teachers and grade point average of 2.00 in the field. Study of trends and practices in teaching art and supervision; relation of art to home, school and community, observation in selected schools required.

321 JUNIOR HIGH AND MIDDLE SCHOOL EDUCATION
2 credits
Designed to provide student with knowledge and understanding of junior high and middle school education with ability to interpret to other educators, parents and pupils.

325 CONTENT READING IN SECONDARY SCHOOLS
3 credits (30 clinical hours)
Corequisite: 375. Instructional principles and practices for helping secondary school youth and adults learn subject matter through application of reading and study skills.

330 TEACHING OF ADOLESCENT LITERATURE
2 credits
Prerequisite: permission of advisor. Student develops skills for selection of literature that is well suited for secondary student. Students develop lists and experiences methods for teaching adolescent literature in secondary schools.

374 PRINCIPLES OF SHORTHAND INSTRUCTION
2 credits
Prerequisites: 2540:173 and grade point average of 3.00 in the field. Methods of presentation in shorthand and interpretation. Demonstration and observation required. Theory test in shorthand must be passed before credit given for course.

375 EXPLORATORY EXPERIENCE IN SECONDARY EDUCATION
1 credit (6 clinical hours, 30 field hours)
Prerequisites: 210, corequisite: 325. Field work with secondary school pupils, teachers and other school personnel.

395 FIELD EXPERIENCE
1-3 credits
Prerequisite: upper-division standing. Supervised work with youngsters, individually and in groups in school and/or community settings.

425/525 ADVANCED MICROCOMPUTER APPLICATIONS IN THE SECONDARY SCHOOLS
3 credits (30 clinical hours)
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.

430 SENIOR HONORS PROJECT: SECONDARY
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 CONCEPTS AND CURRICULUM DESIGNS IN ECONOMIC EDUCATION
3 credits
Economic education concepts appropriate for grade levels K-12 and adult education courses. Economic education materials developed to teach the concepts utilized.

445 MICROCOMPUTER APPLICATIONS IN SECONDARY CLASSROOMS
1 credit (10 clinical hours)
Prerequisites: 210 and senior status. Provides an orientation to applications of microcomputer in secondary classrooms. A knowledge of BASIC programming is recommended.

446 MICROCOMPUTER LITERACY FOR SECONDARY TEACHERS
2 credits (30 clinical hours)
Prerequisites: 210 and senior status. Provides an orientation to applications of microcomputer in secondary classrooms. Knowledge of BASIC programming is recommended.

455 CAREER OPTIONS IN SECONDARY EDUCATION
1 credit (6 clinical hours, 2 field hours)
Prerequisites: 210 and senior status. Helps prospective teacher prepare for searching for employment in secondary education and to iden alternative careers for which an education degree would be a suitable background.

476/576 VOCATIONAL COOPERATIVE OFFICE EDUCATION
2 credits
Principles of program construction, organization, implementation, evaluation, improvement and development of program guides in cooperative office education.

477/577 INTENSIVE VOCATIONAL OFFICE EDUCATION
2 credits
Principles of program construction, organization, implementation, evaluation and development of program guides in cooperative office education.

480 SPECIAL TOPICS: SECONDARY EDUCATION
1-4 credits
Prerequisite: permission of instructor. Group study of special topics of current, contemporary concern in professional education.

485 CLASSROOM DYNAMICS
2 credits (10 clinical hours, 15 field hours)
Corequisite: 495. Study of issues and behavior patterns pertinent to successful teacher-student human relations and classroom management technique.

480, 1.2, 140, 1.2, 2 WORKSHOP
1-3 credits (each)
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

494/545 EDUCATIONAL INSTITUTES
1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

495 STUDENT TEACHING
4-6 credits (10 clinical hours)
Prerequisites: 311 or equivalent and permission of advisor. Directed teaching under supervision of cooperating teacher and University supervisor.

497 INDEPENDENT STUDY
1-3 credits
Prerequisites: permission of advisor and supervisor of independent study. Area of study determined by student's needs.

Graduate Courses

619 SECONDARY SCHOOL CURRICULUM AND INSTRUCTION
2 credits
Application of findings of recent research to curriculum planning and procedures in teaching.
630 ADVANCED INSTRUCTIONAL TECHNIQUES IN BOOKKEEPING — ACCOUNTING AND BASIC BUSINESS SUBJECTS
Intensive examination of teaching-learning strategies for improvement of instruction. Emphasis on instructional methods, programme objectives and evaluation to ensure maximum student competency in subject knowledge and skill.

632 ADVANCED INSTRUCTIONAL TECHNIQUES IN TYPWRITING AND TYPWRITING-RELATED SUBJECTS
Intensive examination of teaching-learning strategies for improvement of instruction. Emphasis on teacher coordination of methods, programme objectives and evaluation to ensure maximum student competency in subject knowledge and skill.

695 FIELD EXPERIENCE: MASTER'S (May be repeated for a total of six credits)
Prerequisites: permission of adviser and supervisor of field experience. On-the-job experience related to student's program of study.

697 INDEPENDENT STUDY (May be repeated for a total of six credits)
Prerequisites: permission of adviser and supervisor of independent study. Area of study determined by student's needs.

699 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 secondary education.

699 ThESIS RESEARCH
Prerequisites: permission of adviser. In-depth study of 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
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 (May be repeated)
Intensive examination of a particular area of secondary education.

781 RESIDENCY SEMINAR
(Must be repeated)
One-hour weekly meeting for secondary education doctoral student in residence.

782 RESIDENCY SEMINAR
(Must be repeated)
One-hour weekly meeting for secondary education doctoral student in residence.

895 FIELD EXPERIENCE: DOCTORAL (May be repeated for a total of six 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 (May be repeated for a total of six credits)
Prerequisites: permission of adviser and director of independent study. Area of study determined by student's needs.

898 RESEARCH PROJECT IN SPECIAL AREAS
Prerequisite: permission of adviser. Critical and in-depth study of specific problem in secondary education.

899 DISSERTATION
Prerequisite: permission of adviser. Specific research problem that requires student to apply research skills and techniques pertinent to problem being studied.

5400: TECHNICAL AND VOCATIONAL EDUCATION

503 TECHNICAL EDUCATION PRACTICUM SEMINAR
Corequisite: 495.

405/406 VOCATIONAL EDUCATION FOR YOUTH AND ADULTS
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
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
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
Selected topics in instructional techniques appropriate to post-secondary technical education. Emphasis on instructional methods, techniques in classroom, laboratory, including lectures, measurements.

430/530 COURSE CONSTRUCTION IN TECHNICAL EDUCATION
Prerequisites: permission of adviser and director of independent study. Area of study determined by student's need.

440 LIFE-SPAN AND COMMUNITY EDUCATION
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
Prerequisites: permission of instructor. Corequisite: 495. Designed for a person practicing in fields of gerontology, providing 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
Prerequisites: senior standing or permission of instructor. Concept development in occupational home economics. Job training, program development, operational procedures, skill and knowledge identification, training profiles, job description and analysis, individualized study guides, on-the-job training.

480 SPECIAL TOPICS: VOCATIONAL EDUCATION (May be repeated with change in topic)
Prerequisites: permission of instructor. Corequisite: 495. Special topics of critical, contemporary concern in professional education.

481 SPECIAL TOPICS: TECHNICAL EDUCATION (May be repeated with change in topic)
Prerequisites: permission of instructor. Corequisite: 495. Special topics of critical, contemporary concern in professional education.

490, 1,2, 590, 1,2 WORKSHOP (1-3 credits each)
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curricular units.

494 SPECIAL EDUCATIONAL INSTITUTES Special studies designed as in-service upgrading programs, frequently provided with the support of national foundations.

495 TECHNICAL EDUCATION PRACTICUM
Prerequisites: 410, 421, 430 or equivalent and permission of instructor. Corequisite: 495. Directed teaching under supervision of directing teacher and University supervisor.

497 INDEPENDENT STUDY
Prerequisites: permission of adviser and supervisor of independent study. Area of study determined by student's need.

Graduate Courses

610 COMMUNICATION WITH BUSINESS AND INDUSTRY
Techniques of establishing better communications between education and business and industry. Emphasis on the advisory committee, coordination and function, and working with local professional associations in the community.

661 CURRENT ISSUES IN HIGHER EDUCATION
Examination of current problems and issues in institutions of higher education; adult education, research institutions, community colleges, proprietary schools, undergraduate, graduate and professional education.

690 INTERNSHIP: TEACHING VOCATIONAL EDUCATION

691 INTERNSHIP: TEACHING TECHNICAL EDUCATION

692 INTERNSHIP: POST-SECONDARY EDUCATION
Teaching under supervision from the University and the educational institution. Includes a terminal examination each week.

695 FIELD EXPERIENCE: MASTER'S
Prerequisites: permission of adviser and supervisor of field experience. On-the-job experience related to student's program of study.
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 SCHOOL CHILDREN 2 credits
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 rules and techniques of 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 development of 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.

193 METHODS OF TEACHING PHYSICAL EDUCATION 3 credits
Investigation and application of various methods for teaching elementary and secondary physical education. Participation of lesson and unit plans, observations made in schools. Two lectures and one laboratory per week.

194 SPORTS OFFICIATING 2 credits
Knowledge of rules for interscholastic sports 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
Prerequisites: 3100 206. 207. Application of principles of anatomy to movement of human body.

202 PHYSIOLOGY OF EXERCISE 3 credits
Prerequisites: 3100 206, 207. 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 gives 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 and movement activities.

245 INSTRUCTIONAL TECHNIQUES IN ELEMENTARY PHYSICAL EDUCATION 2 credits
Prerequisites 140, 141, 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, 141, and at least one credit of 101 through 120. Supervised teaching of secondary physical education activities to peers. 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 RHYTHMS: ELEMENTARY GRADES 2 credits (20 clinical 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 hour 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
Dissection, prevention, immediate care and rehabilitation of common athletic injuries. Practical application of wrapping and taping procedures for injury prevention and post-injury support.

345 ADAPTED PHYSICAL EDUCATION 2 credits
Prerequisites: 3100 206, 207. Current theories and practices relating to teaching physically handicapped children emphasis given to underlying philosophy, 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 concepts, curriculum, patterns and equipment.

351 ORGANIZATION AND ADMINISTRATION OF INTRAMURALS AND ATHLETICS 3 credits
Organizational patterns unique to conduct of intramurals, sport clubs and interscholastic athletics. Includes considerations of game design, supplies and equipment and administration. Two hours lecture, two hours laboratory.
395 FIELD EXPERIENCE: 1-3 credits
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.

403 STUDENT TEACHING SEMINAR: 1 credit
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.

439 SENIOR HONORS PROJECT: PHYSICAL EDUCATION: 1-6 credits
Prerequisite: Senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

436/536 ADAPTED PHYSICAL EDUCATION TASKS FOR THE LEARNING DISABLED CHILD: 2 credits
Teaching methods and materials necessary to structure developmental tasks for learning disabled child. Designed for a person preparing to teach elementary school physical education and special education.

441/541 ADVANCED ATHLETIC INJURY MANAGEMENT: 4 credits (30 clinical hours)
Prerequisites: 310/2100, 237, suggested sequence: 5550.201, 207, 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.

442/542 THERAPEUTIC MODALITIES AND EQUIPMENT IN SPORTS MEDICINE: 3 credits (30 clinical hours)
Purpose is to develop techniques and skills among sports medicine personnel in the selection and implementation of therapeutic modalities and the equipment used in the rehabilitation of injuries to athletes.

460 PRACTICUM IN PHYSICAL EDUCATION: 3-6 credits
Prerequisites: Senior standing and permission of adviser. Practical work experience with certified personnel in a discipline or profession with tutorial direction. The experience will be a cooperative effort of the student's adviser and the student and agency personnel directly involved with the practicum.

475 SEMINAR IN HEALTH AND PHYSICAL EDUCATION: 3 credits (25 clinical hours)
Provide the opportunity to develop mastery of problem-solving and presentation methods in health and physical education with experiential learning.

480 SPECIAL TOPICS: PHYSICAL EDUCATION: 1-4 credits
Prerequisite: Permission of instructor. Group study of special topics of critical contemporary concern in professional education.

490, 492, 590, 592 WORKSHOP: 1-3 credits each
Practical, intensive and concentrated involvement with current curricular practices in areas related to physical education.

494/594 EDUCATIONAL INSTITUTIONS AND FOUNDATIONS: 1-4 credits
Practical experience with current research or curricular practices involving expert resource persons in physical education and usually financed by private or public funding.

495 STUDENT TEACHING: 4-8 credits
Prerequisite: Senior status, all majors courses completed, 2.50 grade point average in major. Supervised teaching experience in a public school for 15 weeks.

497 INDEPENDENT STUDY: 1-2 credits
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.

Graduate Courses

601 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, ATHLETICS AND RECREATION: 3 credits
Techniques of organization, administration and evaluation of health, physical education and recreation programs. Administrative policies of athletic programs at elementary, secondary and collegiate levels.

603 CURRICULUM PLANNING IN HEALTH AND PHYSICAL EDUCATION: 2 credits
Analysis of objectives, procedures and trends in curricula and principles and procedures for developing sound programs.

605 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE: 2 credits
Functions of body systems and physiological effects of exercise. Laboratory experiences, lectures, discussions.

606 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION: 3 credits
Critical analysis of evaluating procedures and discussion and study of measurement and evaluation in terms of program needs.

608 SUPERVISION OF PHYSICAL EDUCATION: 2 credits
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.

609 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY: 3 credits
Analysis of factors influencing motivation of motor performance with emphasis on competitive, audience effects, aggression.

680 SPECIAL TOPICS IN HEALTH AND PHYSICAL EDUCATION: 2-4 credits
May be repeated. Prerequisite: Permission of instructor. Group study of special topics in health and physical education and sports medicine.

695 FIELD EXPERIENCE: MASTER'S: 1-6 credits
Prerequisite: permission of adviser. Participation in a work experience related to physical education. The experience may not be part of current position. Documentation of the project required.

697 INDEPENDENT STUDY: 1-3 credits
Prerequisite: permission of adviser. In-depth analysis of current practices or problems related to physical education. Documentation of the study required.

698 MASTER'S PROJECT: 2-4 credits
Prerequisite: permission of adviser. Master's project and study of a research problem in education. The study may be repeated. The project must be directly related to the problems encountered in a master's program.

699 THESIS RESEARCH: 4-6 credits
Prerequisite: permission of adviser. In-depth research investigation. Student must be able to demonstrate necessary competence to deal with a research problem in physical education.

OUTDOOR EDUCATION 5560:

430 SENIOR HONORS PROJECT: OUTDOOR EDUCATION: 1-6 credits
Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

450/550 APPLICATION OF OUTDOOR EDUCATION TO THE SCHOOL CURRICULUM: 4 credits
Provides knowledge skills and techniques useful in application of outdoor education to school curriculum.

452/552 METHODS, MATERIALS AND RESOURCES FOR TEACHING OUTDOOR EDUCATION: 3 credits
Methodologies unique to outdoor education incorporating a multisensory approach to learning. Instructional materials and resources which permit expansion of curriculum beyond the school setting.

454 RESIDENT OUTDOOR EDUCATION: 2 credits
Emphasizes skills, program considerations and organizational techniques unique to an extended, overnight, resident outdoor education program. Location for at least five days and four nights.

456/556 OUTDOOR PURSUITS: 4 credits
Investigation and participation in practical experiences in outdoor pursuits.

460 OUTDOOR EDUCATION PRACTICUM: 2 credits
Prerequisites: 452.54.454. Clously supervised practical experience in conjunction with regularly scheduled classroom meetings. Laboratory experience consists of active participation with an established outdoor education program.

490/590 WORKSHOP: OUTDOOR EDUCATION: 1-3 credits
Practical application of contemporary ideas, methodologies, knowledge relevant to outdoor education. Emphasis participant involvement in educational practices, analyzing the natural environment.

494/594 EDUCATIONAL INSTITUTES: OUTDOOR EDUCATION: 1-4 credits
Practical experience with current research or curricular practices involving expert resource persons in outdoor education.

497 INDEPENDENT STUDY: 1-3 credits
Prerequisites: permission of adviser and supervisor of independent study. Provides varied opportunities for a student to gain first-hand knowledge and experience with existing outdoor education programs.

Graduate Courses

600 OUTDOOR EDUCATION: RURAL INFLUENCES: 3 credits
Prerequisite: 550 or 552. Utilization of resources of rural areas as a learning environment. Content and methodology appropriate for teaching school age children in rural setting.

605 OUTDOOR EDUCATION: SPECIAL TOPICS: 2-4 credits
Prerequisite: permission of instructor. Individual study of special topics of contemporary concern in outdoor education.

690 PRACTICUM IN OUTDOOR EDUCATION: 2-4 credits
Prerequisites: 550, 552 and permission of adviser. Supervised practical experience with existing outdoor education programs. In conjunction with practical work student meets regularly with adviser.

695 FIELD EXPERIENCE: MASTER'S: 2-6 credits
Prerequisite: permission of adviser. Participation and documentation of practical professional experience related to outdoor education.
### HEALTH EDUCATION

**5570:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>PERSONAL HEALTH</td>
<td>2</td>
<td>Application of current principles and facts pertaining to healthful, effective living; Personal health problems and needs of a student.</td>
</tr>
<tr>
<td>200</td>
<td>CURRENT TOPICS IN HEALTH EDUCATION</td>
<td>3</td>
<td>To give the leader of health education the knowledge base necessary to deal factually and comfortably with selected topics in school and community health.</td>
</tr>
<tr>
<td>201</td>
<td>CONSUMER HEALTH, WEIGHT CONTROL AND EXERCISE</td>
<td>3</td>
<td>Student analyzes current consumer health problems as they relate to making decisions about the purchase and use of health products and services available in 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.</td>
</tr>
<tr>
<td>202</td>
<td>STRESS, LIFESTYLE AND YOUR HEALTH</td>
<td>2</td>
<td>Overview of the behavior associated with wellness and stress.</td>
</tr>
<tr>
<td>320</td>
<td>COMMUNITY HYGIENE</td>
<td>2</td>
<td>Study of current major public health problems; Organization and administration of critical and voluntary agencies and their role in solution of community health problems.</td>
</tr>
<tr>
<td>321</td>
<td>ORGANIZATION AND ADMINISTRATION OF SCHOOL HEALTH AND SCHOOL HEALTH SERVICES</td>
<td>4</td>
<td>Methods and techniques utilized in organization and administration of school health programs; The role of school and community personnel in detecting and managing health problems of the student. Procedures and programs designed to project and promote the health of school-age youth.</td>
</tr>
<tr>
<td>322</td>
<td>METHODS AND MATERIALS OF ELEMENTARY SCHOOL HEALTH EDUCATION</td>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td>323</td>
<td>METHODS AND MATERIALS OF SECONDARY SCHOOL HEALTH EDUCATION</td>
<td>2</td>
<td>Prerequisite: 101. Planning and organization of subject matter for secondary school health instruction will be major emphasis. Emphasis will be given to development of teaching techniques, utilization of instructional aids, and evaluation procedures in health education.</td>
</tr>
<tr>
<td>395</td>
<td>FIELD EXPERIENCE IN HEALTH EDUCATION</td>
<td>1-3</td>
<td>Prerequisite: permission of instructor. 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 professionals.</td>
</tr>
<tr>
<td>400</td>
<td>ENVIRONMENTAL ASPECTS OF HEALTH EDUCATION</td>
<td>3</td>
<td>Prerequisite: Major or minor in health education or permission. Investigates many aspects of the environment and their influence upon the quality of human life. Major emphasis will be study of man's health problems paradoxically resulting from his influence.</td>
</tr>
<tr>
<td>430</td>
<td>SENIOR HONORS PROJECT: HEALTH EDUCATION</td>
<td>1-6</td>
<td>(May be repeated for a total of six credits). Prerequisite: senior standing in junior year program and permission of student's preceptor. Carefully designed individual study demonstrating originality and sustained inquiry.</td>
</tr>
<tr>
<td>460</td>
<td>PRACTICUM IN HEALTH EDUCATION</td>
<td>2</td>
<td>Prerequisite: permission of the advisor. On-site participation in community health organizations, agencies or resources.</td>
</tr>
<tr>
<td>497</td>
<td>INDEPENDENT STUDY IN HEALTH EDUCATION</td>
<td>1-2</td>
<td>Prerequisite: permission of the advisor. Analysis of a specific topic related to a current problem in health education. May include investigative procedures: research or concentrated practical experience.</td>
</tr>
</tbody>
</table>

### GRADUATE COURSES

5600: Educational Guidance and Counseling

<table>
<thead>
<tr>
<th>Code</th>
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<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>CAREER PLANNING</td>
<td>2</td>
<td>Skills necessary to make effective educational and career decisions. Emphasis upon self-understanding, career exploration, career planning, decision making.</td>
</tr>
<tr>
<td>410</td>
<td>PERSONNEL SERVICES IN SCHOOLS</td>
<td>2</td>
<td>Prerequisite: senior standing. Introduction to background, role and function, techniques, community agencies, and issues in personnel, human resources, social work.</td>
</tr>
<tr>
<td>425</td>
<td>CAREER EDUCATION</td>
<td>2</td>
<td>Prerequisite: junior or graduate standing. Examination of current career education models and programs with emphasis on infusion of career education activities into elementary and secondary curriculum.</td>
</tr>
<tr>
<td>436</td>
<td>HELPING SKILLS FOR RESIDENT ASSISTANTS</td>
<td>2</td>
<td>(Credit or no credit). Prerequisite: open to resident assistants in University housing. Course designed to help resident personnel workers become more effective in professional role.</td>
</tr>
<tr>
<td>450</td>
<td>COUNSELING PROBLEMS RELATED TO LIFE — THREATENING ILLNESS AND DEATH</td>
<td>3</td>
<td>Prerequisite: permission. Investigation of the global issues, current research, coping behaviors and systems, and family and individual needs in regard to life-threatening situations.</td>
</tr>
<tr>
<td>480</td>
<td>SPECIAL TOPICS: EDUCATIONAL GUIDANCE AND COUNSELING</td>
<td>1-4</td>
<td>(May be repeated with a change in topic). Prerequisite: permission. Group study of special topics within the field of counseling.</td>
</tr>
<tr>
<td>4901, 4901.2 WORKSHOP</td>
<td>1-3 credits each</td>
<td>4-6</td>
<td>Special instruction designed as an-service and/or upgrading individuals on current issues and practices in counseling.</td>
</tr>
<tr>
<td>493</td>
<td>WORKSHOP</td>
<td>4-6</td>
<td>Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.</td>
</tr>
<tr>
<td>4941, 4946 COUNSELING INSTITUTE</td>
<td>1-4</td>
<td>In service programs for counselors and other helping professionals.</td>
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</tbody>
</table>

### Graduate Courses

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>SEMINAR IN COUNSELING</td>
<td>1</td>
<td>Prerequisite: counseling majors must elect 5600 prior to electing 601 and/or within the first 10 credits of 5600 coursework. Separated group experience designed to help student achieve selection of counseling as a profession.</td>
</tr>
<tr>
<td>602</td>
<td>INTRODUCTION TO COUNSELING</td>
<td>2</td>
<td>Understanding guidance and counseling principles including organization, operation and evaluation of guidance programs (designed for non-counseling majors).</td>
</tr>
<tr>
<td>610</td>
<td>COUNSELING SKILLS FOR TEACHERS</td>
<td>3</td>
<td>Prerequisite: 631 or permission. The study and practice of selected counseling techniques that can be employed by teachers in working with students, parents, and colleagues.</td>
</tr>
<tr>
<td>620</td>
<td>TOPICAL SEMINAR</td>
<td>2-4</td>
<td>Prerequisite: permission of instructor. Seminar on a topic of current interest to the professor. Staffing will be by department faculty and other professionals in counseling and related fields. A maximum of eight credits may be applied to a degree.</td>
</tr>
<tr>
<td>631</td>
<td>ELEMENTARY SCHOOL GUIDANCE</td>
<td>3</td>
<td>Introductory course: examines guidance and counseling practices.</td>
</tr>
<tr>
<td>633</td>
<td>SECONDARY SCHOOL GUIDANCE</td>
<td>3</td>
<td>Introductory course: examines guidance and counseling practices.</td>
</tr>
<tr>
<td>635</td>
<td>COMMUNITY COUNSELING</td>
<td>3</td>
<td>Introductory course: examines guidance and counseling practices.</td>
</tr>
<tr>
<td>643</td>
<td>COUNSELING: THEORY AND PHILOSOPHY</td>
<td>3</td>
<td>Examination of major counseling systems including client-centered, behaviorism and existential theories, philosophical and theoretical dimensions.</td>
</tr>
<tr>
<td>645</td>
<td>GROUP TESTING IN COUNSELING</td>
<td>2</td>
<td>Study of evaluation and measurement procedures in counseling including instrument development, selection and use of aptitude tests, inventories and rating scales.</td>
</tr>
<tr>
<td>647</td>
<td>CAREER COUNSELING: THEORY AND PRACTICE</td>
<td>2</td>
<td>Prerequisite: 631 or 633 or permission. Study of career development, career decision making, career options and current counseling program development.</td>
</tr>
<tr>
<td>649</td>
<td>COUNSELING AND PERSONNEL SERVICES IN HIGHER EDUCATION</td>
<td>3</td>
<td>Prerequisite: permission of instructor. Counseling services as related to psychological needs and problems of the college student.</td>
</tr>
<tr>
<td>651</td>
<td>TECHNIQUES OF COUNSELING</td>
<td>3</td>
<td>Prerequisite: 643. Study and practice of selected counseling techniques and skills with emphasis on structuring, listening, leading and establishing a counseling relationship.</td>
</tr>
<tr>
<td>653</td>
<td>GROUP COUNSELING</td>
<td>4</td>
<td>Prerequisite: 643 and/or 3750 and/or 7100 and/or permission. Emphasis is placed on providing the student with the knowledge and understanding of theory, research and techniques necessary for conducting group counseling sessions.</td>
</tr>
</tbody>
</table>
244 5600: Educational Guidance and Counseling

655 MARRIAGE AND FAMILY THERAPY: THEORY AND TECHNIQUES 3 credits
An overview of the theory and techniques of marital and family therapy, including exposure to the history, terminology, and contributions of significant persons in the field.

657 CONSULTANT: COUNSELING 3 credits
Prerequisites: 631, 651 or permission. Examination of consultation models with focus on process and product.

659 ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES 3 credits
A study of organizational principles and techniques used in the administration of guidance and counseling programs.

661 SEMINAR IN GUIDANCE 2 credits
Prerequisites: 645, 654, 653 and 667. Prerequisites for students majoring in guidance and counseling. This seminar is devoted to the development of comprehensive counseling programs.

662 SEMINAR IN SCHOOL COUNSELING 3 credits
Prerequisites: 633, 643, 645 and 647. Study of guidance and counseling programs in the secondary school setting.

665 SEMINAR: COUNSELING PRACTICE 3 credits
Prerequisite: 635 or permission. Study of topics of concern to a student specializing in counseling and college counseling. Topics may differ each semester according to students' needs.

667 MENTAL THERAPY 3 credits
Prerequisite: 655. In-depth study of theories and interventions which focus on the nature and quality of marital relationships.

669 SYSTEMS THEORY IN FAMILY THERAPY 3 credits
Prerequisite: 655. In-depth exploration of systems theory in family therapy. Major assumptions of systems theory will be examined and the implications for interventions will be explored.

671 COUNSELING CLINIC 1-2 credits
Prerequisite: 655. Permission. Closely supervised application and integration of diagnostic, counseling, and consultant skills in clinical setting.

675 PRACTICUM IN COUNSELING I 5 credits
Prerequisite: 655. Supervised counseling experience with individuals and small groups.

676 PRACTICUM IN COUNSELING II 2-5 credits
Prerequisite: 675. Advanced supervised counseling experience.

685 INTERNSHIP 1-4 credits
(May be repeated for a total of six credits.) Prerequisite: 676. Paid or unpaid supervised experience in counseling in a work setting. Must also take either 655 or 657 supervised internship.

695 FIELD EXPERIENCE: MASTER'S 1-10 credits
Prerequisites: permission of adviser and department head. Placement in selected setting for purpose of acquiring experiences and/or demonstrating skills related to student's counseling program.

697 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of nine credits.) Prerequisites: permission of adviser and department head. Specific area of investigation determined in accordance with student needs.

698 MASTER'S PROBLEM 2-4 credits
Prerequisites: 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 educational guidance and counseling.

699 THESIS RESEARCH 4-6 credits
Prerequisites: permission of adviser and department head. In-depth study and analysis of counseling problem.

702 ADVANCED COUNSELING PRACTICUM 4 credits
(May be repeated for a total of 12 credits.) Prerequisite: 655. Permission. Examination of theories of individual and group counseling along with supervised counseling experience in selected settings.

707 a SUPERVISION IN COUNSELING PSYCHOLOGY I, II 3 credits each
A practicum of graduate student in counseling.

710 THEORIES OF COUNSELING AND PSYCHOTHERAPY 4 credits
Prerequisite: 3750-630. Provides the knowledge and understanding necessary for the application of counseling and psychotherapeutic techniques. Establishes the basic commonalities and differences among therapeutic approaches. Covers professional aspects of counseling and psychotherapeutic practice.

711 VOCATIONAL BEHAVIORAL 4 credits
Prerequisite: 3750-630 or departmental permission. Research and theory on vocational behavior and counseling. Topics include major theories on vocational behavior, empirical research on these theories, and applied work in vocational counseling and applied research.

712 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.

713 ADVANCED SEMINAR IN COUNSELING PSYCHOLOGY 4 credits
Prerequisite: doctoral residency or permission. Examination of major issues in the field such as the counselor as a professional and as a person, and issues, problems and trends in counseling.

714 OBJECTIVE PERSONALITY EVALUATION 1 credit
Prerequisites: completion of 3750-400/500, 3750-420/100, and 3750-750 or permission. Study of the development, administration, and interpretation of objective instruments for personality assessment (MMPI, CPI, WBT, and selected additional inventories).

715 RESEARCH DESIGN IN COUNSELING I 3 credits
Prerequisite: doctoral residency or permission. Study of research designs, evaluation processes, and review of current research.

716 RESEARCH DESIGN IN COUNSELING II 3 credits
Prerequisite: 704. Computer analysis of data related to counseling problem. Development of research proposal.

720 TOPICAL SEMINAR: GUIDANCE AND COUNSELING 1-3 credits
Prerequisite: permission of instructor. Topics are determined. A study of a research problem in counseling. May be repeated for a total of 12 credits.

796 COUNSELING PSYCHOLOGY PRACTICUM 4 credits
(May be repeated for a total of 12 credits.) Advanced counseling psychology students will have supervised training with clients in a variety of settings and will focus on supervised development of specialized theoretical applications.

797 INDEPENDENT READING AND/OR RESEARCH IN COUNSELING PSYCHOLOGY 1-5 credits
(May be repeated.) Prerequisite: permission of instructor. Independent reading and research in counseling psychology under the direction of a faculty member.

895 FIELD EXPERIENCE: DOCTORAL 1-6 credits
(May be repeated.) Prerequisite: doctoral candidate status. Placement in selected setting for purpose of acquiring experiences and/or developing skills related to student's doctoral program.

897 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of nine credits.) Prerequisites: permission of adviser and department head. Specific area of investigation determined in accordance with student needs.

898 RESEARCH PROJECTS IN SPECIAL AREAS 1-2 credits
(May be repeated.) Prerequisites: permission of adviser and department head. Study, analysis and reporting of counseling problem.

899 DISSERTATION 0-20 credits
Prerequisites: permission of major supervisor and college. Doctoral study and analysis of counseling problem.

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SPECIAL EDUCATION 5610:

201 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/LEARNING DISABILITIES 1 credit (credit/noncredit)
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 1 credit (credit/noncredit)
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/TRAINABLE MENTALLY RETARDED 1 credit (credit/noncredit)
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.

395 FIELD EXPERIENCE: SPECIAL EDUCATION 1-3 credits
Prerequisite: upper-college standing. Supervised work with younger. individually and in groups in school and/or community settings.

403 STUDENT TEACHING SEMINAR: SPECIAL EDUCATION 1 credit
Corequisites: 495. Support seminar for student teaching experience.

430 SENIOR HONORS PROJECT: SPECIAL EDUCATION 1-6 credits
(May be repeated for a total of six credits.) Prerequisites: senior standing in Honors Program and permission of student's major adviser. Carefully defined individual study demonstrating originality and sustained inquiry.
440/540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS
Prerequisites: 3750/380 and 5120/520. Etology, diagnosis, classification, developmental characteristics of the etiological individual. 4 credits

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. 4 credits

443/543 DEVELOPMENTAL CHARACTERISTICS OF LEARNING DISABLED INDIVIDUALS
Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of learning disabled individuals. 3 credits

444/544 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS
Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of intellectually gifted individuals. 3 credits

445/545 DEVELOPMENTAL CHARACTERISTICS OF ORTHOPEDICALLY HANDICAPPED INDIVIDUALS
Prerequisite: 441/541. Etology, diagnosis, classification, developmental characteristics of the orthopedically handicapped. 3 credits

446/546 DEVELOPMENTAL CHARACTERISTICS OF BEHAVIORALLY DISORDERED INDIVIDUALS
Prerequisite: 443/543. Etology, diagnosis, classification, developmental characteristics of the socially and emotionally maladjusted. 3 credits

450/550 EDUCATIONAL ADJUSTMENT FOR PRESCHOOL AND PRIMARY-LEVEL EXCEPTIONAL INDIVIDUALS
Prerequisites: Plans A and B: 441/541 and 443/543. Plan C: 441/541 and 443/543. Certification minors: 443/543 and characteristic course in certification focus area. Study of diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of preschool and primary-level exceptional children. 3 credits

451/551 EDUCATIONAL ADJUSTMENT FOR INTERMEDIATE-LEVEL EXCEPTIONAL CHILDREN
Prerequisite: 450/550, except for secondary certification minors. Diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of intermediate-level exceptional children. 3 credits

452/552 EDUCATIONAL ADJUSTMENT FOR SECONDARY-LEVEL EXCEPTIONAL CHILDREN
Prerequisite: 451/551. Study of diagnostic prescriptive service delivery systems designed to accommodate the developmental patterns of secondary-level exceptional children. 3 credits

453/553 RECREATIONAL PROGRAMS FOR EXCEPTIONAL INDIVIDUALS
Study experience which examines crafts and outdoor recreational programming for exceptional individuals in a field setting. 1 credit

454/554 EDUCATIONAL ADJUSTMENT FOR MODERATE, SEVERE AND PROFOUND MENTALLY RETARDED INDIVIDUALS
Prerequisite: 441/541. Study of programs, services and training techniques designed to accommodate developmental patterns of moderate, severe and profoundly mentally retarded individuals. 3 credits

455/555 EDUCATIONAL ADJUSTMENT FOR INTELLECTUALLY GIFTED INDIVIDUALS
Prerequisite: 444/544. Study of programs, services and educational experiences designed to accommodate developmental patterns of intellectually gifted individuals. 3 credits

456/556 CLASSROOM BEHAVIOR MANAGEMENT FOR EXCEPTIONAL INDIVIDUALS
Prerequisite: 451/551 or equivalent. Review, development of behavior management principles, application models for the exceptional. 3 credits

457/557 CLINICAL TEACHING PRACTICUM: CHILDREN WITH LEARNING PROBLEMS
(May be repeated for a total of six credits) Prerequisite: 450/550 or 451/551 or 452/552. Supervised clinical teaching experience with individuals or small groups of problem learners. Designed to facilitate and give practice in diagnostic and remedial teaching techniques and pupil-personnel resources. 3 credits

458/558 INTERDISCIPLINARY PROGRAMMING FOR MSPR INDIVIDUALS
Prerequisite: permission of instructor. A study of the programs, interdisciplinary services, educational techniques designed to accommodate the needs of MSPR multiply handicapped individuals. 3 credits

459/559 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION
(May be repeated for a total of four credits) Topical study with a varied array of disc primary input. Staffing will be invited members of allied and contributing professions active in management of exceptional children. 1-2 credits

460/560 WORKING WITH PARENTS OF MSPR INDIVIDUALS
Prerequisite: permission of instructor. Provides student with the competencies to facilitate working with parents to improve school-home adjustment of MSPR individuals. 3 credits

461/561 TECHNOLOGY AND MATERIALS APPLICATION IN SPECIAL EDUCATION
Prerequisite: 5100/610 or permission of instructor. Microcomputer operation and programming in special education operation and use of unique audiovisual tools for handicapped and/or adaptive use of traditional equipment. Overview of curriculum materials designed for exceptional learners. 3 credits

462/562 EDUCATING EXCEPTIONAL CHILDREN IN THE REGULAR CLASSROOM
For non-special education majors, teaching and administrative personnel in the field. This course focuses on the skills and competencies needed by (regular educators) in working successfully with mainstreamed exceptional children. 3 credits

490,1,2,3/590,1,2,3 WORKSHOP
(1-3 credits each) May be repeated for a total of four credits. Designed to explore special topics in in-service or pre-service education on a needs basis. 4 credits

494/594 EDUCATION INSTITUTES: SPECIAL EDUCATION
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations. 1-4 credits

495 STUDENT TEACHING
Corerequisite: 403. Student teaching with educable mentally retarded, learning disabled, orthopedically handicapped, or speech handicapped children under supervision of the directing therapist and supervisor. 6-8 credits

497 INDEPENDENT STUDY: SPECIAL EDUCATION
Prerequisite: permission of advisor and supervisor of the independent study. Specific area of investigation determined in accordance with student's needs. 1-3 credits

Graduate Courses

601 SEMINAR: SPECIAL EDUCATION CURRICULUM PLANNING
Prerequisite: Certification in an area of special education. Study of curriculum planning practices unique to special education classes and services. Appropriate curriculum objectives for selected areas of instruction as well as effective organizational programs examined. 3 credits

602 SUPERVISION OF INSTRUCTION
Prerequisite: Certification in an area of special education. Study of administration and supervisory practices unique to special education classes and services. 3 credits

603 ASSESSMENT AND EDUCATIONAL PROGRAMMING
Prerequisite: Certification in an area of special education or permission of instructor. Overviews psychodiagnostic approach in assessment of handicapped individuals and examines methods for designing individuals programming based on formal and informal assessment. Program management also examined. 3 credits

604 EDUCATION AND MANAGEMENT STRATEGIES FOR PARENTS OF EXCEPTIONAL INDIVIDUALS
Prerequisite: Certification in an area of special education and/or permission of instructor. Methods of working with parents to facilitate effective programs for handicapped individuals. Strategies for providing support and education services for parents examined. 3 credits

605 PROGRAM DEVELOPMENT AND SERVICE DELIVERY SYSTEMS
Prerequisite: Certification in special education and/or permission of instructor. Provides strategies for community analysis, case findings, funding sources and practices, and development of program models and service delivery systems to serve the handicapped. 3 credits

606 RESEARCH DESIGN AND PRACTICE IN SPECIAL EDUCATION
Prerequisite: 5000/6000. An in-depth examination of qualitative research, single subject design, hypothesis generation and methodological practices unique to individual research. Prerequisite: permission of instructor. 3 credits

612 SEMINAR: ISSUES IN SPECIAL EDUCATION
Prerequisites: 25 hours of graduate study in special education and/or permission of the instructor. A culminating seminar for graduate students in special education to discuss, examine and reflect upon current trends, issues and practices. 3 credits

614 RESEARCH PROJECT IN SPECIAL AREA (SCHOLARLY PAPER)
Prerequisite: Graduate standing in special education. An in-depth study of an identified topic in special education, culminating in a scholarly paper. 3 credits

615 FIELD EXPERIENCE: MASTER'S
(May be repeated for a total of eight credits) Designed to provide on-the-job experience in a special education program on an individual basis. 1-4 credits

617 INDEPENDENT STUDY
(May be repeated for a total of nine 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 special education. 1-3 credits

619 MASTER'S PROBLEM
Prerequisite: permission of advisor. In-depth study of a research problem in education. 2-4 credits

620 THESIS RESEARCH
Through study and analysis in depth of an educational problem, field projects in special areas: synthesis of existing knowledge in relationship to a specific topic. 4-6 credits
Graduate Courses

600 SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST 3 credits
Prerequisite: permission of instructor. Seminar on role and function of school psychologist.
The course, tailored to meet individual needs of trainees, is a consideration of professional
standards of school psychology practice.

601 COGNITIVE FUNCTION MODELS FOR PRESCRIPTIVE EDUCATIONAL PLANNING 3 credits
Prerequisite: permission of instructor. Consideration of cognitive development theories and
their application for educational programming.

602 BEHAVIORAL ASSESSMENT 3 credits
Prerequisite: permission of instructor. Overview of behavioral theory and its application
focusing upon the role of the school psychologist as an agent of behavior change.

603 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 in 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.

630,1 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/Spring 3 credits each
Prerequisite: permission of instructor. Full-time paid work assignment under supervision of a
qualified school psychologist for an academic year structure according to provisions of
State Department of Education. Additional readings required.

640 FIELD SEMINAR I: ISSUES AND ASSESSMENTS (FALL) 2 credits
641 FIELD SEMINAR II: CLASSROOM ENVIROMENT (SPRING) 2 credits
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.

604 RESEARCH PROJECT IN SPECIAL AREAS 1-3 credits
Prerequisite: permission of advisor. Study, analysis and reporting of school psychology
problem.

695 FIELD EXPERIENCE: MASTER’S 1-3 credits
Prerequisite: permission of instructor. Practical school psychology-related experience in
school setting.

696 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 1-3 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 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 4-6 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 back-
grounds. Through use of multimedia source materials trainees gain knowledge of background
and culture of culturally different learners, determine role of teacher, explore techniques of
discipline and classroom management, survey motivational and instructional techniques and
examine, prepare and adapt various instructional materials for individual, small group
and large group instruction.

484/584 PRINCIPLES OF BILINGUAL/MULTICULTURAL EDUCATION 2 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 lan-
guage, culture stressed.

486/586 TEACHING MATHEMATICS, SOCIAL STUDIES AND SCIENCE TO BILINGUAL STUDENTS 3 credits
Prerequisite: elementary education majors. 330, 333, 338, for secondary education
majors. 330, 333, 338. (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
learning techniques. Utilization of community resources.

Graduate Course

686 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 visitsations to agencies serving low-income families
required.

EDUCATIONAL ADMINISTRATION

5700:

460 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.

460/1,2,3/590,1,2,3 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

601 PRINCIPLES OF EDUCATIONAL ADMINISTRATION 3 credits
Theories and practices in administering schools and school systems, with emphasis on
administrative process, common problems, career opportunities, getting the first job.

602 SCHOOL BUSINESS ADMINISTRATION 2 credits
School business administration as part of total administrative pattern and as creative plan-
ning process directed to facilitate instruction.

603 ADMINISTRATION OF EDUCATIONAL PERSONNEL 2 credits
Guidelines, techniques, and procedures for helping administrator 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 integration of schools to inner and external publics.

605 EVALUATION IN EDUCATIONAL ORGANIZATIONS 3 credits
Theories and practices involved in processes of planning, obtaining and providing information for decision making.

607 SCHOOL LAW 2 credits
Legal principles underlying education in the United States as reflected in statutory provisions, court decisions, and administrative orders. Ohio school statutes covered 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.

610 PRINCIPLES OF EDUCATIONAL SUPERVISION 3 credits
Study of principles, organizations and techniques of supervision with view to improvement or innovation.

611 SUPERVISION OF STUDENT TEACHING 2 credits
Primarily 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. An 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 of organization and administration of secondary school.

631 ELEMENTARY SCHOOL ADMINISTRATION 3 credits
Prerequisite: graduate standing. Examination of the elementary school principal as it relates to the development and maintenance of a school climate most conducive to learning.

644 FIELD EXPERIENCE I: ELEMENTARY ADMINISTRATION 2 credits
Experiences supervised, on-the-job administration experience in administrative tasks areas of staff personnel, pupil personnel, curriculum, community relations, finance and physical facilities.

646 FIELD EXPERIENCE I: SECONDARY ADMINISTRATION 2 credits
Prerequisite: graduate standing. Introduction to the preparatory program for secondary school principals. Students observe a practicing principal at a public school setting.

649 FIELD EXPERIENCE II: ELEMENTARY ADMINISTRATION 3 credits
Prerequisites: 684 and permission of instructor. Extention of the preparatory program for elementary school principal included. In which students perform administrative tasks supervised by experienced principals.

650 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. Students participate in selected task areas which reflect supervisory responsibilities.

650 FIELD EXPERIENCE III: SECONDARY ADMINISTRATION 3 credits
Prerequisite: completion of present enrollment in all course work except research problem. Designed for the secondary school principal. Provides student with on-the-job experience in secondary school administration.

697 INDEPENDENT STUDY (May be repeated for a total of six credits) 1.5 credits
Prerequisite: permission of advisor. Independent study of a research problem in education for a student in the major field of study.

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 educational administration.

699 THESIS RESEARCH 1-6 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 educational administration.

700 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.

701 DECISION MAKING IN EDUCATIONAL ADMINISTRATION 3 credits
Theories underlying process of decision making in philosophy, sociology, economics and politics of education. Alternative decision making and their respective consequences. Fundamentals of PPSB and other decision-making aids.

702 COLLECTIVE BARGAINING AND EMPLOYEE RELATIONS 2 credits
An overview of collective bargaining in education and the basic knowledge of the mechanics and issues involved in the bargaining process and contract administration.

703 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.

704 TOPICAL SEMINAR: EDUCATIONAL ADMINISTRATION 1.5 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.

705 SEMINAR IN SCHOOL ADMINISTRATION 3 credits
Prerequisite: 601. Focus on recent research in administration and educational administration theory.

706 SEMINAR: PROBLEMS OF THE SCHOOL ADMINISTRATOR 2 credits
Current administrative problems in educational institutions are perceived by student and practicing school executives. Emphasis on problem management, administration in solution, field visits or resource persons invited to classroom.

707 ORGANIZATIONAL COMMUNICATIONS AND THE SCHOOL ADMINISTRATOR 3 credits
Fundamentals in interpersonal communications. Application of these principles to roles of educational administrators. Skill development in written and spoken communications with attention to nonverbal communications, simulation and role playing.

708 THE EDUCATIONAL ADMINISTRATOR AND PLANNED CHANGE 2 credits
Prerequisites: 601 and 704. Relationship between technological and social change and planned change in education. Theories, principles, and mechanisms for planned change.

709 THEORIES OF EDUCATIONAL SUPERVISION 3 credits
Prerequisites: 601, 602, or 603-621. Examination and examination of various theories of supervision; multiple models which implement existing theories.

710 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 plurality within population). Stress on administrator’s human relations skills.

711 POLICIES, POWER AND THE SCHOOL ADMINISTRATOR 3 credits
Prerequisite: permission of instructor. Concepts of formal and informal community power structures and influential people on educational planning and decision making. Administrator as an influence on the power structure for educational benefit.

712 PRACTICUM: COMPETING AND COMPLEMENTARY SOCIAL SYSTEMS 3 credits
Designed to bring educational administrators into direct contact with individuals responsible for other community service delivery systems, e.g., city government, federal and state agencies providing social services for children and youth.

713 SEMINAR IN SCHOOL PLANNING 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.

714 FIELD EXPERIENCE IN SCHOOL PLANNING 2 credits
Prerequisite: permission of instructor. Field experience. Emphasis on analysis of school environments, evaluation of school plans and financial aspects of plant planning.

715 INDEPENDENT STUDY (May be repeated for a total of six credits) 1.5 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 secondary education.

716 RESEARCH PROJECT IN SPECIAL AREAS 1-2 credits
Prerequisite: permission of advisor. Specified research problem that requires student to apply research skills and techniques to be problem being studied.

717 DIPLOMA IN GENERAL EDUCATIONAL ADMINISTRATION 6 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 secondary education.

718 DIPLOMA IN CURRICULUM ADMINISTRATION 6 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 secondary education.

SPECIAL EDUCATIONAL PROGRAMS

5800:

490/530 WORKSHOP IN ECONOMIC EDUCATION 3 credits
491/531 WORKSHOP IN SOCIAL STUDIES 3 credits
Individual work under staff guidance on curriculum problems. Utilization of community in sources; planning of curriculum units.
EDUCATIONAL TECHNOLOGY

5850:

100 INTRODUCTION: PUPIL PERSONNEL WORK 2 credits
Purposes, needs, scope, character of pupil personnel services.

201 INFORMATIONAL SERVICES IN GUIDANCE AND SPECIAL EDUCATION 2 credits
Emphasis on organization and status of informational services as related to activities of educational technologist.

204 HUMAN RELATIONS IN EDUCATION 3 credits
Study of individual and group relationships in educational setting including development of basic interpersonal skills.

207 MECHANICS OF STUDENT APPRAISAL 3 credits
Introduction to group appraisal with major emphasis on assisting certified personnel in group test administration, scoring, organizing and recording test results.

213 ORIENTATION OF THE EDUCATIONAL TECHNICIANS TO THE SECONDARY SCHOOL 2 credits
Designed to provide student preparing for role of educational technician with framework for understanding secondary education.

260 SPECIAL EDUCATION TECHNOLOGY 2 credits
Survey of selected procedures and materials employed in classrooms especially designed and operated for exceptional children.

295 EDUCATION TECHNICIAN FIELD EXPERIENCE 5 credits
(May be repeated once)
Supervised field experience in school setting designed for educational technician enrollees only.

HIGHER EDUCATION ADMINISTRATION

5900:

700 INTRODUCTORY ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION 1 credit
Introductory examination of issues, trends, topics and activities in institutions of higher education.

715 SEMINAR IN HIGHER EDUCATION: ADMINISTRATION IN HIGHER EDUCATION 3 credits
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.

725 SEMINAR IN HIGHER EDUCATION: STUDENT SERVICES 3 credits
Prerequisite: permission. Topics of concern to student specialists in student personnel services in higher education. Topics may differ each semester depending upon specific student needs and interests.

730 HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING 2 credits
Study of strategies for implementing and monitoring the curricular change process. Broad aspects of higher education program planning shall be examined.

735 INSTRUCTIONAL STRATEGIES AND TECHNIQUES FOR THE COLLEGE INSTRUCTOR 3 credits
Selected topics in instructional theory, techniques and strategies which are appropriate to instructional planning and development of college-level courses. Emphasis is placed on the instructional process and student achievement with total instructional delivery system.

745 INDEPENDENT STUDY IN HIGHER EDUCATION 1-3 credits
May be repeated for a total of six credits. Prerequisite: permission. Selected area of independent investigation in an area of higher education as determined by advisor and student in relation to student's academic needs and career goals.

800 ADVANCED ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION 1 credit
(May be repeated)
Prerequisite: permission. Examination of selected perspectives and topics which pose concerns to participating students.

801 INTERNSHIP IN HIGHER EDUCATION 1-3 credits
(May be repeated for a total of six credits)
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.

802 INTERNSHIP IN HIGHER EDUCATION SEMINAR 1 credit
(May be repeated for a total of three credits)
ACCOUNTING

6200:

201 ACCOUNTING I  4 credits

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: 250, 202 and grades of not less than "C" in 201, 202. Introduction to product costing emphasizing analysis of materials, labor and factory overhead. Cost control achievement through use of flexible budgets, standard costs and variance analysis.

317 INTERMEDIATE ACCOUNTING I  4 credits
Prerequisites: grades of not less than "C" in 201, 202. Accounting theory and problems of statement preparation: 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, pension, 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 NON-ACCOUNTANT  3 credits
Prerequisite: 301. Study of federal, state and local taxation for non-accountants. Basic concepts of income taxation, property taxation, sales and use, employment, excise, inheritance and gift taxes.

420/520 ADVANCED ACCOUNTING  3 credits
Prerequisite: 318. Study of current developments in accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, non-profit entities and consolidated statements.

425 CURRENT DEVELOPMENTS IN ACCOUNTING  3 credits
Prerequisite: 301. Study of current developments in accounting theory.

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 coverage.

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.
637 ADVANCED ACCOUNTING THEORY
Prerequisite: 318. Examination of accounting concepts and standards through critical analysis of articles on current trends in profession. Discussion and outside research stressed. 3 credits

640 ADVANCED AUDITING
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. 3 credits

641 TAXATION OF PARTNERSHIPS AND S CORPORATIONS
Prerequisite: 431. Examines extensively provisions of subchapters K and S of Internal Revenue Code and uses of partnerships and subchapter S corporations for tax planning. 3 credits

642 CORPORATE TAXATION II
Prerequisite: 631. Continuation of 631. Concludes study of subchapter C of Internal Revenue Code with major focus on corporate reorganization. 3 credits

643 TAX ACCOUNTING
Prerequisite: 431. Attention focused on timing of income and expenses for individuals and businesses and its relation to tax planning. 2 credits

644 INCOME TAXATION OF DECEDEENTS, ESTATES AND TRUSTS
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. 2 credits

645 ADVANCED INDIVIDUAL TAXATION
Prerequisite: 435. In-depth study of some of the more involved areas of individual income taxation. 3 credits

646 CONSOLIDATED TAX RETURNS
Prerequisite: 431. Intensive study of tax provisions concerning use of consolidated tax returns. 2 credits

647 DEFERRED COMPENSATION
Prerequisite: 431. Nature, purpose and operation of various forms of deferred compensation examined with much emphasis on pension and profit-sharing plans. 3 credits

648 TAX PRACTICE AND PROCEDURE
Prerequisite: 431. In-depth study of administration and procedures of Internal Revenue Service and responsibilities of tax practitioner. 2 credits

649 STATE AND LOCAL TAXATION
Prerequisite: 631. Examines common types of taxes imposed by state and local governments and includes taxation of multiple businesses. 2 credits

650 ESTATE PLANNING
Prerequisite: 633. Considers entire process of planning the estate with due regard for disposition of property, tax minimization, liquidity requirements and administrative costs. 2 credits

651 UNITED STATES TAXATION AND TRANSNATIONAL OPERATIONS
Prerequisite: 431. 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. 3 credits

652 TAX-EXEMPT ORGANIZATIONS
Prerequisite: 431. Analysis of tax aspects of tax-exempt organizations, including nature of and limitations of its exemption. 2 credits

653 BUSINESS PLANNING
Prerequisite: 631. Uses cases depicting complex problems to permit student to integrate knowledge of taxation. 2 credits

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
Prerequisites: 355 and 610. Advanced study of accounting information system theory, elements, principles, design and implementation. Practical processing and networking to control flow of information. 3 credits

670 COST CONCEPTS AND CONTROL
Prerequisite: 610. Focus on analysis and control of costs and their uses in decision making. Determination of cost data and efficiency of decision emphasized. 3 credits

680 INTERNATIONAL ACCOUNTING
Prerequisite: 610. Examination of accounting theory and practice from international perspective with emphasis on multinational investment, business and auditing activities and reporting problems. 3 credits

697 INDEPENDENT STUDY IN ACCOUNTING
May be repeated for a total of six credits. Focus on special topics of study and research in accounting on an independent basis. 1-3 credits

699 SEMINAR IN ACCOUNTING
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. 3 credits

FINANCE

6400:

318 RISK MANAGEMENT AND INSURANCE
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. 3 credits

320 THE LEGAL ENVIRONMENT OF BUSINESS
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. 4 credits

321 BUSINESS LAW I
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. 3 credits

322 BUSINESS LAW II
Applications of Uniform Commercial Code in sales, commercial paper and secured transactions. Additional discussions include property, wills, estates, trusts, bankruptcies, insurance, suretyship, bankruptcy and labor law. 3 credits

323 INTERNATIONAL BUSINESS LAW
The law and international commercial transactions. Among the subjects covered are sovereign immunity, treaties, agreements, antitrust practices, property rights, international arbitration. 3 credits

338 FINANCIAL INTERMEDIARIES
Prerequisite: 371. The role of financial intermediaries. Money and capital markets reviewed with emphasis on interest rates and their impact upon administration of specific financial intermediaries. 3 credits

343 INVESTMENTS
Prerequisite: 371 or permission of instructor. Range of investment media explored, alternative investment programs considered and role of securities markets through which goals can be achieved studied. 3 credits

351 FINANCIAL DECISION MAKING
Prerequisite: 371 or permission of instructor. A study of the tools and techniques used to analyze and determine impact on the firm of problems facing the firm as it attempts to achieve short- and long-term goals. 3 credits

371 BUSINESS FINANCE
Prerequisites: 6200, 201, 202, 2250, 201, 202, and completion of college mathematics requirement. Study of problems of business firms. Financial manager's viewpoints include: planning, sources and uses of funds, capital budgeting and optimum financial structure. 3 credits

373 FINANCIAL STATEMENT ANALYSIS
Prerequisite: 371 or permission of instructor. Analysis and interpretation of financial position and performance of the business firm from the perspective of the credit and financial analyst. Emphasizes mechanics and art of financial analysis. 3 credits

400 REAL ESTATE PRINCIPLES: A VALUE APPROACH
Prerequisite: 371 or permission of instructor. Study of real estate: the profession, the process and the product. Emphasis is on real estate as a product and the valuation process. Measurement of value requires tools abilities in accounting, statistics and finance. 3 credits

401 REAL ESTATE INVESTMENT
Prerequisite: 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. 3 credits

402 INCOME PROPERTY APPRAISAL
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. 3 credits

403 REAL ESTATE FINANCE
Prerequisites: 371 and 400, or permission of instructor. Advanced course in real estate financing covering the financing of real property. Included are methods, institutions, instruments, valuation, appraisal and policy in real estate finance. 3 credits

410 PERSONAL FINANCIAL MANAGEMENT
Prerequisite: 371 and 400, or permission of instructor. Advanced course in employee benefit. Topics in personal financial decision making covered. 3 credits

417 LIFE AND HEALTH INSURANCE
Prerequisite: 518. Detailed study of the life and health insurance contracts, insurance companies, industry regulation. 3 credits

419 PROPERTY AND LIABILITY INSURANCE
Prerequisite: 318. A study of property and liability insurance contracts, insurance companies, industry regulation. 3 credits

424 LEGAL CONCEPTS OF REAL ESTATE: A MANAGERIAL APPROACH
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. 3 credits
650: Management

301. MANAGEMENT: PRINCIPLES AND CONCEPTS

302. INTRODUCTION TO ORGANIZATIONAL BEHAVIOR
- Emphasis on the study of human behavior in organizations. Requires Principles of Organizational Behavior. 3 credits.

321. QUANTITATIVE BUSINESS ANALYSIS I
- Study of statistical methods and techniques used in business decision-making. Requires Principles of Mathematics and an upper-college equivalent. 3 credits.

322. QUANTITATIVE BUSINESS ANALYSIS II
- Continuation of Quantitative Business Analysis I. Requires Principles of Mathematics and an upper-college equivalent. 3 credits.

324. COMPUTER APPLICATIONS FOR BUSINESS
- Emphasis on computer applications in business. Requires Principles of Mathematics. 3 credits.

325. DATA MANAGEMENT AND INFORMATION SYSTEMS
- Introduction to data management and information systems. Requires Principles of Mathematics. 3 credits.

341. PERSONNEL MANAGEMENT
- Emphasis on personnel management, including recruitment, selection, and employee development. Requires Principles of Behavioral Science. 3 credits.

342. PERSONNEL RELATIONS
- Emphasis on the management of labor relations and collective bargaining. Requires Principles of Behavioral Science. 3 credits.
Graduate Courses

600 MANAGEMENT AND PRODUCTION CONCEPTS 3 credits
Qualitative behaviors; systems approach to management process, emphasizing production function. Designed for student who has not previously had courses in business.

601 QUANTITATIVE DECISION MAKING 3 credits
Prerequisites: intro to finite mathematics. Applies quantitative techniques to business decision-making. Topics covered include probability estimation and hypothesis testing, simple multiple 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 development.

640 INFORMATION SYSTEMS AND MANAGEMENT 3 credits
Prerequisite: 602 or equivalent. An introduction to systems design, management information systems, data base management, their relationships to problem solving and organizational design.

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: 650 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 these styles on individual group behavior; organizational goal attainment. Analysis of leader's role in administrative processes.

654 INDUSTRIAL RELATIONS 3 credits
Prerequisite: 600. Study of the 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 2 credits
Prerequisite: 652. Analysis and development of leadership theory and thought. Identification of leaders 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, 601, 602 or equivalent. Long-range and short-term planning in organizations and linkages between the two. Planning models are presented of business and nonprofit organizations.

662 QUANTITATIVE METHODS — OPERATIONS MANAGEMENT 3 credits
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 INDUSTRIAL STATISTICS I 3 credits
Prerequisite: 601 or equivalent. Design for survey sampling and estimation. Simple linear regression analysis, including inferences, adequacy of the model and joint confidence intervals.

664 APPLIED INDUSTRIAL STATISTICS II 3 credits
Prerequisite: 663. Applications of multiple regression including determining "best" set of independent variables, correlation models, analysis of variance models including multifactor models. Experimental designs including randomized block and Latin square designs.

671 ADVANCED OPERATIONS RESEARCH 2 credits
Prerequisite: 662. Designed to present in more depth and breadth certain topics surveyed in 662 with emphasis on application of these techniques to student’s own business situations.

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 systems. Examination of organizational structure and management differences between 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: 652. Seminar on special 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 course in M.B.A. 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.) Prerequisite: 600 or equivalent or permission of instructor. Independent study and research on an independent basis.

698 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 in course.

320 PHYSICAL DISTRIBUTION 3 credits
Prerequisite: 652. Basic course in source, movement and storage of goods, including emphasis on economics of transportation and requirements of an effective system.

340 RETAIL MANAGEMENT 3 credits
Prerequisite: 600. Presents principles of management resulting in service to customers at profit to retailer. Store location, staffing, planning and control, buying, pricing and promotion explored.

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, focuses on development of local, regional, national markets. Emphasis on problems of industrial goods manufacturers.

370 PURCHASING 3 credits
Prerequisite: 250/252. 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 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 firms comprising a channel and the nature of managerial decisions designed to coordinate the efforts of the group of institutions that make up a channel of distribution.

420/520 LOGISTICS SYSTEMS ANALYSIS 3 credits
Prerequisite: 320. Stresses application of quantitative techniques in design and selection of individual logistics components as well as integration of total logistics systems. Emphasis on student's evaluation and solving of logistics problems.

425 ADVERTISING RESEARCH AND EVALUATION 3 credits
Prerequisites: 300 and 350. The role and methods of research are studied as they relate to the planning of advertising campaigns, with attention to market analysis, competitor analysis, and copy and media planning. Post-campaign measurement of copy, media, and marketing efficiencies and effectiveness are also included.

430 PROMOTIONAL CAMPAIGNS 2 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 advertizer, 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 alternative forms of corporate structures for product development and management, product policy and strategies, and product planning procedures and techniques. Differences between consumer and industrial products.

460 MARKETING RESEARCH 3 credits
Prerequisites: 300, 6000, 321. Through lectures, cases, and learn 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: 460, 620. Explores more sophisticated quantitative and forecasting methods, tools, procedures available to marketing researchers, decision makers, how these are applied to marketing problems.

491 WORKSHOP IN MARKETING 1-3 credits
Prerequisite: 300. Group study 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 thesis 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 a 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 non-business undergraduates, may not be selected for Phase II credit.

620 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 multinational organizations and international markets. A planning framework is emphasized.

640 MARKETING INFORMATION SYSTEMS AND RESEARCH
3 credits
Prerequisites: 620, 6500/601, 602. 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.

660 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
Prerequisite: 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
Prerequisite: 3250/201, 202. A basic course in international business which can also provide a platform for more specialized international business courses.

405/505 MULTINATIONAL 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.
COOPERATIVE EDUCATION

7000:

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 1960s, primarily in Western art. Development of photography and its application as an art form into artistic styles of 20th Century.

105 UNDERSTANDING ART
3 credits
Uses different sources to find 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 sculpture 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 experience. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

131 INTRODUCTION TO DRAWING
3 credits
Freshman 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
Experimental 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 study activity. 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 a major in art.

185 COMPUTER GRAPhICS FOR ART I
3 credits
(May be repeated for a total of six credits) Prerequisites: 113 and 144 or 2420 124 or permission of instructor. Introduction to the use of microcomputers as a creative tool for visual artists and photographers.

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 a 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
Prerequisite: 131, 144 or 231. Use of lithographic stone and metal plate as printing media. Stone and plate preparation, lithographic drawing materials and techniques, paper registration and printing press covered. Emphasis on aesthetic theory, technique and related history.

214 INTRODUCTION TO SCREEN PRINTING
3 credits
Prerequisites: 121, 144 or 231. Silk screen printing. Theory and use of stencils, 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. Intaglio printing using drypoint engraving, aquatint and soft-ground techniques. Emphasis on aesthetic theory, technique and related history.

216 INTRODUCTION TO INTAGLIO PRINTING
3 credits
Prerequisites: 131, 144 or 231. Intaglio printing using drypoint engraving, aquatint and soft-ground techniques. Emphasis on aesthetic theory, technique and related history.

221 DESIGN APPLICATIONS
3 credits
Prerequisite: 121. Application of creative design 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 spatial 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: 131, 144 or 286 or 2420 124 and 7100. 131. 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. Student pursues through lecture and experimentation transparent and opalescent uses of this water-based paint.

246 INTRODUCTION TO WATERCOLOR PAINTING
3 credits
Prerequisites: 131, 144. Studio course in theory and technique of watercolor painting. Study of traditional transparent watercolor methods, 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 painterly orientation toward plasticity of form is mandated by color.

254 INTRODUCTION TO CERAMICS
3 credits
Studio course exploring potential of hand-building techniques in both sculptural and functional forms. Clay processing, glaze application, and practical kilning.

266 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 molten, colored glass is applied to metal surfaces.

275 INTRODUCTION TO PHOTOGRAPHY
3 credits
Lecture, studio and laboratory course. Techniques and aesthetics 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, 286, or 2420 124. Study and 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 132. 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 both graphic and commercial applications.

285 COMPUTER GRAPhICS FOR ART II
3 credits
(May be repeated for a total of six credits) Prerequisite: 155 or permission of instructor. A follow-up to Computer Graphics for Art I. High resolution imaging in both fine art and commercial applications.
256 COMMERCIAL DESIGN THEORY
Prerequisites: 284 and 132. Basic course in visual problem solving emphasizing visual approaches in print and graphic elements of design as well as multiple images. Equal emphasis is given to creating and creating images...

3 credits

288 LETTER FORM AND TYPOGRAPHY
Prerequisite: 286. Letter forms studied in terms of communication and aesthetic awareness. History of letter forms, hand lettering, alphabet design, contemporary typeface and reproduction processes.

3 credits

289 ARCHITECTURAL PRESENTATIONS II
Prerequisite: 288. Study and studio practice in architectural graphics and methods of architectural presentation. Emphasis on color medium including oil, tempera, watercolor, and ink.

3 credits

295 INTRODUCTION TO WEAVING
Development of visual perception and manual dexterity through on-and-off-loom techniques. Experimentation with various materials.

3 credits

300 ART SINCE 1945
Prerequisite: 101 or permission of instructor. Consideration of significant developments in visual art forms since World War II. Architecture, sculpture, painting, photography, metal, textile, ceramics, printmaking and graphic design.

3 credits

302 ART IN EUROPE DURING THE 17TH AND 18TH CENTURIES
Prerequisite: 101 or permission of instructor. Analysis of major European examples of architecture, painting, painting and sculpture of Italy during 17th through 18th Centuries.

3 credits

304 ART IN EUROPE DURING THE 19TH CENTURY
Prerequisite: 101 or permission of instructor. Study and analysis of major developments in visual arts in Europe from 1800 to 1900.

3 credits

305 ART FROM 1900 TO 1945
Prerequisite: 101 or permission of instructor. Study of significant developments in visual arts from approximately 1900 to 1945. (May be repeated for 3 credits). Credit will be given for completion of 1902 or 1903.

3 credits

317 PRINTMAKING II
May be repeated for a total of 12 credits with a different process.

3 credits

321 FIGURATIVE SCULPTURE
Prerequisite: 233. Lecture/studio course exploring the use of the human figure as a sculptural subject. Individual interpretation of the figure using various media and techniques.

3 credits

322 INTERMEDIATE SCULPTURE II
(For students with 3 credits), (May be repeated for a total of 6 credits)

3 credits

331 DRAWING III
Prerequisites: 144, 231, 293. Continues concern of visual and technical proficiency with mediums begun in 132 and 231 but places more emphasis on use of imagination and development of ideas in drawing.

3 credits

333 ADVANCED LIFE DRAWING
May be repeated for a total of six credits.

3 credits

346 PAINTING II
May be repeated for a total of nine credits, but limited to a maximum of three credits in a given medium.

3 credits

354 CERAMICS II
Prerequisite: 254. Wheel throwing of both functional and sculptural forms. Experiments in glaze chemistry and firing experience with both gas and electric kilns. Emphasis on technique, studio processes and critical evaluation of each student's progress.

3 credits

366 METALSMITHING II
(For students with 3 credits), (May be repeated for a total of six credits)

3 credits

368 ADVANCED ENAMELING
May be repeated for a total of six credits.

3 credits

375 PHOTOGRAPHY II
Prerequisite: 277. Projects utilizing photographic media and techniques designed to expand student's awareness of visual qualities and order, both in the subject and photographic image. Emphasis on use of camera to create formal relationships between elements of the image, and to produce images of personal significance.

3 credits

376 PHOTOGRAPHICS
Prerequisite: 275. Photographic media and equipment used experimentally to produce non-conventional high contrast images, time separations, shadow reversals and other photo-techniques.

3 credits

380 GRAPHIC VIDEO
Prerequisite: Junior standing in graphic design or mass media-communication and permission of instructor. Study of applied video technologies as related to visual design principles and visual communication concepts in the design and use of graphic imagery. (May be repeated for a total of six credits).

3 credits

386 PACKAGING DESIGN
Prerequisite: 297 or permission of instructor. Synthesis of two and three-dimensional visual thinking. Research in materials applicable to packaging of various products. Assignment of projects stressing development of conventional and experimental package design.

3 credits

397 ADVERTISING LAYOUT DESIGN
Prerequisites: 275, 286. Creative expression of problems in visual merchandising. Projects offered in developing skills from concept through final comprehensive presentation.

3 credits

398 ADVERTISING PRODUCTION AND DESIGN
Prerequisites: 287 and either 220, 252 or 375. Continuation of 397. More complex projects with emphasis given to mechanical preparation of finished and various printing processes.

3 credits

399 WEAVING II
(3 credits)

3 credits

401 SPECIAL TOPICS IN HISTORY OF ART
May be repeated for credit when a different subject or level of investigation is indicated. Prerequisites: 100, 101 or permission of instructor. Lecture course in which subject is specified each time course is offered. Focuses upon an art movement, time period, production of a single artist or a specific art medium.

3 credits

405/505 HISTORY OF ART SYMPOSIUM
May be repeated for credit when different subject is indicated. Prerequisite: One art history course beyond 100 or permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or to an art historical problem.

3 credits

418 ADVANCED PRINTMAKING
May be repeated for credit when a different subject is indicated. Prerequisites: 121, 245 or 246 or 247. 3 credits. In this intermediate level process, emphasis the development of intaglio techniques and applications. Continuation of one process designated by letter as follows: A, Lithography; B, Serigraphy; C, Relief; D, Intaglio.

3 credits

422 ADVANCED SCULPTURE
(3 credits)

3 credits

431 DRAWING IV
(For students with 3 credits), (May be repeated for a total of nine credits)

3 credits

449 ADVANCED PAINTING
(3 credits)

3 credits

454 ADVANCED CERAMICS
(For students with 3 credits), (May be repeated for a total of six credits)

3 credits

455 FIBER, CLAY AND METAL SEMINAR
Prerequisite: Permission of instructor. Open format seminar designed to explore ideas in clay, fiber and metal art through reading, discussion and production.

3 credits

468 ADVANCED METALSMITHING
(For students with 3 credits), (May be repeated for a total of twelve credits)

3 credits

475 ADVANCED PHOTOGRAPHY
(For students with 3 credits), (May be repeated for a total of twelve credits)

3 credits

480 ADVANCED GRAPHIC DESIGN
(For students with 3 credits), (May be repeated for a total of six credits)

3 credits

482 CORPORATE IDENTITY AND GRAPHIC SYSTEMS
Prerequisite: 288. Advanced projects in corporate identity, graphic systems analysis, design. Problem solving for these specific areas of graphic design within mechanical limitations of art reproduction.
121 TEXTILES 3 credits
Basic study of natural and man-made fibers. Emphasis on physical properties, selection and care. Attention given to design and manufacture of textiles. Lecture.

123 CLOTHING CONSTRUCTION 3 credits
Basic theory on garment construction including experience with pattern alterations, diverse fabrics and special construction techniques. Two lecture hours, four hours laboratory.

122 EARLY CHILDHOOD NUTRITION 2 credits

133 NUTRITION FUNDAMENTALS 3 credits
Study of fundamental concepts of nutrition; emphasis on nutrients and requirements at different stages of the individual's life cycle.

141 FOOD FOR THE FAMILY 3 credits
Application of nutrition to meal planning; problems in selecting, budgeting and preparing food. Team service.

147 HOME ECONOMICS SURVEY 1 credit
Survey of history and development of home economics with emphasis on professions and career opportunities.

158 INTRODUCTION TO INTERIOR DESIGN AND FURNISHINGS 3 credits
Introduction to home furnishings involving topics such as furniture styles, utilization of space, color, lighting, wall coverings, window treatments, floor coverings, furniture arrangement, selection and accessorizing. Lecture/laboratory.

159 FAMILY HOUSING 3 credits
Study of housing alternatives related to stages in the family life cycle. Also overview of physical aspects of housing construction, heating, insulation, heating/cooling systems, wiring and kitchen design. Lecture/laboratory.

201 RELATIONAL PATTERNS IN MARRIAGE AND FAMILY 3 credits
Study of family interaction in various life cycles with emphasis on self-concept, changong roles, developmental tasks, family life cycles and sociological and cultural influence upon individual and family.

204 SURVEY OF APPLIED HOME ECONOMICS 1 credit
Directed study and observation of ongoing community and business programs in home and family economics and family service areas including housing, home management, family financial management, food and nutrition, clothing, child development, parent effectiveness, and handicapping conditions through family life cycle. Weekly two-hour local tour in addition to class sessions.

213 CHILD DEVELOPMENT 3 credits
Physical, social, mental and emotional development of child from prenatal through four years of age. Observation in child care and preschool centers.

275 PLAY AND CREATIVE ACTIVITIES 2 credits
Prerequisites: 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.

400 ADMINISTRATION OF CHILD-CARE CENTERS 3 credits
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.

425 DIRECT EXPERIENCES IN THE HOSPITAL 1 credit
Prerequisites: 245 and 46250. Introduction to nursing. Observation in a hospital setting during the junior and senior years.

431 CONSUMER EDUCATION 3 credits
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.

432 CONSUMERS OF SERVICES 3 credits
A study of the services sector of the economy. Emphasis is on a framework for studying all services providers and in developing criteria for evaluating service providers.

433 CHILDREN AS CONSUMERS 3 credits

434 ADVANCED CONSTRUCTION AND TAILORING 3 credits
Prerequisite: 123. Advanced theory and principles in construction of outside garment. Construction of coat or suit jacket utilizing custom tailoring techniques. Two lecture hours. Four hours laboratory.

435 FOOD SYSTEMS MANAGEMENT I 5 credits
Prerequisites: 245 and 46250. Introduction to nutrition. Basic theoretical concepts in the management of institutional food service systems and the practical application of principles and procedures in quantity food production and service.

436 CONTEMPORARY NEEDLEARTS 3 credits
Use of appropriate textiles, yarns and needlework in creation of various items for personal and home use for leisure time or as earning skills. Lecture/laboratory.

437 FOOD SYSTEMS MANAGEMENT I - CLINICAL 2 credits
Prerequisite: 245 and 46250. Development of quantity food preparation and supervisory skills in community agencies, identification of functions and resources involved in the management of food service systems.

438 SCIENCE OF NUTRITION 3 credits

439 HISTORIC COSTUME 1 credit
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.

440 NUTRITION IN CLINICAL MEDICINE I 4 credits
Prerequisite: 361. Analysis of therapeutic health care concepts. Consideration of nutritional implications of pathological conditions, construction of diets for specific disorders.

441 NUTRITION IN CLINICAL MEDICINE II - CLINICAL 2 credits
Prerequisite: 361. Clinical experiences in special hospitals for application of principles of nutritional care learned in 328.
331 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 20th Century.

3 credits

339 THE FASHION INDUSTRY
Prerequisites: 121, sophomore standing. Overview of fashion industry including growth, promotion and impact of cultural influences. Review of international and American fashion scene. Lecture/demonstration.

3 credits

340 MEAL SERVICE
Prerequisites: 245, 316 or 133 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.

2 credits

359 TAILORING FOR MEN

3 credits

360 PARENT-CHILD RELATIONS
Prerequisite: 265. The study of interactive parent-child relations from infancy through adulthood in the internal and environmental forces which impact upon family dynamics.

3 credits

362 HOME MANAGEMENT THEORY
Introduction to management theories, processes and principles as applied to utilization of human and material resources in promotion of individual and family well-being.

2 credits

380 INTRODUCTION TO COMMUNITY NUTRITION
Orientation to the philosophy, objectives and structure of government and voluntary agencies and organizations which have nutrition components. Clinical observation scheduled.

1 credit

390 FAMILY RELATIONSHIPS IN MIDDLE AND LATER YEARS
Exploration of family and individual development during middle and later years of life. Emphasis on issues related to immaturity, economics, sexual roles, psychological and biological changes.

2 credits

395 COMMUNITY INVOLVEMENT IN HOME ECONOMICS
Development of managerial expertise through experience. Selected participation sites in business and industry, hospitals, community agencies and with individual families with special managerial problems.

1-3 credits

401/501 FAMILY-LIFE PATTERNS IN THE ECONOMICALLY DEPRIVED HOME
Study of family life orientation and lifestyle patterns as economically achieved with emphasis on impact on socioeconomic and psychological deprivation on family members throughout family life span.

2 credits

403/503 ADVANCED FOOD PREPARATION
Prerequisite: 141 or 245 or permission of instructor. Study of advanced techniques of food preparation. Introduction to interpretation of classic and foreign cuisines. Emphasis on individualized experience, skill development and evaluation of procedures and results.

3 credits

404/504 ADOLESCENCE IN THE FAMILY CONTEXT
Prerequisites: 201, 265 or permission of instructor. The influence of adolescent behavior on the family and the influence of the family environment on adolescent development.

3 credits

405/505 FAMILY RESOURCE MANAGEMENT
Management of family resources as family functions as consuming units in today’s economy. Exposure to consumer education resources including sources of consumer information and methods of utilizing these resources.

3 credits

412 INSTITUTIONAL MANAGEMENT
Organizational and managerial procedures in administrative food service systems. Problems in administration of food service systems; problems in control of labor, time and cost. Field experience in food production.

3 credits

413 FOOD SYSTEMS MANAGEMENT II
Prerequisite: 310. Corequisites: 414. Advanced concepts in management of dietary service systems relating to achievement of nutritional goals.

3 credits

414 FOOD SYSTEMS MANAGEMENT II — CLINICAL
Prerequisite: 315. Corequisite: 413. Application of advanced food systems management concepts in community dietary service service facilities. Preparation for entry-level jobs of staff positions as administrative coordinator. Clinical experience for 24 hours per week for 16 weeks of the semester.

3 credits

415 HOUSEHOLD EQUIPMENT
Selection, use and care of modern household equipment. Survey of commercial equipment used in home economics related professions.

2 credits

419 CLOTHING COMMUNICATION
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.

3 credits

420/520 EXPERIMENTAL FOODS
Prerequisites: 245, 3150 130 or permission of instructor. Theory and methods used in the experimental study of foods. Application of analytical methods to sensory and instrumental evaluation of food quality. Individual research emphasized.

3 credits

421 SPECIAL PROBLEMS IN HOME ECONOMICS
Additional study or apprentice experience in specialized field or preparation. Group and individual experimentation.

1-3 credits

422 ADVANCED HOME MANAGEMENT
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.

3 credits

424/524 NUTRITION IN THE LIFE CYCLE
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.

3 credits

425 THERAPEUTIC NUTRITION
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.

4 credits

428 NUTRITION IN MEDICAL SCIENCE II
Prerequisite: 328. Overview of major areas of diet therapy not covered.

5 credits

429 NUTRITION IN MEDICAL SCIENCE II — CLINICAL
Prerequisites: 329. CUP students only. Corequisite: 428. Clinical experience in hospitals applying principles of nutritional care learned in 428.

3 credits (credit/noncredit)

430 COMPUTER-ASSISTED FOOD SERVICE MANAGEMENT
Use of computer programs in application of management concepts for food service systems.

3 credits

433 INTERIOR DESIGN I: RESIDENTIAL
Prerequisite: 7100 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.

3 credits

434 INTERIOR DESIGN II: CONTRACT
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.

3 credits

435 PRINCIPLES AND PRACTICES OF INTERIOR DESIGN
Study of the business aspects of interior design: business procedures, manufacturing of home furnishings and principles and psychology of marketing home furnishings.

3 credits

440/540 FAMILY CRISIS
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 dimensions.

3 credits

442/542 HUMAN SEXUALITY
Prerequisite: 201 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.

3 credits

445/545 PUBLIC POLICY AND THE AMERICAN FAMILY
How legislation in such areas as housing, clothing, consumer affairs, family formation and dissolution, resource conservation, child development and health care affects and, in some cases, determines the nature, structure and quality of the family as a social institution.

3 credits

446/546 CULTURE, ETHNICITY AND THE FAMILY
Study of the role of culture and ethnicity in adaptation of the family system to environment. Program applications considered.

3 credits

447 CRITICAL ISSUES IN HOME ECONOMICS
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 economist.

1 credit

449/549 BEFORE AND AFTER SCHOOL CHILD CARE
Study of the development, implementation and evaluation of school-age child-care programs for before and after school and vacation periods.

2 credits

449 FLAT PATTERN DESIGN
Prerequisite: 303. Theory and experience in women’s clothing design using flat pattern techniques. Two hour lecture, four hour laboratory.

3 credits

450 DEMONSTRATION TECHNIQUES
Prerequisite: major only. Provides practical experience in organization and presentation of demonstrations. Emphasis on competencies in coordination of materials, motion and speech in presentation.

2 credits

451/551 CHILD IN THE HOSPITAL
Prerequisite: 265. Comparative 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.

4 credits

455/555 PRACTICUM: ESTABLISHING AND SUPERVISING A CHILD-LIFE PROGRAM
Prerequisite: 451/551. Explores processes for implementing and setting up child-life programs; critical analysis of currently functioning program.

3 credits

459 MACHINE STITCHERY
Understanding the utilization of the sewing machine as a creative tool. Emphasis on developing the artistic and technical skills necessary for doing embroidery, applique, drawing, quilting, patchwork, craftwork and other related textile arts by machine.

3 credits

460/560 ORGANIZATION AND SUPERVISION OF CHILD-CARE CENTERS
Theory, principles and procedures involved in establishing and operating centers for infants, toddlers, preschool and school-age children.

3 credits
600/586 COMMUNITY NUTRITION I
Prerequisite: 315. Major concepts at international, national and local levels. Emphasis on community assessment, program planning, implementation, evaluation, legislation and rationale for nutrition services.

601 COMMUNITY NUTRITION I — CLINICAL
1 credit
Prerequisite: CUP students only. Corequisite: 481. Field placement in area agencies offering nutrition services. Study of agencies' goals, organization and philosophy of nutritional care.

602/582 DEVELOPMENTAL FAMILY IN LIFE-SPAN PERSPECTIVE
3 credits
Activities of the community nutritionist. Emphasis on controversy, cultural differences, educational approaches, grantwriting, marketing and working with the media.

603 COMMUNITY NUTRITION II — CLINICAL
1 credit
Prerequisite: CUP student only. Corequisite: 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, role played by various hospital personnel plus current knowledge of medical terminology, common childhood diseases, illnesses and injuries.

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
2 credits
Prerequisite: 414. Corequisite: Junior or Senior standing. Opportunity to function as an entry-level dietitian in areas of administrative, therapeutic or community dietetics. The graduating senior CUP student spends two 40-hour weeks in a mutually acceptable agency. Offered through the College of Administration.

490/590 WORKSHOP IN HOME ECONOMICS AND FAMILY ECOLOGY
1-3 credits
Prerequisite: at least junior standing. Special study in areas of home economics and family ecology. May be on-campus study tour or an on-campus full-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
2 credits
Prerequisite: 265, comparable course or permission of instructor. Reviews and analyzes various child-rearing techniques with major emphasis on practical application.

497 INTERNSHIP IN HOME ECONOMICS AND FAMILY ECOLOGY
2 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)
Prerequisites: senior standing, Honors Program and approval of honors program advisor. Individual study supervised by advisor. Student and advisor develop goals, objectives and methodology.

Graduate Courses

600 EVALUATION OF HOME ECONOMICS LITERATURE
3 credits
A study of selected literature with emphasis upon evaluation and interpretation strategies.

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 management of available resources, adjustment patterns and interpersonal 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.

605 DEVELOPMENTAL PARENT-CHILD INTERACTIONS
3 credits
Prerequisite: 265 or equivalent or permission. Study of reciprocal interactions formed between parent and child from birth to adulthood. Consideration of cross-cultural studies, historical and sociocultural 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 systems theory as understood through the study of the family across the life cycle.

610 CHILD DEVELOPMENT THEORIES
2 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
Prerequisite: 318 or equivalent. Emphasis on current research related to physiology of infant and young child in relation to nutritional requirements and feeding practices.

624 ADVANCES HUMAN NUTRITION I
3 credits
Prerequisite: 316 or equivalent. In-depth study of human nutrition emphasizing metabolism, physiological functions, and interrelationships of carbohydrates, protein and lipids and the components of human energy requirements.

625 ADVANCES HUMAN NUTRITION II
3 credits
Prerequisite: 824 or equivalent. In-depth study of human nutrition with an emphasis in the utilization, physiological functions and interrelationships of vitamins and minerals.

646 NUTRITION IN DIMINISHED HEALTH
3 credits
Prerequisite: 266 or permission. A study of techniques and nutritional intervention associated with selected pathological and debilitating conditions throughout the life cycle. Emphasis on current literature.

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
Principles, procedures involved in program development for child-care centers. Examination of current programs available for preschool children, implications. Literacy analysis, application, evaluation stressed.

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 ecobase will be used as a model for viewing the family as a unit and the relation between familial groups and the environment.

695 INTERNSHIP IN FAMILY AND CHILD DEVELOPMENT
5 credits
Prerequisite: permission of advisor. Community-based experience designed to supplement classroom studies. A student works with agency personnel and clients in programs designed to meet needs of children and families.

697 INDIVIDUAL INVESTIGATION IN FAMILY DEVELOPMENT
1-3 credits
Prerequisite: permission of graduate advisor only. Individual pursuit and analysis in specific areas of student's interest and design under supervision of faculty advisor.

698 INDIVIDUAL INVESTIGATION OF CHILD DEVELOPMENT
1-3 credits
Prerequisite: permission of graduate advisor only. Individual pursuit and analysis in specific area of student's interest and design under direction of faculty advisor.

699 THESIS
5 credits
Prerequisite: permission of advisor. Preparation of thesis pertaining to a selected research project in area of family or child development.

MUSIC 7500:

100 FUNDAMENTALS OF MUSIC
3 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. Available only with previous keyboard experience.

101 INTRODUCTION TO MUSIC THEORY
2 credits
Prerequisite: MUS 101. Designed for prospective music major to correct deficiencies in theory background as determined through department placement testing. Includes classroom instruction and computer-assisted instruction in basic notation, scales, meter, key signature, 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. Course is specifically designed for the non-music major.

104 CLASS PIANO I
2 credits
Prerequisite: permission of instructor. Designated for student with no previous keyboard experience to learn rudimentary keyboard skills such as playing scales, chords, arpeggios and simple melodies. Students may receive credit for intermediate level courses only after demonstration of skills comparable to that of an intermediate level course.

105 CLASS PIANO II
2 credits
Prerequisite: 104 or permission of instructor. Continued work begun in 104.

106 CLASS VOICE I
2 credits
Prerequisite: Permission of instructor. Minimum memorization and solo singing requirement. Vocal literature emphasis. Italian and English songs, art songs in English or foreign language. Student must enroll in the correct voice class based on the language.

107 CLASS VOICE II
2 credits
Prerequisite: 106. Minimum memorization and solo singing requirement. Eight songs. Vocal literature emphasis. Italian and English songs, art songs in English or foreign language. Student must enroll in the correct voice class based on the language.

110 CLASS Guitar for Non-Music Majors
1 credit
Prerequisite: permission of instructor. Introduction to the guitar, its repertoire and techniques. Basic classical techniques and music reading, strumming, finger-picking, accompaniment patterns, blues styles will be covered.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>JAZZ IMPROVISATION I</td>
<td>2</td>
<td>Prerequisites: 262 and permission of instructor. Study and application of principles of jazz improvisation.</td>
</tr>
<tr>
<td>211</td>
<td>JAZZ IMPROVISATION II</td>
<td>2</td>
<td>Prerequisite: 210. Advanced study in principles of jazz composition.</td>
</tr>
<tr>
<td>260</td>
<td>MARCHING BAND ORGANIZATION AND TECHNIQUE</td>
<td>1</td>
<td>Prerequisite: 104. All aspects of band on the field discussed. Students learn to write complete half-time show and armynchronization marching band program.</td>
</tr>
<tr>
<td>271</td>
<td>PIANO PEDAGOGY AND LITERATURE I</td>
<td>2</td>
<td>Sequence: Prerequisite: 152. Renaissance vocal counterpart, Baroque instrumental counterpart, form and analysis of music of all eras.</td>
</tr>
<tr>
<td>272</td>
<td>PIANO PEDAGOGY AND LITERATURE II</td>
<td>2</td>
<td>Prerequisite: 1520.250 or permission of the instructor. A survey of piano literature at all levels of difficulty, with practical emphasis on its use for teaching.</td>
</tr>
<tr>
<td>275</td>
<td>DICTION FOR SINGERS II</td>
<td>2</td>
<td>Sequence: Prerequisite: permission. Study of pronunciation of the four most used languages (Italian, German, French and English) in vocal performance and international phonetic alphabet.</td>
</tr>
<tr>
<td>301</td>
<td>MUSIC APPRECIATION: MUSIC BEFORE 1800</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>302</td>
<td>MUSIC APPRECIATION: 19TH AND 20TH CENTURIES</td>
<td>2</td>
<td>301 and 302 have designated as electives for non-music majors to provide introductory survey of art of music.</td>
</tr>
<tr>
<td>306</td>
<td>MARCHING BAND ARRANGING</td>
<td>2</td>
<td>Prerequisite: 152 or permission of instructor. A student arranges music for marching band including style, sound projection. Includes discussion of scoring for concert band as related to marching band.</td>
</tr>
<tr>
<td>307</td>
<td>TECHNIQUES OF STAGE BAND PERFORMANCE AND DIRECTION</td>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td>308</td>
<td>THE HISTORY AND LITERATURE OF JAZZ</td>
<td>3</td>
<td>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 them and their music through original and recorded music.</td>
</tr>
<tr>
<td>309</td>
<td>JAZZ KEYBOARD TECHNIQUES</td>
<td>2</td>
<td>Prerequisite: 262. Study of and familiarization with basic jazz keyboard techniques as they relate to contemporary jazz harmony and theory.</td>
</tr>
<tr>
<td>310</td>
<td>JAZZ IMPROVISATION II</td>
<td>2</td>
<td>Prerequisite: 211. Advanced study in the principles of jazz improvisation.</td>
</tr>
<tr>
<td>311</td>
<td>JAZZ IMPROVISATION IV</td>
<td>2</td>
<td>Prerequisite: 310. Advanced study in the principles of jazz improvisation.</td>
</tr>
<tr>
<td>325</td>
<td>RESEARCH IN MUSIC</td>
<td>2</td>
<td>Prerequisites: 155, 161, 252, 262. Techniques of basic research methods: examination of selected music materials; field trips to specialized collections.</td>
</tr>
<tr>
<td>330</td>
<td>GENERAL MUSIC</td>
<td>3</td>
<td>(May be repeated for a total of six credits) Prerequisites: 155, 161, 252, 262. Introduction and developmental sequence of studies related to skills, techniques and materials appropriate to non-public performance music classes in grades K-12. Clincal and field based experiences.</td>
</tr>
<tr>
<td>342</td>
<td>WIND-PERCUSSION INSTRUMENT TECHNIQUES</td>
<td>3</td>
<td>(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.</td>
</tr>
<tr>
<td>351.2</td>
<td>MUSIC HISTORY I, II</td>
<td>3</td>
<td>Sequence: Prerequisites: 152, 155. Development of music from ancient to modern times; scores, recordings and live performances as illustrative material.</td>
</tr>
<tr>
<td>353</td>
<td>ELECTRONIC MUSIC</td>
<td>3</td>
<td>(May be repeated for a total of six credits) Prerequisite: 252. Theory of electromechanical sound and practice of electronic music composition. Emphasis is on developing practical understanding of the components of the voltage-controlled studio.</td>
</tr>
<tr>
<td>356</td>
<td>MUSIC IN THE TEACHING OF RETARDED AND HANDICAPPED PEOPLE</td>
<td>2</td>
<td>Prerequisite: permission of instructor. Study of application of music to needs of the special person in public/private school, clinical settings.</td>
</tr>
<tr>
<td>358</td>
<td>FUNCTIONAL CLASS GUITAR</td>
<td>2</td>
<td>Prerequisite: 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.</td>
</tr>
<tr>
<td>361</td>
<td>CONDUCTING</td>
<td>2</td>
<td>Prerequisite: 152. Study and practice of conducting techniques, beat patterns, fermatas, tempo and dynamic change, attacks and releases, score-reading.</td>
</tr>
<tr>
<td>362</td>
<td>CHORAL ARRANGING</td>
<td>2</td>
<td>Prerequisites: 252, 332 or permission of instructor. Designed to provide student with an understanding of principles of choral arranging and composition in all idioms and styles.</td>
</tr>
<tr>
<td>365</td>
<td>SONG LITERATURE</td>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td>366</td>
<td>SONG LITERATURE</td>
<td>2</td>
<td>Prerequisite: 252. Performance level or permission of instructor. Techniques involved in performing musical styles other than those in classical guitar. Included are plectrum styles such as blues guitar, country and rock as well as flamenco, folk, popular and jazz music.</td>
</tr>
<tr>
<td>371</td>
<td>ANALYTICAL TECHNIQUES</td>
<td>2</td>
<td>Prerequisite: 252. Techniques for analysis of musical score from all eras of Western music history, with major emphases on works of Baroque, Classical and Romantic periods.</td>
</tr>
<tr>
<td>372</td>
<td>TECHNIQUES FOR THE ANALYSIS OF 20TH CENTURY MUSIC</td>
<td>2</td>
<td>Prerequisite: 252. Techniques for the analysis of musical scores from the 20th Century. Require of a theory, composition major.</td>
</tr>
<tr>
<td>407</td>
<td>JAZZ ARRANGING AND SCORING</td>
<td>2</td>
<td>Prerequisite: 452 or permission of instructor. Study of jazz instrumentation from small groups to large ensembles.</td>
</tr>
<tr>
<td>451/551</td>
<td>INTRODUCTION TO MUSICOLOGY</td>
<td>2</td>
<td>Prerequisite: 352. Comparative musicology: acoustics, psychology and physiology of music; aesthetics; theory of music; theory, historical musicology.</td>
</tr>
<tr>
<td>452</td>
<td>COMPOSITION</td>
<td>2</td>
<td>Prerequisite: 250 or permission of instructor. Study and creative use of major styles and idioms of musical composition; emphasis on 20th-Century techniques.</td>
</tr>
<tr>
<td>453/553</td>
<td>MUSIC SOFTWARE SURVEY AND USE</td>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td>454</td>
<td>ORCHESTRATION</td>
<td>2</td>
<td>Prerequisite: 252. Theory of instrumentation ranging from small ensembles to full band and orchestras.</td>
</tr>
</tbody>
</table>
455/558 ADVANCED CONDUCTING: INSTRUMENTAL 2 credits
Prerequisites: 361 and 454. Baton techniques and problems related 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 REPETEROIRE AND PEDAGOGY: ORGAN 3 credits
Prerequisite: permission of instructor. Survey of organ literature of all eras and styles, and methods of teaching organ, applying principles to literature.

463/563 REPETEROIRE AND PEDAGOGY: STRING INSTRUMENTS 3 credits
Prerequisite: permission of instructor. Study in depth 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.

471 COUNTERPOINT 2 credits
Prerequisite: permission of instructor. Designed to give student of theory-composition necessary knowledge and skills for understanding contrapuntal practices and procedures; emphasis on 20th-Century techniques.

472 ADVANCED ORCHESTRATION 2 credits
Prerequisite: 454. Study of techniques of orchestral style as found in major works from classical orchestras of Haydn and Mozart through modern orchestras of Stravinsky, Bartok, Berg and Schoenberg.

490/590 WORKSHOP IN MUSIC 1-3 credits
Prerequisite: permission of instructor. Investigation of topics not offered in regular curriculum. Graduate student must fulfill additional requirements.

491 SPECIAL TOPICS IN MUSIC 2 credits
(May be repeated for a total of four credits.) Group project related to a specific phase of music. Experimental course topics designed and implemented according to student interest. For elective credit only.

492 SENIOR SEMINAR 1 credit
Prerequisite: restricted to students enrolled in Student Teaching in Music. For music education majors; certification, contracts, benefits, job market prospects and student teaching experience sharing.

497 INDEPENDENT STUDY IN MUSIC 1-2 credits
(May be repeated for a total of four credits.) Prerequisites: senior standing and permission of department head. Music major only. Independent study under supervision of specially selected faculty members in subject area bearing on student's own goals.

498 SENIOR HONORS PROJECT: MUSIC 1-3 credits
(May be repeated for a total of six credits.) Individually designed project demonstrating scholarship, analysis, advanced musicianship, research and/or creativity according to student interest. Restricted to University Honors Music student.

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 1650 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 the Western Hemisphere through study of music of each major area. Research and writing in areas of special interest.

609 PEDAGOGY OF JAZZ IMPROVISATION 2 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 psychology 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. Field-based 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 music educational 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 Palestrina, 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 Monteverdi through early Beethoven.

617 MUSICAL STYLES AND ANALYSIS III 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music from period of late Beethoven through Mahler and Ravel.

618 MUSICAL STYLES AND ANALYSIS IV 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music in 20th Century.

619 THEORY AND PEDAGOGY 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of theory teaching in 20th 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 material, computer-assisted instruction studied.

620 COMPUTER ANALYSIS IN MUSIC 2 credits
Prerequisite: a minimum 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; study 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 fields 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; study in depth of specific examples, through recordings, scores and live performances; continuation and synthesis of approaches normal to study of music history, selected readings related to each student's particular fields of interest, project papers.

624 MUSIC HISTORY SURVEY: 20TH CENTURY 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of 20th Century music; study 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 is 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 outline 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 develop an understanding of instructional material, of the educational literature, and the area of percussion in elementary and secondary education.

633 TEACHING AND LITERATURE: PIANO AND HARPSCORD 2 credits
Prerequisite: permission of instructor. The examination of piano and harpsichord literature in historically chronologcal 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.

647 MASTER'S CHAMBER RECITAL 1 credit
Prerequisite: permission of instructor. Compulsory student will perform a recital of chamber music compositions (at least one-half hour in length) written while in residence at the University. The student will actively organize and coordinate the recital and will also participate either as performer or conductor.

665 VOCAL PEDAGOGY 3 credits
Prerequisite: permission of instructor. In-depth study of subjects dealing with teaching of voice; physiology of vocal instrument, principles governing vocal production and utilization of vocal pedagogy.

666 ADVANCED SONG LITERATURE 3 credits
Prerequisite: permission of instructor. Research in current trends and issues in string teaching techniques and appropriate literature.

697 ADVANCED PROBLEMS IN MUSIC 1-3 credits
(May be repeated for a total of eight credits) Prerequisite: permission of graduate advisor. Studies or research projects related to problems in music.
MUSICAL ORGANIZATIONS

7150:

No fee is charged for enrollment of a qualified student in music organizations. Enrollment may be repeated. For specific requirements on an undergraduate student in music, consult page six of the Music Department Handbook.

101 CONCERT CHOIR 1 credit
Mixed chorus. Membership by audition. Open to any qualified University student. Previous choral experience and knowledge of music, reading essential. Campus, regional, and tour performances. Also annual concerts with Akron Symphony Orchestra and Chorus. Major conducted ensemble.

102 UNIVERSITY CHORUS: SYMPHONY 1 credit
Membership by audition. Prospective members are advised to contact Department of Music two weeks prior to beginning of term. Basic reading skills and previous choral experience required. Includes Akron Symphony Orchestra, Chorus, and Band. Major conducted ensemble.

103 UNIVERSITY SYMPHONY ORCHESTRA 1 credit
Membership by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special University appearances. Major conducted ensemble.

104 UNIVERSITY BAND 1 credit
Includes Symphony Band/Wind Ensemble and Concert Band as major conducted ensembles. Marching Band (fall semester only) and Varsity Band. Membership in all bands open to all University students by audition with director of bands.

105 CHORAL ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for chamber vocal ensemble from all periods of music history. Non-credit. Study and performance of literature for various percussion groups, develops skill in ensemble performance.

106 BRASS ENSEMBLE 1 credit
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 privately for credit. The non-music major studying applied 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.

021-49 APPLIED MUSIC FOR NONMAJORS

2-4 credits each

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 effective in non-music programs. Not to be counted for credit in any music major programs of study.

021 PERCUSSION
022 CLASSICAL GUITAR
023 HARP
024 VOICE
025 PIANO
026 ORGAN
027 VIOLIN
028 VIOLA
029 CELLO
030 STRING BASS
031 TRUMPET/CORNET
032 FRENCH HORN
033 Trombone
034 BARITONE
035 Tuba
036 FLUTE/PICCOLO
037 CLARINET/Bass clarinet
038 BASSOON/CONTRABASSOON
039 BASSOON/CONTRABASSOON
040 SAXOPHONE
041 HARP/HICHORD
042 COMPOSITION
043 JAZZ PERCUSSION
044 JAZZ ELECTRIC BASS
045 JAZZ TRUMPET
046 JAZZ TROMBONE
047 JAZZ SAXOPHONE
048 JAZZ COMPOSITION
049 JAZZ VOCAL STYLES
050 APPLIED MUSIC FOR MUSIC MAJORS
2 or 4 credits each

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, 10 such credits are allowed for the 400 level.

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 HARP/CHORD
142-242-342-442/542 PRIVATE LESSONS IN MUSIC COMPOSITION
2 or 4 credits each

(May be repeated)

Prerequisites: 7500-252 and permission of instructor. 7500-452 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
169-269-369-469/569 JAZZ VOCAL STYLES

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
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 mass 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, type 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 these principles to 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.

230 WAUP-FM* 1 credit

231 FORENSICS* 1 credit

236 BUCHETLITE* 1 credit

233 TEL-BÜCH* 1 credit
*Total repeats not to exceed eight credits.
(Note: Students being paid salaries from Student Activity Funds are not eligible for credit.)

235 INTERPERSONAL COMMUNICATION 3 credits
Prerequisite: 115. Theory and practice in interpersonal communication concepts and principles. Special topics in interpersonal communication: assertive communication, communication dyads and triads and transactional communication.

245 ARGUMENTATION 3 credits
Prerequisite: 115 or permission of instructor. Study of process of developing, presenting and defending 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 appeals and introduction to pro-persuasion 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 studios.

283 TELEVISION PRODUCTION 3 credits
Prerequisite: Permission. Function, structure and influence of television as a 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.

363 PUBLICITY WRITING 2 credits
Prerequisite: 201 or permission. Acquaints student with functions of public relations in our society and explains basic theories and principles involved in publicity writing and placement.

390 PUBLICATIONS PRODUCTION 3 credits
Prerequisites: 201, ability to type or permission. Fundamental course for person engaged in production of publications. Consideration of variety of processes for reproducing printed work including photoengraving, linography, letterpress, rotogravure, mimeographing.

325 INTERCULTURAL COMMUNICATION 3 credits
Study of effects of oral and nonverbal communication process of existence of cultural barriers. Includes study of verbal and nonverbal communication in trans-cultural, informal international and epistemological communicative settings.

335 ORGANIZATIONAL COMMUNICATION 3 credits
Study of organizational communication principles and practices. Group projects related to several communication problems inherent to organizations inside communication flow. Communication outside, 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 processes essential to public decision making.

345 BUSINESS AND PROFESSIONAL SPEAKING 3 credits
Prerequisites: 1100, 105 or 106. Practical improvement in speaking skills used in business settings.

355 FREEDOM OF SPEECH 3 credits
Discussion and analysis of the Constitution's 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 influence 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: 283. 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, 115. 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 development of film and film concepts. Emphasis on film of 1945.

386 AMERICAN FILM HISTORY: 1945 TO THE PRESENT 3 credits
Prerequisite: 385 or permission. Continuation of student's study of film history and film concepts begun in 385.

387 RADIO AND TV WRITING 3 credits
Prerequisite: 280. 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: 280. 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: 280, 388. History and development of radio programming from early formats 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 2 credits
Prerequisite: 380. Use of the photograph 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: 300. Selected communication theories used to analyze and implement effective public relations programs with emphasis placed on research, planning, promotional messages, and evaluation of programs.

405 MEDIA COPYWRITING 3 credits
Prerequisites: 102, 248, 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 procedures. 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, 387 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: 245, 252 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: 115. 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
Prerequisite: senior standing in Honors Program; approval of honors preceptor. 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 history 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: 288 and permission of instructor (audition films or tapes required). 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 form in film and television. 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 or group projects investigating a particular phase of media not covered by other courses in curriculum.

Graduate Courses

600 INTRODUCTION TO GRADUATE STUDY IN MASS MEDIA-COMMUNICATION 6 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 elementary concepts of empirical and quantitative research and their application in studies of mass media-research topics.

604 INTRODUCTION TO QUANTITATIVE RESEARCH IN MASS MEDIA-COMMUNICATION 3 credits
Prerequisite: 655 or equivalent. An introduction to reading and understanding research designs employing both parametric and nonparametric descriptive and hypotheses testing 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 courses. Requires of all teaching graduate assistants.

609 COMMUNICATION PEDAGOGY 3 credits
Familiarizes students with aspects of teaching communication and media courses at the college level.

623 AMERICAN MASS MEDIA SYSTEMS 3 credits
Analysis of role, performance and impact of media in America.

624 SURVEY OF COMMUNICATION THEORY 3 credits
Study of dimensions of field of communication: information analysis, social interaction and semantic analysis.

625 THEORIES OF MASS COMMUNICATION 3 credits
A review of theories of mass media and studies exploring the effect of media.

626 CONTEMPORARY ISSUES IN BROADCASTING 3 credits
Study of issues important to the management of radio and television broadcast station. Serves as a professional training seminar.

628 CONTEMPORARY PUBLIC RELATIONS THEORY 3 credits
Study and practical application of communication concepts, theories and skills relevant to public relations programs in businesses and nonprofit organizations.

631 SEMINAR: ADVANCED PRODUCTION DESIGN I 3 credits
Prerequisites: demonstrated competence in either photography, film, or video production and permission of instructor. Analysis of communication problems and the design of solutions mediated by film, video and photography. Emphasis on production research and writing in various media formats. Design and production of a major project.

632 SEMINAR: ADVANCED PRODUCTION DESIGN II 3 credits
Prerequisite: 631. Continuation of projects in 631 and an opportunity for students to work in additional media.

635 ISSUES IN LEGAL REGULATION OF THE MEDIA 3 credits
Structure of the regulatory system including regulatory issues in print, film, radio and television, broadcast, pay and cable TV.

645 INTERCULTURAL COMMUNICATION THEORY 3 credits
Analysis of the impact on the communication process of cultural differences between communication systems and of the impact of communication on cross-cultural interaction.

665 THEORIES OF ARGUMENT AND PERSUASION 3 credits
Prerequisites: undergraduate course in argumentation and, or permission of instructor. Analysis of principal rhetorics related to attitude formation and change.

670 COMMUNICATION CRITICISM 4 credits
Introduces the basic elements, approaches and types of critical discourse as it is relevant to communication and mass media studies.

675 SEMINAR ON RHETORICAL CRITICISM 3 credits
May be repeated for a total of six credits. Organizes around specific problems or methods involved in analysis of different genres, forms and topics of discourse.

676 SEMINAR IN RHETORICAL THEORY 3 credits
Concentrates study and research of ancient, modern or contemporary writers or on some specific topic in rhetorical theory.

678 RHETORICAL ELEMENTS OF SOCIAL MOVEMENTS 3 credits
Examines role and function of collective rhetorical discourse in affecting change. Focus on various methodological tools for understanding collective movements and case studies.

686 STUDIES IN COMMUNICATION MEDIA: RADIO 3 credits
Study of radio station programming.

687 STUDIES IN COMMUNICATION MEDIA: TELEVISION 3 credits

691 ADVANCED COMMUNICATION STUDIES 3 credits
(May be repeated for a total of six credits.) Special topics in communication 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 works and institutions in film and video. Topics vary.

697 GRADUATE RESEARCH IN MASS MEDIA-COMMUNICATION 1-6 credits
(May be repeated for a total of six credits.) Prerequisites: 780/600 and approval of project. Independent research project prior to undertaking the project. Performance of research on problems found in mass media-communication.

699 MASTER'S THESIS/PROJECT/PRODUCTION 1-6 credits
(May be repeated for a total of six credits.) Prerequisite: permission of department head.

COMMUNICATIVE DISORDERS

7700:
100 MANUAL COMMUNICATION I 5 credits  
Prerequisites: 271 and 2210/10 or permission of instructor. Study of different communication systems employed by the deaf; characteristics, similarities and differences in American Sign Language.

110 INTRODUCTION TO DISORDERS OF COMMUNICATION 3 credits  
Overview of various types of speech disorders, their incidence, etiology and characteristics. Basic concepts and principles underlying speech pathology.

111 INTRODUCTION TO PHONOLOGY 2 credits  
Introduction to phonetics, phonology, and overview of articulatory phonetics.

120 INTRODUCTION TO AUDIOLOGY/AURAL REHABILITATION 3 credits  
Introduction to field of audiology including physics of sound, anatomy and physiology of auditory system, measurement of hearing, physiology, nature and causes of hearing disorders and habitation of persons with hearing impairment.

121 PSYCHO-SOCIAL ASPECTS OF DEAFNESS 3 credits  
Prerequisite: 120. The effects of deafness on the emotional, social, motor and intellectual development of the individual, the effects of deafness on interpersonal relationships.

130 BASES AND STRUCTURE OF LANGUAGES 3 credits  
Introduction to linguistic bases of speech and language. Phylogenetic, morphological, syntactic and semantic. Social and psychological variables in communication process as applied to therapeutic environment presented.

140 INTRODUCTION TO HEARING SCIENCE 3 credits  

150 MANUAL COMMUNICATION II 4 credits  
Prerequisite: 101. Further study of American as a language. Practice in modifications which influence sign formation: more efficient 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 PHONOLOGY 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: 2210/10 or permission of instructor. Study of the interests, values, education and legal status of deaf people in the U.S. and the history of the deaf culture. Review of methods used in teaching the deaf. The role of the deaf in America and the contributions of deaf people to society.

223 SPEECH AND LANGUAGE OF THE DEAF CHILD AND ADULT 4 credits  
Prerequisite: 222. Introduction to a systematic approach to speech and language of deafness and deaf adults. Principles and techniques in language assessment and instruction will be covered.

230 SPEECH AND LANGUAGE DEVELOPMENT 3 credits  
Prerequisite: 100 or permission of instructor. Study of language development including acquisition of vocabulary, comprehension and production of phonology, syntax and semantics. Approaches to use of language in hearing and non-hearing.

240 AURAL REHABILITATION 4 credits  
Prerequisite: 140. Introduction to the philosophy and methods of aural rehabilitation for children and adults. Includes methods of speech reading, auditory training, speech conservation, hearing aid and use and combined visual and auditory approaches.

241 PRINCIPLES OF AUDIOMETRY 3 credits  
Prerequisite: 140. Introduction to psychophysical principles which underlie basic audiometric tests, principles of speech audiometry, masking and impedance audiometry.

250 OBSERVATION AND CLINICAL METHODS 2 credits  
Co-requisite: 321. 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 3 credits  
Expansive and receptive skills in manual communication, introduction to various sign systems, philosophy of total communicaton and relation to aspects of deafness; conversational sign language, and development and spread of comprehension of fingerspelled language. Laboratory.

272 COMMUNICATIVE DISORDERS I 4 credits  
Prerequisites: 110, 210. Study of disorders of articulation, voice and stuttering, including etiology, symptomatology, evaluation and therapeutic procedures.

272 COMMUNICATIVE DISORDERS II 4 credits  
Prerequisites: 110, 310/264. Study of organically based speech disorders: cleft palate, cerebral palsy, aphasia and dysarthria including etiology, symptomatology, evaluation and therapeutic procedures.

290 LANGUAGE DISORDERS 4 credits  
Prerequisite: 230. Ecology, identification, evaluation, intervention, remediation of symbolic cognitive, interpersonal language disorders of children. Disorders viewed as correlates or sequelae of central nervous system dysfunction or emotional disturbance.

340 AUDIOLOGIC EVALUATION 2 credits  
Prerequisite: 241. Test battery approach to audiometry; exposed techniques of says testing and hearing and handling of difficult-to-test cases; competency with all tests in the battery required.

350 CLINICAL PRACTICUM: ARTICULATION-PHONOLOGY 1 credit  
(May be repeated for a total of two credits) Prerequisites: 255, 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: 255, 320. 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: 255, 320. 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. 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. Introduction to acquisition and development of comprehension and production of language—phonologically, semantically and syntactically. Release language acquisition to perceptual development of child and how it function of language in individual, family and society.

450 ASSESSMENT OF COMMUNICATIVE DISORDERS 3 credits  
Prerequisite: Senior standing. Introductory course devoted to discussion of role of speech and hearing clinicians in differential diagnosis. Emphasis on case history-taking and administration of standardized and informal procedures in diagnosis of communicative disorders.

461 CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY 1 credit  
(May be repeated for a total of two credits) Prerequisites: 250, 290. Supervised clinical practicum in hearing diagnostics. Diagnostic procedures, preparation of reports.

462/562 SPEECH-LANGUAGE 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 emphasis to role of classroom teacher in identifying and referring student with suspected problems in working with school clinicians.

461 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH-LANGUAGE AND HEARING PROGRAMS 2 credits  
Prerequisite: Senior standing. Open to major in communicative disorders only. Designed for speech and hearing clinicians who plan to work in public school systems. Covers following areas: Special education classes; 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.

488 SEMINAR IN COMMUNICATIVE DISORDERS 2 credits  
Prerequisite: Senior standing. Provides an opportunity 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 COMMUNICATION DISORDERS: GERIATRIC POPULATION 3 credits  
May be used to satisfy communicative disorders major. Examination of communicative disorders that exist in geriatric population. Focus on etiology, symptomatology and concurrent rehabilitative procedures. Designed for students interested in the aging population.

490/590 WORKSHOP: COMMUNICATIVE DISORDERS 1-3 credits  
May be repeated for a total of four credits. Prerequisite: permission of instructor. Group investigation of a particular phase of speech pathology and/or audiology not offered by other courses.

495 INTERNSHIP: SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY 3 credits  
Prerequisite: Permission of director of Speech and Hearing Center. Offers opportunity for in-depth clinical experience in various clinical settings (e.g., The University of Akron Speech and Hearing Center). On-site experience with specialized case populations.

496 SENIOR HONORS PROJECT: SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY 1-3 credits  
May be repeated for a total of six credits. Prerequisite: 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.
SOCIAL WORK

7750:

270 POVERTY IN THE UNITED STATES
Survey of social and personal dimensions of life in the inner city and other areas of poverty in the United States. For person wishing to develop an in-depth understanding and/or intending to work in such areas.

276 INTRODUCTION TO SOCIAL WELFARE
Survey of field of social work, place of social work profession within human services institutions, United States. Introduction of basic concepts relating social work institutions and social work to society.

401/501 SOCIAL WORK PRACTICE I
P: 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
P: 401 or permission. Concepts and methods of social work practice, particularly relating to understanding and working with groups in various settings in our society.

403/503 SOCIAL WORK PRACTICE III
P: 402 or permission. Development of understanding and practice methods for utilization of community organization and social planning as social work process in assessing problems and developing program to meet needs.

410/510 MINORITY ISSUES IN SOCIAL WORK PRACTICE
Prereq: 276 or permission. Racial, ethnic, and cultural issues in social work relating to various practice and theoretical perspectives, to various types of social problems, to social agencies, individual, family, group, community, and societal contexts integrated with the microanalytical processes of the social work practitioners.
411/511 WOMEN’S ISSUES IN SOCIAL WORK PRACTICE 3 credits
Prerequisites: 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
Prerequisites: 401 and permission; corequisite: 459. Critical examination and integration of academic understanding and professional methodological issues into professional practice.

425/525 SOCIAL WORK ETHICS 3 credits
Prerequisite: 276 or permission. Social Worker’s code of ethics as applied to problems and issues in social work.

427/527 HUMAN DEVELOPMENT FOR SOCIAL WORKERS 3 credits
Prerequisite for 427: 276 or permission of instructor; for 527: permission of instructor. Social work 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
Prerequisites for 430: 276, 427 or permission of instructor, for 530: permission of instructor. Emphasis on social workers understanding of and role of individual interaction and growth within family as a system—groups, roles, organizations, community and culture.

440/540 SOCIAL WORK RESEARCH I 3 credits
Prerequisites for 440: 276, 3450/112, 3470/151, 526 or permission; for 540: 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 2 credits
Prerequisite for 441: 440 or permission of instructor. For 551: permission of instructor. Evaluation of social work intervention with individual, group and community. Process evaluation and interpretation of agency information for better practice, policy and administrative decisions.

445/545 SOCIAL POLICY ANALYSIS FOR SOCIAL WORKERS 3 credits
Prerequisite for 445: 276 or permission; for 545: undergraduate social work degree or permission. Description, analysis and construction of social policy in social services to understand how and why policies are made, the process by which they are created and the factors that influence their implementation. Social work role in the policy process.

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 substitutive 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 helping 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 and long-term hospitals, hospital services, emergency services, clinics, visiting nurse services, nursing homes, pediatrics, self-help organizations.

457/557 ADVANCED PRACTICE WITH INDIVIDUALS 3 credits
Prerequisite: 401 or permission (graduate); undergraduate social work degree or permission (graduate). Advanced professional development of direct and indirect strategies and techniques of intervention to aid 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 delivering 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.

465/565 ADMINISTRATION AND SUPERVISION IN SOCIAL WORK 3 credits
Prerequisite: 401 or permission. Preparation for use of supervision, staff development, team building and program planning in a social work agency. Examine the social work welfare agency in its community and its responsibilities, organizational goal setting and program implementation.

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 law 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, delivery systems in relation to selected areas of concern. Topics and credits variable.

491/590 SOCIAL WORK WORKSHOP 1-4 credits
(May be repeated for a total of six credits)
Prerequisite: permission of instructor. Group investigation of a particular phase of social work or social welfare not offered by other courses in the curriculum.

495 FIELD EXPERIENCE IN SOCIAL AGENCY 2-8 credits
(Two credits minimum and six credits maximum, total in consecutive semester only)
Prerequisites: 401 and permission; corequisite: 421. Individual placement in selected community and social service agencies for supervised experience with individuals and communities in family service, health care, corrections, community development, mental health, child welfare, public welfare and similar social welfare settings. Student must register into departmental permission to take the course with the course instructor and obtain early partial semester precor preenrollment. For senior major in social work.

497/597 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK SOCIAL WELFARE 1-3 credits
Prerequisite: 590 or permission. Individual social work or social welfare research projects.

499 SENIOR HONORS PROJECT IN SOCIAL WORK 1 credit
(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 a written research paper appropriate to the topic of the student. For social work major.

Graduate Course

673 CONTEMPORARY SOCIAL WORK APPLICATIONS 2 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 live, 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. 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 movement and for basic stage method of speech delivery.

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 for the theatre designer and technician. Laboratory required.

265 BASIC STAGECRAFT I 3 credits
Basic stagecraft: building equipment, construction and handling of two-dimensional scenery and theatrical properties. Laboratory required.

265 BASIC STAGECRAFT II 3 credits
Prerequisite: 260. 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
Emphasis on fundamentals of play directing, including responsibilities of director, stage management, play selection, character analysis and rehearsal. ONE-Act form emphasized.

328 PERIOD MOVEMENT AND DANCE 7 credits
Medieval and early Renaissance style and manners. Studio and lecture.
334 STAGE COSTUME DESIGN 3 credits
Study and practice of stage costume construction techniques.

335 INTRODUCTION TO STAGE COSTUME HISTORY AND DESIGN 3 credits
Study of historical revolve and costume design. Costumes designed for each historical period in class. Period patterns drafted and constructed during designated laboratory hours.

336 HISTORICAL CONSTRUCTION AND PERIOD FURNISHING FOR THE STAGE 3 credits
Survey of historic furniture and hand-prop styles, with emphasis on practical stage applications. Study of prop construction, materials, and techniques: wood, steel, foam, and plastics. Basic welding, upholstery, and finishing methods.

350 ADVANCED VOICE FOR THE STAGE I 3 credits
Prerequisite: 151. Vocal training through interpretation and analysis of various theatrical 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, lighting and sound. Processes and techniques of rigging, textual and sculptural materials, surfaces. Laboratory required.

365 STAGE DESIGN 3 credits
Prerequisite: 106. The art of stage design. Its demands, elements, principles.

367 HISTORY OF THEATRE I: GREEK-RENAISSANCE 4 credits
Prerequisite: 106 or permission. Development of theatre in Greece and Rome. Medieval period and Renaissance, with emphasis on culture of each period. Dramatis, plays, stage conventions, set and lighting architecture.

368 HISTORY OF THEATRE II: RESTORATION TO PRESENT 4 credits
Prerequisite: 106 or permission. Development of theatre from English Restoration, 18th and 19th Century, to modern period with emphasis on culture of each period. Dramatis, stage conventions, set and lighting architecture.

370 THE AMERICAN THEATRE: PLAYS, PLAYERS AND PLAYWRIGHTS 3 credits
Study of American theatre. From its beginning in 17th Century to present, with emphasis on achievements in 20th Century.

371 DIRECTING II 3 credits
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.

372 ACTING II 3 credits
Prerequisite: 172. Continuation of 172. Further emphasis on the psychology of acting and development of performing techniques through scene study.

373 ACTING III 3 credits
Prerequisite: 372. Further in-depth training in the language and interpretation of Shakespeare through scene study.

376 THEATRE ORGANIZATION AND MANAGEMENT 2 credits
Prerequisite: 100. Study of successful organization and management of nonprofessional theatre operation.

402 SPECIAL TOPICS IN THEATRE ARTS 1-4 credits
(May be repeated as different subject areas are covered, but not more than 12 credits may be applied toward B.A. degree.)
Prerequisite: Permission. Traditional and non-traditional topics in theatre arts, supplementing courses listed in the General Bulletin.

421 MUSICAL THEATRE PRODUCTION 3 credits
Designed to make the musical theatre performer aware of the total creative process involved in mounting a musical. May be taught in conjunction with the production of a musical or a special repertory musical project.

435 STAGE COSTUME DESIGN 3 credits
Prerequisite: 335. Study of costuming and interpretation of theatrical design assignments.

436 STYLES OF SCENIC DESIGN 3 credits
Prerequisite: 365. Theatrical styles and periods in scenic design and chromography.

437 STYLES OF STAGE COSTUME DESIGN 3 credits
Prerequisite: 430. The art and styles of costume design to the stage and the many processes needed to create the stage costume for theatrical effects.

450 MOVEMENT FOR ACTORS I 3 credits
Prerequisite: 172. Specialized physical training for the actor.

451 MOVEMENT FOR ACTORS II 3 credits
Prerequisite: 440. Specialized training, integrating the actor's physical and vocal instrument.

450/550 PERFORMANCE PROJECTS 3 credits
(May be repeated for a total of six credits.)
Prerequisite: 172 or equivalent experience. Permission of instructor. Preparation and presentation of programs and projects by public and campus organizations.

462/463 PLAYWRITING 2 credits
Prerequisite: permission. Principles of dramatic construction learned through analysis of playwright's art, as well as through writing of individual dramatic compositions.

464 STAGE LIGHTING 3 credits
Outlines history, theories and practices of stage lighting. Among areas discussed are colored lights and color therapy, electricity and electrical safety, dimming control systems, other aspects of craft of effective stage lighting.

465 STAGE LIGHTING DESIGN 3 credits
Prerequisite: 464. The art and technique of stage lighting design: light plotting, color theory and optical effects.

467/567 CONTEMPORARY THEATRE STYLES 3 credits
Study of contemporary theatre from emergence of modern drama in 19th Century through a reading list of representative plays, with special emphasis on departures from realism.

468/568 CHILDREN'S THEATRE 3 credits
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.

469 PROBLEMS IN LIGHTING DESIGN 3 credits
Prerequisite: 465. Advanced study of practical application to problems confronting lighting designer and technician.

470 PRACTICUM IN PRODUCTION DESIGN/TECHNOLOGY 1-3 credits
(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.

474 ACTING IV 2 credits
Prerequisite: 374 Investigation of acting styles. Through scene study, as they apply from Shakespeare through modern playwright.

475 ACTING FOR THE MUSICAL THEATRE 3 credits
Prerequisites: 435, 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 character. Graduate.

490/590 WORKSHOP IN THEATRE ARTS 1-2 credits
(May be repeated for a total of eight credits.)
Prerequisite: advanced standing or permission. Group study in group projects investigating particular phase of theatre arts not covered by other courses in curriculum.

Graduate Courses

600 INTRODUCTION TO GRADUATE STUDIES 1 credit
Exploration of the basic research tools and methods appropriate to the discipline, including utilization of the computer. Guidelines for writing thesis and preparing production documents.

603 SPECIAL TOPICS IN THEATRE ARTS 1-4 credits
(May be repeated as different subject areas are covered, but not more than 12 credits may be applied toward M.A. degree.)
Prerequisite: permission. Special topics in theatrical studies. Subject areas are covered, but no more than 12 credits may be applied toward an M.A. degree. Graduate.

606 PRINCIPLES OF MODERN SCENOGRAHY 3 credits
Prerequisite: permission of instructor. Theory and practice of stage scenic design and technique as a collaborative art form.

608 STAGE DESIGN FROM CONCEPT TO EXECUTION 4 credits
Prerequisite: permission of instructor. Lectures and studio/production projects. Study of types and styles of stage design, discussion and analysis of modern stage productions.

611 PROBLEMS IN DIRECTING 3 credits
Advanced directing course, with special emphasis on staging of complex plays from all periods of scenic literature.

622 PROBLEMS IN CONTEMPORARY ACTING 3 credits
Study of problems confronting advanced actor in various modern styles.

658 HISTORY OF TECHNICAL PRODUCTION 3 credits
History of technical production utilizing pictorial materials and models to study evolution of scenic stage, set and electrical design, and stages, machines, 10th paper or project required.

659 HISTORY AND THEORY OF STAGE LIGHTING 3 credits
Historical survey of evolution of stage lighting culminating in understanding of modern lighting design techniques. 3 credits.

660 ADVANCED TECHNICAL THEATRE 2 credits
Delineated problems in mounting plays on secondary school, university and professional stages.

661 SEMINAR IN STAGE COSTUME DESIGN 3 credits
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, study of theatre spaces and new scenic materials.

662 SEMINAR IN SCENE DESIGN 3 credits
Prerequisite: 106 or equivalent scene design course or permission of instructor. Study of special problems in scene design: portfolio projects, research of noted designers, study of theatre spaces and new scenic materials.

663 SEMINAR: AMERICAN THEATRE 2 credits
Study of American theatre plays, playwrights and playwrights from colonial times to present. Term paper or project required.

665 AUDIENCE FOR THE ARTS: RESEARCH/ANALYSIS 2 credits
Examination of both qualitative and quantitative methods of researching today's audience and support for the arts/culture, institutions, such as arts councils, foundations. Research projects, team taught.

7260: Theatre 269
Graduate Courses

601 PRODUCTION PRACTICUM/DESIGN/TECHNOLOGY
(May be repeated for a total of 6 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
(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. Great assigned and work supervised by faculty project supervisor)

DANCE

7900:

115 DANCE AS AN ART FORM
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
(May be repeated for a total of 4 credits. Prerequisite: permission. Continuation of 115. Understanding the body and its relation to technique)

117 DANCE ANALYSIS II
(May be repeated for a total of 4 credits. Prerequisite: 116 or permission. Continuation of 116. Lecture/Laboratory. Use of body in dance technique as student. Inverse teacher or performer)

119 INTRODUCTION TO CONTEMPORARY DANCE
(May be repeated for a total of 4 credits. Prerequisite: permission. Continuation of 117. Expansion of contemporary techniques)

120 INTRODUCTION TO CONTEMPORARY DANCE II
(May be repeated for a total of 4 credits. Prerequisite: permission. Continuation of 119. Expansion of contemporary movements and technique)

122 BALLET TECHNIQUE I
(May be repeated for a total of 4 credits. Prerequisite: permission. Fundamental theory, vocabulary, structure, placement)

124 INTRODUCTION TO BALLET
(May be repeated for a total of 4 credits. Prerequisite: permission. Continuation of 122. Expanding contemporary ballet technique. Emphasis on body placement, muscular awareness)

125 INTRODUCTION TO BALLET II
(May be repeated for a total of 4 credits. Prerequisite: permission. Continuation of 124. Basic techniques of classical ballet)

219 INTRODUCTION TO CONTEMPORARY DANCE III
(May be repeated for a total of 4 credits. Prerequisite: permission. Continuation of 125. Expanding contemporary dance techniques, designing perfect the student's technique for entering the Contemporary Technique I)

220 INTRODUCTION TO CONTEMPORARY DANCE IV
(May be repeated for a total of 4 credits. Prerequisite: permission of instructor. Continuation of 219. Expanding the contemporary dance techniques, designing perfect the student's technique for entering the Contemporary Technique I)

222 BALLET TECHNIQUE II
(May be repeated for a total of 8 credits. Prerequisite: permission. Continuation of 122. Expanding theory on vocabulary, structure, placement)

224 FUNDAMENTAL BALLET TECHNIQUE
(May be repeated for a total of 8 credits. Prerequisite: permission. Continuation of 124. Expanding technique on vocabulary, structure, placement)

229 CONTEMPORARY TECHNIQUE I
(May be repeated for a total of 4 credits. Prerequisite: permission. Expanding the basic contemporary dance techniques)

316 CHOREOGRAPHY I
(May be repeated for a total of 4 credits. Prerequisite: permission of instructor. Study and practical application of choreographic principles in the areas of rhythm, movement, spatial awareness, and body and eye focus)

317 CHOREOGRAPHY II
(May be repeated for a total of 4 credits. Prerequisite: permission of instructor. Continuation of 316 with emphasis on theoretical and traditional choreographic terms, including the student's own personal style and technique)

320 DANCE NOTATION
Beginning study of notation method of recording movement, and preparation for beginner's examination of the notation bureau

222 BALLET TECHNIQUE III
(May be repeated for a total of 8 credits. Prerequisite: permission. Continuation of 122. Expanding technique on vocabulary, structure, placement, and technique)
323 JAZZ DANCE TECHNIQUE I
Emphasizes basic jazz techniques and styles, including East Indian, Afro-Cuban, Early American, hip-hop, and folklore styles. Also, soft-shoe, charleston and early balletic.

324 TAP TECHNIQUE I
Emphasizes basic tap combinations and routines, tap terminology and methods for recoding combinations. Special clothing/foots required.

329 CONTEMPORARY TECHNIQUE II
(Also may be repeated for a total of 12 credits)
Prerequisite: permission. Continuation of 328. Expanded development of contemporary techniques.

377 JAZZ DANCE TECHNIQUE II
Prerequisite: 323. The use of more complex jazz technique combinations.

378 TAP TECHNIQUE II
Prerequisites: 124, 125, 324. A study of more complex routines and combinations, including syncopation, classical tap and style. (Ashlei, Kelly, Vereen, Dimpel, Bolger). Special clothing/foots.

403 SPECIAL TOPICS IN DANCE
Prerequisite: permission. Continuation of 325. Traditional and nontraditional topics in dance, supplementing courses listed in General Bulletin.

416 CHOREOGRAPHY III
Prerequisite: 317, permission of the instructor. Continuation of 317 with emphasis on rhythmic analysis and nontraditional forms.

417 CHOREOGRAPHY IV
Prerequisite: 416 and permission of the instructor. Continuation of 416, expanding into group choreography and counterpoint.

422 BALLET TECHNOLOGY IV
(May be repeated for a total of 40 credits)
Prerequisite: permission. Continuation of 322, professional level of technique.

423 HISTORY OF THE DANCE
Study of major developments in dance from prehistory to Renaissance.

424 20TH CENTURY DANCE
(Prerequisite: Dance major or permission. Investigation of changes in styles and techniques and their influence on current dance.

425 DEVELOPMENT OF DANCE
Romantic and Diaghilev era and their influence on present 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.

490/990 WORKSHOP IN DANCE
(Also may be repeated for a total of 8 credits)
Prerequisite: advanced standing or permission. Group studio 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 BALLET ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of contemporary ballet 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 sequences in an operetta.

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.

*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.
COOPERATIVE EDUCATION 8000:

101 INTRODUCTION TO BACCALAUREATE NURSING FOR THE B.N.
Prerequisite: Registered Nurse. Emphasis on role reorientation for B.N.'s seeking a baccalaureate in nursing. Exploring concepts incorporated in the philosophy, conceptual framework and curricular structure of the baccalaureate nursing program. 1 credit (1 lecture hour).

200 NURSING THEORIES AND CONCEPTS
Prerequisite: 100. Demonstrates relationship of relevant concepts and theories from various disciplines with man's interaction with systems. Relates these theories to concepts and practice of nursing in health care system using scientific research approach. 5 credits.

202 NURSING HEALTH
Prerequisites: 100, 200. Health care adaptation throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process used to view this approach as public health experience. 12 credits.

203 NURSING THEORIES. CONCEPTS AND RESEARCH
Principles of, administration of care. The specific focus is to relate concepts, theories and investigative projects to the practice of nursing in a healthcare setting using the nursing process. 6 credits.

500 NURSING THEORIES. CONCEPTS AND RESEARCH
Principles of classic theories. Focus on interaction of man's health. Emphasis on the use of the nursing process, conceptual framework and curriculur structure of the baccalaureate nursing program. 6 credits.

NURSING 8200:

100 INTRODUCTION TO NURSING
1 credit
Designed to introduce student to nursing. Emphasis on historical perspective as it relates to modern trends in preparation of nursing student.

200 INTRODUCTION TO BACCALAUREATE NURSING FOR THE B.N.
Prerequisite: Registered Nurse. Emphasis on role reorientation for B.N.'s seeking a baccalaureate in nursing. Exploring concepts incorporated in the philosophy, conceptual framework and curricular structure of the baccalaureate nursing program. 1 credit (1 lecture hour).

300 NURSING THEORIES AND CONCEPTS
Prerequisite: 100. Demonstrates relationship of relevant concepts and theories from various disciplines with man's interaction with systems. Relates these theories to concepts and practice of nursing in health care system using scientific research approach. 5 credits.

320 NURSING DIMENSIONAL HEALTH I
Prerequisites: 100, 200, 300. Man's interaction throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process used to view this approach as public health experience. 12 credits.

400 NURSING DIMENSIONAL HEALTH II
Prerequisites: 100, 200, 300. Man's interaction throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process used to view this approach as public health experience. 12 credits.

405 HEALTH MAINTENANCE NURSING
Prerequisite: 100. Health maintenance, behavior modification. Emphasis on health maintenance as a reciprocal interaction with ecological variables. 5 credits.

415 DIMINISHED HEALTH NURSING
Prerequisite: 100, 305. Theoretical and clinical concepts. Emphasis on health maintenance as a reciprocal interaction with ecological variables. 6 credits.

420 NURSING SYNTHESIS
Prerequisite: 100, 200, 300, 320. Provides student with professional practice opportunity. Emphasis on providing student with practice in an area of higher skill. Guidance and direction provided to student as necessary by preceptor. 10 credits.

430/530 HEALTH-CARE (CURRENT YEAR); ISSUES AND NURSING
Prerequisite: 100, 200, 300, 320. Provides student with professional practice opportunity. Emphasis on providing student with practice in an area of higher skill. Guidance and direction provided to student as necessary by preceptor. 5 credits.

480 SENIOR HONORS PROJECT
Prerequisite: Senior standing in Honors Program in nursing major. A creative project, independent study or research relevant to nursing is supervised by a faculty preceptor and an adviser. 1-3 credits per semester.

489/589 SPECIAL TOPICS: NURSING 1-4 credits
May be repeated as new topics are presented. Group study of special topics in nursing. May not be used to meet requirements for the major in nursing. May be used for elective credit.

493/593 WORKSHOPS
May be repeated as new topics are presented. Group study of special topics in nursing. May not be used to meet college graduate or graduate major requirements. May be used for elective credit only.

497 INDEPENDENT STUDY
Prerequisite: Senior standing and permission of instructor. Provides opportunity to develop greater depth in an area of nursing through methodology specific to discipline of nursing. 1-3 credits.

498/598 SPECIAL READINGS
Prerequisite: Permission of student's advisor or dean. Special readings in an area of concentration may be taken to satisfy elective credit. Special readings may not be used to satisfy requirements of the major. 1-4 credits.

Graduate Courses

603 THEORETICAL BASIS FOR FAMILY HEALTH NURSING
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. 3 credits.

613 NURSING INQUIRY
Prerequisites: 603 and 347. Philosophies of science and ethics, concept formation and theory development shall be studied. Research in family health nursing with the ecological-phenomenological perspective shall be implemented. 3 credits.

615 FAMILY-HEALTH APPRAISAL
Prerequisite: 603. Seminar and practicum is utilized to study health appraisal. The focus will be on the health of families and extended families across the lifespan. 4 credits.

622 FAMILY-HEALTH NURSING I
Prerequisites: 603 and 619. Theory and practice of family health nursing focusing on concepts, theories and practices related to families and extended families within the ecological-phenomenological perspective. 4 credits.

623 FAMILY-HEALTH NURSING II
Prerequisites: 603, 619 and 622. Continuation of 622. 4 credits.

624 NURSING OF FAMILIES WITH CHILDREN
Prerequisite: Acceptance in the Family Health Nursing Graduate Program. Study of family health nursing focusing on concepts, theories and practices related to families and extended families within the ecological-phenomenological perspective. 3 credits.

625 TEACHING STRATEGIES IN NURSING EDUCATION
Focus on the development and implementation of pedagogical strategies for the selection of learning opportunities effective in the clinical and classroom settings. Use of the family health nurse. 3 credits.

626 NURSING OF FAMILIES WITH ABDUCTIONS
Study of the normal newborn and adult within a family structure. Emphasis on application of the nursing process with the healthy adolescent to the elderly. 3 credits.

628 HEALTH PERSPECTIVE OF THE EXPANDING FAMILY
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on the health care and education of the expanding family. 3 credits.

629 FINANCIAL MANAGEMENT FOR NURSING ADMINISTRATION
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on financial management. Concepts and processes necessary to implement sound financial management for the selection of learning opportunities effective in the clinical and classroom settings. Use of the family health nurse. 3 credits.

630 HUMAN RESOURCES IN NURSING SETTINGS
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on human resources related to human resources in nursing settings. Focus is on those settings where family health nursing is the core of practice, education and research. 3 credits.

635 ORGANIZATIONAL BEHAVIOR IN NURSING SETTING
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on human resources related to human resources in nursing settings. Focus is on those settings where family health nursing is the core of practice, education and research. 3 credits.

670/770 SPECIAL TOPICS
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on human resources related to human resources in nursing settings. Focus is on those settings where family health nursing is the core of practice, education and research. 3 credits.

672 INDEPENDENT STUDY
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on human resources related to human resources in nursing settings. Focus is on those settings where family health nursing is the core of practice, education and research. 1-4 credits.

673 NURSING OF FAMILIES WITH OLDER ADULTS
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on human resources related to human resources in nursing settings. Focus is on those settings where family health nursing is the core of practice, education and research. 3 credits.

675 CULTURE, ETHNICITY AND HEALTH CARE
Prerequisite: Acceptance in the Family Health Nursing Graduate Program or by faculty permission. Emphasis on human resources related to human resources in nursing settings. Focus is on those settings where family health nursing is the core of practice, education and research. 3 credits.
680 FAMILY-HEALTH NURSING LEADERSHIP SEMINAR: DIRECT CARE WITH FAMILIES
Corequisites: 603, 613, 622, 623. Examines family-health nursing practice utilizing the ecological-phenomenological perspective, to identify and explore practice issues and goals.

681 FAMILY-HEALTH NURSING LEADERSHIP PRACTICUM: DIRECT CARE WITH FAMILIES
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.

685 FAMILY-HEALTH NURSING LEADERSHIP SEMINAR: EDUCATION
Prerequisites: 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.

686 FAMILY-HEALTH NURSING LEADERSHIP PRACTICUM: EDUCATION
Prerequisites: 623, 685, corequisite: 689. Guided study and practice in the leadership role of a family-health nurse educator within the ecological-phenomenological perspective.

687 FAMILY-HEALTH NURSING LEADERSHIP SEMINAR: ADMINISTRATION
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.

688 FAMILY-HEALTH NURSING LEADERSHIP PRACTICUM: ADMINISTRATION
Prerequisite: 687. Guided study and practice in the leadership role of a family-health nurse administrator within the ecological-phenomenological perspective.

589 COLLOQUIUM
Corequisites: 681, 686, 688. Similarities and differences of the family-health nurse leadership roles in administration, education, direct care with families within the ecological-phenomenological perspective are examined.

699 THESIS RESEARCH
Prerequisites: 613, 623, corequisite: 623. Family-health nursing research in which selected philosophies, theories, concepts are investigated within the ecological-phenomenological perspective.
School of Law

LAW
9200:

601 CIVIL PROCEDURE I 3 credits
Survey of civil procedure in state and federal courts. Jurisdiction; pleading motions; tender of answers; causes of action; judgments; trial and appellate practice.

602 CIVIL PROCEDURE II 3 credits
Prerequisite: 601. Continuation of 601.

603 CONSTITUTIONAL LAW I 3 credits
Governmental authority and its distribution under Constitution. Introduction to individual rights and liberties.

604 CONSTITUTIONAL LAW II 3 credits
Prerequisite 603. Continuation of 603. Rights, privileges and immunities under the Constitution.

605 CONTRACTS I 3 credits
Nature and purpose of contract law. Formation, consideration, contractual responsibilities, reality of consent, capacity, Stenae of Frauds.

606 CONTRACTS II 3 credits

607 CRIMINAL LAW 3 credits
Nature and source of criminal liability studied in light of modern developments. The act and mens rea concepts required to criminal responsibility. Specific crimes and defenses thereof.

608 EVIDENCE 3 credits
Discusses basic evidence law with emphasis on the Federal Rules of Evidence and state rules pertaining thereto.

610 GENERAL WRITING REQUIREMENT 0 credit (credit/no credit)
[May be repeated]
To fulfill the school's General Writing Requirement as set forth in the faculty-nominated statement (paragraphs 3-1) below, students are required to register for the 610 Noncredit course at the same time as registering for a credit course that qualifies as fulfilling the school's writing requirement.

612 LEGAL PROFESSION 2 credits
Legal profession as an institution. Responsibilities of lawyers, duties and privileges, professional qualifications.

614 PROPERTY I 3 credits
Possession, means by which title may be obtained, fixture, emblements, estates in land, concurrent ownership the deed, the mortgage, the land contract.

615 PROPERTY II 3 credits

616 Torts I 3 credits
Survey of basic tort law and its function, impact of insurance and notions of a locating of cost of unintentionally caused harm on tort doctrines keyed to negligence.

617 Torts II 3 credits
Prerequisite: 616. Continuation of 616.

618 LEGAL RESEARCH 1 credit
Familiarization with legal publications and computer-assisted legal research necessary to perform legal research.

619 BASIC LEGAL COMMUNICATIONS 2 credits
Introduction to basic skills in written exposition and analysis in a legal context through participation in research memos and other written assignments.

620 INTERMEDIATE LEGAL COMMUNICATIONS 1 credit
Enhancement of legal writing skills through preparation of an argumentative brief and other written assignments. Development of oral advocacy skills through presentation of an argument based on a brief.

621 ACCOUNTING FOR LAWYERS 3 credits
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.

622 ADMINISTRATION OF CRIMINAL JUSTICE 3 credits
Administration of criminal justice relating to processes of criminal law to objectives of criminal correction. Effects of federal constitutional provisions on criminal procedure.

623 ADMINISTRATIVE PROCESS 3 credits
Prerequisite: 604. Traditional political-legal theory of separation of powers and the administrative process; process for rule making and adjudication; conscientiousness of administrative determination.

624 AIR LAW 3 credits
Law of modern air transportation in international and domestic flight and emerging area of outer space.

625 ANTITRUST 3 credits

626 BASIC BUSINESS ASSOCIATIONS 3 credits

627 COMMERCIAL LAW I 3 credits
This course focuses on the Uniform Commercial Code with emphasis on Articles 2, 3 and 9 together with the appropriate legislative areas such as the Bankruptcy Act, the Uniform Fraudulent Conveyance Act, the Tax Levy Act, and the FTC Holder Rule.

629 COMMERCIAL LAW II 3 credits
Prerequisite: 627. Continuation of 627.

630 ADMIRALTIES 3 credits
History and jurisdiction of admiralty; carriage of goods by water and combined transport; collision, salvage and insurance, claims for personal injury and death, marine law.

631 CONFICT OF LAWS 3 credits
Problems of distribution of private law in inter-jurisdictional cases involving one or more foreign law elements. Jurisdiction and enforcement.

632 CORPORATIONS 4 credits
Introduction to the law relating to the typical American enterprise. Principal emphasis is on financing, control, management and regulation of corporations by publicly owned and closely held.

633 CREDITORS' RIGHTS 3 credits

634 DEVELOPMENT OF LAW AND SOCIAL CHANGE 3 credits
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.

635 EQUAL OPPORTUNITY LAW 3 credits
Legal developments: primarily federal, affecting discrimination in employment and public accommodations. The major emphasis of this course will be on equal employment opportunity law.

636 FAMILY LAW 3 credits
Major areas of family law. Issues that have influenced its development. Functioning performed by various agencies which seek to effect a non-judicial settlement of domestic problems.

637 FEDERAL ESTATE AND GIFT TAXATION 3 credits
Federal estate and gift taxation relation between federal income tax and federal taxes on gratuitous transfers. Place of federal taxes in estate planning.

638 GIFT TAXATION 3 credits
Prerequisite: 642. Concurrent enrollment with permission of instructor. Analysis of federal corporate taxible problems.

639 FEDERAL ESTATE TAXATION 3 credits
Survey of federal estate tax law with primary emphasis on individual income. May be taken independently of 642.

640 FEDERAL INCOME TAXATION I 3 credits
Prerequisite: 641. Survey of federal income tax law applicable to corporaties.

641 FEDERAL INCOME TAXATION II 3 credits
Prerequisite: 640. Survey of federal income tax law applicable to corporaties.

642 FEDERAL JURISDICTION AND PROCEDURE 3 credits
Prerequisite: 652. Complex federal courts and the Constitution. Appellate and collateral review. Federal question, diversity and admiralty cases. Sovereign immunity, abstention, and requiring states act consistent with federal law common to law.

643 FEDERAL JURISDICTION AND PROCEDURE 3 credits
Federal courts and the Constitution. Appellate and collateral review. Federal question, diversity and admiralty cases. Sovereign immunity, abstention, and requiring states act consistent with federal law.

644 FINANCING STATE AND LOCAL GOVERNMENT 2 credits
Planning, programming, and budgeting of state and local programs. Use of public authorities and special districts. Property tax units, voter limits, state supervision of local finance.

645 BUSINESS REORGANIZATION UNDER THE BANKRUPTCY CODE 3 credits
Prerequisite: 646. This course covers the six stages of Chapter 11 (reorganization under the Bankruptcy Code) proceeding: (1) commencement of a case, (2) operation of the business, (3) preparatory work plan, (4) debtor's confirmation of the plan, (5) final judicial confirmation of the plan, and (6) post-confirmation concerns.

647 JUVENILE LAW 3 credits
Study of laws relating to juveniles: neglect, dependency, delinquency.

648 INSURANCE LAW 3 credits
Legal principles of insurance and愣erty, including insurability, interest in insurance, subrogation, rights of beneficiaries, warranties, material representations, and fraud. Adjustment of claims. Regulation.

649 INTERNATIONAL LAW 3 credits
Nature and breadth of international law, its sources and subjects, relation to municipal law, individuals and international organizations.
650 LABOR LAW

3 credits

650 LABOR LAW II

3 credits

651 LABOR ARBITRATION AND COLLECTIVE BARGAINING
Prerequisite: 650. Law and practice of labor arbitration and collective bargaining, including study of grievance arbitration process pursuant to collective bargaining agreements.

3 credits

652 LAND-USE PLANNING
Prerequisite: 615. Assumptions, doctrines and implications of planning law, zoning, and land use development in post-industrial areas. Prerequisites: 607, 620.

3 credits

653 LEGAL ISSUES IN EDUCATION
School governance allowable discretion, constitutional constraints on restricting freedom of expression and on privacy intrusions; statutory liability for injuries on school property.

3 credits

654 LAW OF CONSUMER CREDIT
Recommended: 627. Consumer sales and credit transactions and their regulation, including specific statutory and administrative approaches dealing with problems of individual consumers and classes of consumers. Prerequisite: 602.

2 credits

655 LAW REVIEW INTERNSHIP
May be repeated twice. Prerequisite: 655. Preparation of comment or article of publishable quality. Credit for 655, 66, 98 not to exceed 10.

1 credit (credit/no credit)

656 LAW REVIEW STAFF
May be repeated twice. Prerequisite: 656. Preparation of comment or article of publishable quality. Credit for 656, 66, 98 not to exceed 10.

1 credit (credit/no credit)

657 LAW REVIEW EDITORIAL BOARD
1 credit (credit/no credit)

Prerequisite: 657 and election to Editorial Board. One credit per term for service on law journal. Credit for 656, 67 and 68 not to exceed four. Credit for 656, 67, 68, 98 not to exceed 10.

1 credit (credit/no credit)

658 LAWYER AS NEGOTIATOR
Prerequisite: 602. Dispute resolution techniques. Conflict resolution; mediation; alternative dispute resolution. Prerequisites: 602.

2 credits

659 SEMINAR IN WORKERS’ COMPENSATION
Prerequisite: 659. Study of contemporary foreign legal systems by discussion of basic problems in specific areas in comparative basis.

3 credits

660 SEMINAR IN CORRECTIONS AND PRISONERS’ REMEDIES
Study of corrections and prisoners’ rights and remedies. Prerequisites: 641.

3 credits

662 SPECIAL PROGRAMS IN ESTATE PLANNING
Prerequisite: 642. Approved for credit by special arrangement with the instructor. Credit not to exceed 3.

3 credits

663 SEMINAR IN INTERNATIONAL TRANSACTIONS
Prerequisite: 651. Study of specific legal problems in international transactions, including choice of law, forum selection, and the conflict between national and international regulations.

3 credits

664 SEMINAR IN SELECTED PROBLEMS IN EVIDENCE
Prerequisite: 658. Study of specific legal problems in evidence, including the rules of evidence and the admissibility of evidence in civil and criminal cases.

3 credits

665 SEMINAR IN INTERNATIONAL LAW
Prerequisite: 655. Study of specific legal problems in international law, including the rules of international law and the role of international courts and tribunals.

3 credits

666 SEMINAR IN JURISPRUDENCE
Prerequisite: 655. Study of specific legal problems in jurisprudence, including the role of judicial decisions, the nature of law, and the relationship between law and society.

3 credits

667 SEMINAR IN LEGAL ISSUES IN EDUCATION
School governance allowable discretion, constitutional constraints on restricting freedom of expression and on privacy intrusions; statutory liability for injuries on school property.

3 credits

668 SEMINAR IN LAW AND MEDICAL ETHICS
Prerequisite: 656. Study of specific legal problems in medical ethics, including the role of medical malpractice in litigation, the ethical considerations in medical decision-making, and the relationship between health care providers and patients.

3 credits

669 SEMINAR IN LEGAL ISSUES IN EDUCATION
School governance allowable discretion, constitutional constraints on restricting freedom of expression and on privacy intrusions; statutory liability for injuries on school property.

3 credits

670 SEMINAR IN CRIMINAL PROCESS
Prerequisite: 622. Study of criminal process including discovery, plea bargaining, jury trials, and guilty pleas. Prerequisite: 670.

3 credits

671 SECURITIES REGULATION
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.

3 credits

672 SEMINAR IN BUSINESS PLANNING
Prerequisite: 633. Preparation of business plan for a hypothetical small business. Prerequisite: 672.

3 credits

673 SEMINAR IN COMPARATIVE LEGAL SYSTEMS
Study of contemporary foreign legal systems by discussion of basic problems in specific areas in comparative basis.

3 credits

674 SEMINAR IN INTERNATIONAL LAW
Study of contemporary foreign legal systems by discussion of basic problems in specific areas in comparative basis.

3 credits

675 SPECIAL PROGRAMS IN ESTATE PLANNING
Prerequisite: 642. Approved for credit by special arrangement with the instructor. Credit not to exceed 3.

3 credits

676 SEMINAR IN Intl. TRANSACTIONS
Prerequisite: 651. Study of specific legal problems in international transactions, including choice of law, forum selection, and the conflict between national and international regulations.

3 credits

677 SEMINAR IN LEGAL ISSUES IN EDUCATION
School governance allowable discretion, constitutional constraints on restricting freedom of expression and on privacy intrusions; statutory liability for injuries on school property.

3 credits

678 SEMINAR IN LEGAL ISSUES IN EDUCATION
School governance allowable discretion, constitutional constraints on restricting freedom of expression and on privacy intrusions; statutory liability for injuries on school property.

3 credits

679 SEMINAR IN POLITICAL AND CIVIL RIGHTS
Prerequisite: 656. Study of specific legal problems in political and civil rights, including the role of the judiciary in protecting individual rights.

3 credits

680 SEMINAR IN PRODUCT LIABILITY
Prerequisite: 617. Study of specific legal problems in product liability, including the role of manufacturers, distributors, and suppliers in ensuring the safety of products.

3 credits

681 SEMINAR IN SELECTED LEGAL PROBLEMS
Prerequisite: 618. Study of specific legal problems in selected areas of the law, including the role of the judiciary in addressing contemporary legal issues.

1-3 credits

682 SEMINAR IN SELECTED LEGAL PROBLEMS
Prerequisite: 618. Study of specific legal problems in selected areas of the law, including the role of the judiciary in addressing contemporary legal issues.

1-3 credits

683 WILLS, TRUSTS AND ESTATES I
Prerequisite: 665. Continuation of 665. Study of specific legal problems in wills, trusts, and estates, including the role of the judiciary in interpreting and enforcing testamentary provisions.

3 credits

684 WILLS, TRUSTS AND ESTATES II
Prerequisite: 665. Continuation of 665. Study of specific legal problems in wills, trusts, and estates, including the role of the judiciary in interpreting and enforcing testamentary provisions.

3 credits

685 WILLS, TRUSTS AND ESTATES II
Prerequisite: 665. Continuation of 665. Study of specific legal problems in wills, trusts, and estates, including the role of the judiciary in interpreting and enforcing testamentary provisions.

3 credits

686 SEMINAR IN SELECTED PROBLEMS IN EVIDENCE
Prerequisite: 670. Designed to give the student extensive practical experience involving specific evidentiary problems in order to supplement the instructions given in the basic Evidence course.

3 credits

687 ADVANCED LEGAL COMMUNICATIONS
Prerequisite: 615. Study of specific legal problems in legal communication, including the role of the judiciary in interpreting and enforcing written communication.

1 credit

688 APPRAISAL ADVOCACY
Prerequisite: 615. Study of specific legal problems in appraisal advocacy, including the role of the judiciary in interpreting and enforcing appraisal standards.

1 credit

689 INTRODUCTION TO TRIAL ADVOCACY
Prerequisite: 615. Study of specific legal problems in trial advocacy, including the role of the judiciary in interpreting and enforcing trial evidence.

1 credit

690 SELECTED PROBLEMS, INTERNATIONAL LAW
Prerequisite: 615. Study of specific legal problems in international law, including the role of the judiciary in interpreting and enforcing international law.

1 credit

691 ADVANCED TRIAL ADVOCACY
Prerequisite: 615. Study of specific legal problems in advanced trial advocacy, including the role of the judiciary in interpreting and enforcing trial evidence.

1 credit

692 PROBATE PRACTICE
Prerequisite: 615. Study of specific legal problems in probate practice, including the role of the judiciary in interpreting and enforcing probate law.

2 credits

693 PROBATE PRACTICE
Prerequisite: 615. Study of specific legal problems in probate practice, including the role of the judiciary in interpreting and enforcing probate law.

2 credits
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 (666, 694.5) not to exceed four. Credit for 655.7, 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 (666, 694.5) not to exceed four. Credit for 655.7, 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 655.7, 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 655.7, 666, 696.8 not to exceed 10.

699 **COMPUTER-BASED 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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Thomas Vukovich, Assistant Dean of the University College, Ph.D.
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Paul S. Wingard, Associate Dean of Business College of Arts, and Sciences, Ph.D.
Directory

279

CHARLOTTE L. ESSNER, Pssoc1ate Professor Ementus of Commumcar,ve Disorders

Emeritus Faculty

1196~1

r Ret 1982J B A rlunter College. M A The Unrversrty of AKron, i 964

ROBERT E. FERGUSON, Professor Ementus of Educc~tton 11965) (Ret December t983) B S,
':' ;:., Ke'l! State Unrve:srty· Eo D Case Western Reserve UnrJersrty 1965

Sept. 1986
NORMAN P. AUBURN, Pres1dent Ementus of the Umverslly. Prcfessot Lrnenlus of Pof,ftCa'
SCience and Consultant (1951) (Ret as Presrdent 1971 Consultaflt 1971 ! B A
C1ncrnnatr. 1927, LL.D Parsons College, 1945, LL.D., Unrversrty of CmCinnatr 1952, [)
Unrversrty of Tulsa 1957 LL 0 Unrversrty of Lrbena (West Afr;cd) 1959. L•tt 0

Washhurr;

Umversrty of Topeka 1961 L H 0 College of Wooster, 1963· Ll 0 The Unrversrty of Akron,
1971, D.C L Umon College, 1979

O.J. GUZZETTA,Pres1den/ Emenlus, Profes:oorEmentus ofHJgherEduca/ion (1954-March 1968 1
(August 1971) (Relrred as Presrdent September 1984) (Retrred August 1985) B A, bJ II
Ed 0 Unrvers1ty of Buffalo, 1953, LL D The Un1versrty of AKron. 1968 D S Sc. Manan
College, 1971

LL D

Kent State Unrversrty 1971

L H D

PAULINE FRANKS, Prolessor f men/us uf BibliOgraphy (April 1950) (Ret December 1983J B S
Ed, Kent State Un1versrty. 8 S L S., Case Western Reserve Unrversrty 1940.
Assoc~c1te Professor Ementus of Nursmg 11970) (Ret 1985) St Agnr~s

EDWARD C. GIBNEY,

PATRICIA P. GODFREY, Assoctate Professor Lmentus of Nursmg (January 1969) (Rei 1986)
B Sr: !'-,' //A E"d Case Western Reserve Unrversrty, M S N Duquesne Unrversrty 1979: R N

A Kent Stole

DENNIS GORDON, Professor Ementus of Accountmg ( 1946) (Rei 198t) A B, M BA, Unrversrty of
Chrcago 1938. CPA Ohro

I~

VAUGHN W. FLOUTZ, Professor Ementus ol Chemistry (1941) (Ret i 970) B A Ol1vet Collcqe,
M /!... Ph 0 tJnrversrty of Colorado. 1932

BellevuE!

Walsh Coilf:'ge. LL D

IRVING ACHORN, Professor £mentus of Art (1965) (Rei December 19831 B S

ALICE M. FLAKSMAN, Assocta/e Protessor Ememus of Mustc (1965) (Ret 1918) B.A, Hunter
C:o:·,qe ~I A Columbra Un1versrty. Teachers College·. Ph 0 The Unrversrty of Akror. 1972

Unrversrty, 1956

EMILE GRUNBERG, Professor t:mentus of Economics ( 1946) 11956'1 (Ret 1970! M A M A, PhD
Unrw~rsrty

of

F~rankftJrt.

1930

VIRGINIA L. ALLANSON, Associate Professor Ementus ol Btb/Jography (October 1968) (Ret
1984) B S Puraue Unrversrty· ~;1 L S Kent State UrJrversrty, 1966

GORDON A. HAGERMAN, Menwer of tht: General Facul!v Ementus iJIJiy 1941 l !Ret 1981) B A

JOHN ARENDT, Instructor Ementus m Surveymg and Construct/On Technology (1 967) (Ret 1980)
B S M.E Cleveland State Unrversrty 1944

DOROTHY HAMLEN, Professo< Emeritus of Btbltography (February 1937) (Ret 19'/2) B A The

WILLIAM J. ARN, Professor Ementus ol Education ( t967) (Ret December t983i B S Eo Onro
Northern Unrversrty: M S Ed, Bowling Green State Unrvcrsity, PhD __ Kent State Unrvers:ty
1967

RICHARD L. HANSFORD, Vice PoesJdent and Dean Ementus of Student Servtces (August 1949)
(8et Oecen1tJer 1985r BAEd M A Ed The Un1versrty of Al<ron. 1954

HELEN MAE ARNETT,AssoctaleProlessorfmerilus oiBib/Jography (1953) (Ret. 1912) B A 1 he
Unrversity of Akron, B S L S Case Western Reserve Unrversity
(Calrfornra), Ph 0 Case Western Reserve Unrversrty. 1965

M A San Jose State College

GERTRUDE BADGER, Associate Professor Ementus of EducatiOn (1965) (Ret 1917) B S Fd

BA

The Ohro State Unrversrty: M Ed Kent State Unrversrty. 1960

FRANK V. BALDO, Professor Ementus of Marketmg (1969) !Ret. 1979) B B A, Fenn Cotlnge
MBA, Case Western Reserve Unrversrty: Ph.D, Pennsylvania State Unrversity 1968

MARIAN L. BAUER, Assoc1ate Professor Ernentus of Nursmg 11969; I Ret 1982) B A

Thu Unrversrty of Akron, 1941
Unrvers,ty of AKron B S.L.S Case Western Reserve Universrty. 1942

CHARLOTTE M. HANTEN, Assoctale Professor Ementus of Art (1969J(Ret. 1982j B A, Earlharn
Cu!rc~]e !v1 Ed Pennsylvanra State Unrversrty, 1954

EDWARD W. HANTEN, Profe::,sor Ementus of Uroan StudieS, Professor Ementus of Geography
PHYLLIS M. HARDENSTEIN, AssoCiate Professor Emenlus of Theatre Arts ( 194 7r ( 1 956) (Ret
1980) B A The Unrversrty ot Akron. M A., Unrvers1ty of Wrsconsrn. 1951
LESLIE P. HARDY, Fmancial Vtce Ptestdent Emeritus (1934) (Ret t9641 B SEd. Kent State

~/d.ry'J',;',e

College: M N, Western Reserve Unrversrty, 1941. R.N.

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l H 0 The Un1vers1ty of Akron, 1935

MARY GRACE HARRINGTON, Assocwte Professor trnerilus of Bibliography (I 960) (Rot 1916)

IRENE C. BEAR, ProfessorEmt:ntus of HomeCconom1cs (1944) (Ret 1968) B S lil,nors '/o/e:_,::;yarl
Unrversrty, M A, Texas State College for Women. 1937

B S The Unrversrty of Akron. 8 A L S Unrversrty of Mrchrgan. 1939

CLARE BEDILLION, Associate Professor Emeritus (1968) (Ret 1915) B.A, Wo•nan s College of
Georgra. M A. New York Un;vers1ty Ph 0 Un1vers1ty of r-l1chigan. 197 4

ELIZABETH J. HITTLE, Professor Ementus of Speech ( 1950) (Ret December, I 978) B S cd 1 he
Un:vcrsrty of AKron. M A Kent State Unrversrty: Ed 0, Case Western Reserve Unrversrty,
t963

EUGENE M. BENEDICT, Assistant Professor t:.mentus in the Commun1ty {~ Techmca/
(January 1969) (Ret 1982) M Drv Boston Universrty School of 1 heolcgy BAEd I~ A

KENNETH C. HOEDT, Prolessortmentus of Education (1962) (Rot. 1986) B S. State Unrversrty of
Ne-N York r'Buffa:o\ 1\.1 S. Ph 0 Unrversrty of W1sconsrn, 1960

Unrvers1ty of Akron. 1964

IRENE HORNING, Asslstnnr Professor E-mentus of Brology (1946) {Ret 1970) St John's Hospnal

ROBERT C. BERRY, Director of Placement Ementus (1946) (Ret 1976) B S B A The Unrversrty at
Akron 1942
MICHAEL BEZBATCHENKO, Professor Ementus of Mechanrcal Enymeenn0 (June t949) (llct
1979) B ME

The Un1versrty of Akron, M S

Case Western ReservP Unrversrty

1 g54

P E Ohro

Akron. 1959

RICHARD B. HOSKIN, Associate Professor Ementus m tne Cornmt.mlty and Techn1cal College
( 196/1 (Ret 1981) B A Hrram College M E Kent StEl.te Unrversitv, 1955

Unrversrty. 1957

ROBERT R. BLACK, Associate Professor Erne11/us of Econom1cs !19~8) (Rei 1 983) B A. C3rl(:!un
College, M B A. Unrversrty of Chrcago: Ph D. Unrversity of Calrlorn1a at Berkeley. 1963
C. ROBERT BLANKENSHIP, Instructor Ementus lflEciucal,on (1952) ( 19561 (Ret 198/r B S B A
The Un1versrty of AKron: M S.Ed, Indiana Ur.rversrty. 1963

JOHN A. BLOUGH, Professor Ementus of EducatiOn (1979t (Ret August 1986) B A Ccilcve o'

0 The Ohro State Unrversrty, 1971

ALLEN M. BOYER, Member of the General Faculty Emeritus (Novemher 1966) (Ret t982) R A
The Unrversrty of Akron, 1942

MARKO BRDAR, Associate Professor Ementus of Chermcal f_ ngmeermg 11 ::J67)

CARLL HUSTON, lnst;uctor bnentus mEngltsh (Wayne General andTcchntcal College) (19/2)
,'Pet '9861 8 S 80'NI•ng Green State Un1versrty, 1951

VINCENT J. BIONDO, Asstslanl Professor Ementus of EducatiOn (1968) (Ret 19761 B A 1/ A,
M A Ed The Unrversily ol Akron, 1957

Wooster, Ph

Scrwol of Nursrng. R N, 1928· B S N. Western Reserve Unrversrty. 1934

MARTHA HOSFELT, ln::,lructor fmentus in Englrsh (1961) (Ret 1971) BA The Ur.rvers.ty of

(Rr~t

1, 982!

RA .

M A, Case Western Reserve Unrversity. 1954

ROY E. BURKEY, Associate Professor Emen/us of Managernem ,Ju!;1981i tRet 198610 S
MBA, PhD. The Ohro Stale Unrversrty, 1971
DONALD R. BURROWBRIDGE, Professor Ementus of Coordmation IJulv! 96oi (Ret 1986) 8 S
Unrvers1ty of Wrsconsrn. MS., V1rgrnra PolytechniC lnstrtutc. 1965
-

ALBERT C. BUXTON, Assoc1ate Professor Emeritus of Electromc Technology (January 1 9/SJ
(Retl986iBSEE M.SEE TulaneUnrvorsrty, 1951
RENA NANCY CABLE, Assoctale Professor fmeritus of Art (1927) (Ret 1953) B.f

M Ed, 1he

FARLEY K. HUTCHINS, Professor Ementus of Mus1c (1%1) (Ret
"9S1

ALFRED H. JOHNSON, Associate Professor Ementus of Education (1956) (Ret 1969) B S,
College of Wooster.

rv

S Ph

0. Unrversrty of Wisconsrn, 1956

DON A. KEISTER, Otsltn!)Uished Professor Ementus of English (19311 (Ret. 1971) B A, MA, The
Un1versrty of Akron, Ph 0., Case Western Reserve Unrversrty, 1947

ROGER F. KELLER, Professor Emerttus of 81o!ogy, Professor Ementus m the Commumty &
Techntca/ Ccollege (1954) (Ret. 1982) B S Universtly of New Hampshrre, Ph.D, Michrgan
State Un·versrty. 1953
ALBERT J. KORSOK, A"ocJale Professor Ementus of Geography (1968) (Ret 1983) B.S., Case
WestP-rn Reserve LJnrversity, M A. Northwestern University, Ph.D Un1versrty of lllrnois. 1960
Bnylo; Universrty, M /',

The University of Akron, Ph D., Case Western Reserve Unrversrty,

1970

WARREN F. KUEHL, Professor Ementus of H1story; D1rector Ementus of the Center for Peace
Studws (1964) (Rei July 1986) B.A. Rollins College: M A, Ph.D, Northwestern Unrversrty,
'954
MILTON L. KULT, Professor Lrnentus of Electncal Engmeenng (,January 1954) (Ret 1983)
B.S E E MS. Univcrs1ty ollllrno1s, 1952:

Un1versrty of Akron 1931

t98:lt M.B, Lawrence

Con~~.c:rvatory of Mus1c. S M M S MD. Schoo! of Sacred Mus•c. U:lron Theologrc8.1 Semr'lary

P E, lltinors. Oh1o

MARY CAPOTOSTO, AsSistant Professor Cmentus of Cornmumca./1ve 01sorders (1968) (Ret
1983) '3 A. The Unrversrty of Akron M A, DePaul Unrversrly, 1961

R. D. LANDON, Protessor Ementus of Clvtl Engmeenng (February 1946) (Ret 1963) C E M S,

MARY ELIZABETH CHESROWN, Member of the General Faculty fmentus (JunP 196.:J; Het


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Unrvers1ty of Akron. M Ed. UnJvers1ty of P11tsburgh. 1946

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974) B S 1 he

KENNETH COCHRANE, Professor Ementus of Phystcal Education I 19481 (Ret 19/:Ji 8 E I he
Unrversrty of Akron M.Ed. U!lrversrty of Prttsburgh. 194:

DONALD M. DAVIS, Assoc1ate Professor Emcntus of TransportatiOn ( 1966) (Ret 19/ I) B S B ;\
Un1versrty of Dayton. M S Unrvcrsrty of North Carolrna. 1952

Ur"lrversrty of Crncrnnatr, 1927, P.E, Ohro

The OhiO State Unrversrty, M L.S., Kent State Unrversrty, 1967

GERALD H. LEVIN, ProlessorEmentusoiEngltsh (1960) (Rei December 1985) AM. Unrversrty of
ChiuJgo· ~J S Case Western Reserve Unrversrty, PhD

Unr';ersrty of Mrchrgan. 1956

WILL LIPSCOMBE, AssoCiate Professor ~mentus of MathematiCS (1921) (Ret 1962) B S Florrda
State CollegP, MS. The Ohro State Unrversrly, 1926

IRWIN DEUTSCHER, Prolesoor Emenlus of Sociology (t97o) (Ret December 1983) B A 1"1 S
M A, Ph 0, Universrty of Mrssourr, 1959

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College (W Va ): M A PhD. The Ohro State Universily, I %9

CONSTANTIN DIMITRIU, Ass1stanr Professor Ernentus of Ciasslc,c, (May 1970) (Ret 1986i
Baccalaureate, Unrversrty of Cluj, Romanra: M A., Natrona! UnJvcnsily of Oucurestr: tv S L S,

DAVID P. LOYD, Assoctale Professor Ementus of Marketmg (1977) (Ret 1984) B A Ashland
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Case Western Reserve Unrversrty, 1969

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1986) B.A. Case Western Reserve Unrvers1ty, MBA., PhD, Kent State Unrversrty 1,980

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W1lrnrngton College. M A Ph.D, The Ohro State Unrversrty, 1954
JOSEPH A. EDMINISTER, Professor Eme(l/us of t:lec/ncal Engmeenng (May 19S7i IP81
December 1983) 8 E.E .. r,) S E. J 0 The Ur·rversrty ot AKron. 1914. P E: Or] o

Farrmont State

THEODORE MACKIW, Professor Ementus of Modern Languages (I 962) (Ret. 1984) PhD
Un1versrty of Frankfurt. 1950

COLEMAN J. MAJOR, Dean Ementus of the College of Engmeenny, Professor Cmentus of
Chem1cal Engmeermg (1964) (Ret December 1979) 8 S Univers1ty of lllmors, PhD. Cornell
Unrversrty. 1941

ANDREW W. MALUKE, Professor Emeritus of Phystcol EducatiOn (February 1946) (Ret. 1982)
B S The Un1versrty of Akron. M A

Kent State Unrversity. 1949


Full-Time Faculty and Administration*

Sept. 1986

WILLIAM V. MUSE, President; Professor of Music (1941) B.S.; Northwestern State University, 1950; M.B.A., Ph.D., University of Akron, 1966.

LARRY A. ABEI, Associate Professor of Biomedical Engineering (1986) B.S., M.S., Ph.D., Carnegie-Mellon University, 1977.


RONNIE C. ADAMS, Professor of Surveying and Construction Technology (1965) B.C.E., Cleveland State University, M.S.C.E., Lehigh University, 1953.


CAROLYN A. ALBANESE, Associate Professor of Home Economics (1978) B.S.; Southern Illinois University at Carbondale, M.S.; The Ohio State University, 1969.

M. TAY ALDERMAN, Associate Professor of Education (1979) B.S., University of Southern Mississippi, M.Ed., University of Texas-Austin, Ed.D., University of Houston, 1976.

DORIS ALDRICH, Associate Professor of Nursing (1983) B.S.N., B.S.Ed., Kent State University, M.S.N., Ohio State University, 1959.

RALPH A. ALEXANDER, Professor of Psychology (1973) B.A., Arizona State University, M.A., Ph.D., University of Rochester, 1974.

TANIA ALEXANDER, Assistant Professor of Music (1970) B.M., The Ohio State University, M.M., Ohio State University, 1974.


ABDUL AMIR AL-RUBAIY, Professor of Education (1972) B.S., M.A., E.D.S., Eastern Michigan University, Ph.D., Kent State University, 1972.

VINCENT A. ALTIER, Research Associate, Institute of Polymer Science, Assistant to the Director, Institute of Polymer Science (January 1985) B.S., Youngstown State University, M.S., The University of Akron, 1943.

JAMES A. AMOS, Coordinator of Medical Technology Program (1985) B.S., University of Michigan, M.A., Carlisle Military Academy, M.S., University of Cincinnati, 1982.

BARBARA S. ANANDAM, Assistant Professor of Nursing (March 1973) B.S., M.S., Enston University, Enston, S. Kansas State Teachers College, 1971.

ALFRED ANDERSON, Associate Professor of Music (1965) B.M., Mississippi College, M.M., Indiana University, 1970.


LODD C. ANDERSON, Associate Professor of Law (1981) B.A., University of Michigan, J.D., Harvard University, 1972.


ALEXIS M. ANKHEEFT, Professor of Psychology (1967) A.B., A.M., University of Michigan at Ann Arbor. Ph.D., Purdue University, 1969.

JAMES L. ANKSON, Assistant Professor of Military Science (June 1983) B.S., West Virginia University, 1969; Major, Infantry.

WILLIAM B. ARBUCKLE, Associate Professor of Civil Engineering (1982) B.S., Ph.D., Ohio State University, M.S.E.E., Ph.D., University of North Carolina at Chapel Hill, 1975.


BARBARA M. ARMSTRONG, Professor of Home Economics (1972) B.S., M.S., West Virginia University, Ph.D., The Ohio State University, 1970.


ROBIN DANE ARNOLD, Associate Professor of Physical Education (Wayne General and Technical College) (1972) B.S., University of Maryland at College Park, M.A., The Ohio State University, 1969.


*The asterisks in parentheses indicate the beginning of service at The University of Akron; unless otherwise stated, service began in the month of September.
Full-Time Teaching Faculty
(by College, School and Department and the University Library)
Sept. 1986

University College

General Studies
HEAD: David C. Field.

ASSISTANT PROFESSORS: John D. Blew, Robert H. Gage, Jim L. Jackson, James E. Martin, James F. Richardson.

Community and Technical College

Division of Allied Health Technology

CHAIRMAN: Professor Biro B.

ASSOCIATE PROFESSORS: Gecald, Assistant Professor: Holly J. Webb.

Division of Associate Studies

CHAIRMAN: Professor Blinn C. Scantlebury.


Division of Business Technology

CHAIRMAN: Professor Lawrence W. Golden.


Division of Engineering and Science Technology

CHAIRMAN: Professor Thomas P. Herbst.


ASSOCIATE PROFESSORS: John W. Edgerton, Barbara A. Gisling, Michael S. Haddad.

Division of Public Service Technology

CHAIRMAN: Professor Joseph R. Lentini.


ASSOCIATE PROFESSOR: John M. Murphy.

ASSOCIATE PROFESSOR: Elisabeth L. Behrend, David A. Hooper.

Buchtel College of Arts and Sciences

Biology

HEAD: Professor David L. Jackson.


ASSOCIATE PROFESSORS: Karen M. Glass, Martha M. Kueh, Dorothy Moyer, Ronald L. Sainbury, Jerry N. Shiner, Monte E. Turner.

ASSOCIATE PROFESSOR: We-Jen Chang.

Chemistry

HEAD: Professor G. Eckhardt, Jr.

DISTINGUISHED PROFESSOR: Joseph P. Kennedy.


ASSISTANT PROFESSORS: Kim C. Calvo, Peter C. Pusch, Helen W. Richter, Michael J. Tischner.

Classics

HEAD: Assistant Professor Jacqueline Hugger.

ASSOCIATE PROFESSOR: Roger E. Gallbricht.

ASSISTANT PROFESSORS: J. Clayton Fant, Gary H. Geller.

Economics

HEAD: Associate Professor Rameal R. King.


ASSISTANT PROFESSORS: Marlene T. Ho.

English

HEAD: Professor R. Paul Merrih.


ASSOCIATE PROFESSORS: Jutia T. Bowker, John Thomas Dulin, Anthony Forster, Patricia Harkin, Julia A. Hill, Mary K. Kitz, Janet E. Martin, Sheryl A. Steventon.

INSTRUCTORS: Alice MacDonald, Arlene A. Totty.

Geography

HEAD: Professor Allen G. Nobile.


ASSISTANT PROFESSOR: Robert B. Kent, II.

Geology

HEAD: Professor Robert G. Corbett.


ASSISTANT PROFESSOR: Annabelle Foss.

History

HEAD: Professor Robert H. Jones.


ASSOCIATE PROFESSORS: Berg Black, June K. Burton, Howard S. Penhewth, Jr.

ASSISTANT PROFESSOR: J. Clayton Fant.

Mathematical Sciences

HEAD: Professor William H. Bell.


Modern Languages

ACTING HEAD: Professor Hugh L. Lleron.

ASSOCIATE PROFESSORS: Anne K. Logue, Eugene A. Maier, Alan J. Muntray, Oljaude V. Meade, Herbert W. Smith, Jr., Isaac Yole.


ASSOCIATE PROFESSORS: Robert Fields, Georgi A. S贇un, Nuary, Zdenek.

ASSOCIATE PROFESSORS: Robert Fields, Georgi A. S贇un, Nuary, Zdenek.

ASSOCIATE PROFESSORS: Joseph D. Tran, Stephen A. Fara, Janice Houser, Syahinian, Christian L. Johnson, Susan Schurz.

Philosophy

ASSOCIATE PROFESSORS: Alain E. Hatt, William E. McManus.

ASSOCIATE PROFESSORS: David F. Cox, James H. Buchanan.
Associate Professors: Carolyn A. Albanese, med 296
Assistant Professors: Dana F. Alexander, Virginia Univer,

College of Fine and Applied Arts

Art

Head: Professor Earl E. Edman
Associate Professors: Brian R. Armstrong, Donald E. Harvey, Danise A. Knecht, Donald D. Taylor

Communicative Disorders

Head: Professor George D. Davis
Associate Professors: Jean L. Brosset, Roberta DePomper, Donald E. Hall, Cara W. Lonierence, Sharon A. Lobster, James M. Lynn, Kenneth T. fibers, Karen B. Turner, William T. Watson, Florence

Home Economics and Family Economics

Head: Professor Mary C. Kinney
Associate Professors: Barbara M. Armbrust, Tomasa M. Caudle, Virginia Fleming

College of Nursing

Professors: Lillian J. DeYoung, Velma Ruth Gray, Kathryn M. Homeier

School of Law

Professors: Richard L. Ayres, Martin G. Behrens, William V. Moyle, Hamilton DeSaulnier, John J. Fina, Richard L. Grant, Donald M. Jenkins, Charles E. Keck, Richard J. Kowal, Mark M. Moore

Wayne General and Technical College

University Librarians

Director: Professor George V. Hooten

Reserve Officers' Training Corps

Wayne State College

Wayne State University, 1982.


College of Nursing

Professors: Lillian J. DeYoung, Velma Ruth Gray, Kathryn M. Homeier

School of Law

Professors: Richard L. Ayres, Martin G. Behrens, William V. Moyle, Hamilton DeSaulnier, John J. Fina, Richard L. Grant, Donald M. Jenkins, Charles E. Keck, Richard J. Kowal, Mark M. Moore

Wayne General and Technical College

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Reserve Officers' Training Corps

Wayne State College

Wayne State University, 1982.


A

Academic Advising Services, 54
Academics, 6
Accounting, Degree Program, 81, 154, 249
Accreditation, 5
Administrative Officers, University, 278
Admissions, 24
Adult Student, 25
Financial Aid, 38
Graduate School, 126
High School/College Program, 25
International Student, 26
Orientation, Freshman, 27
Postbaccalaureate Student, 25
Procedures, 24
Recent High School Graduate, 24
Recommended High School Courses, 24
Special Student, 25
Transfer Student, 25
Transient Student, 26
Advancement/Advisory Councils, 298
Aerospace Studies Air Force, (ROTC), 56, 180
Afro-American Studies:
Certificate Program, 112, 180
AGAPE, 19
Aging Services:
Certificate Program, 112
Air Force ROTC, 56, 180
Alcohol Services Aide:
Certificate Program, 112
Allied Health, 43, 189
Anthropology, 68, 104, 140, 223
Applied Mathematics, 65, 13a
Applied Music, 263
Army ROTC, 57, 180
Art, Degree Program, 84, 104, 255
Art Education, 85
Art History, 84, 104
Ceramics, 85, 104
Crafts, 85, 104
Drawing, 85, 104
Graphic Design, 85, 104
Illustration, 104
Interior Design, 104
Metalsmithing, 85, 104
Painting, 85, 105
Photography, 85, 105
Printmaking, 85, 105
Sculpture, 85, 105
Studio Art, 84
Arts, Degree Program, 44
Arts and Sciences, Buchtel College of, 59, 133, 194
Admission, 59
Credits and Grade-Point Requirements, 31
Degrees Offered, 59
Doctor of Philosophy Degree, 133
Humanities Division, 59
Major Field, 60
Master's Degree, 135
Minor Areas of Study, 104
Natural Sciences Division, 59
Objectives, 59
Preparation for High School Teaching, 60
Programs of Instruction, 60
Requirements, 59
Social Sciences Division, 59
Associate Degree Programs, Listing of, 6
Associate Studies, 44, 182
Athletic Training for Sports Medicine, 78, 150

B

Baccalaureate Degree Programs, Listing of, 6
Background, University, 4
Bierce Library, 17
Bilingual Multicultural Education, Degree Program, 77, 149
Biology, Degree Programs, 60, 105, 135, 194
Botany, 60
Cyto technology, 61
Ecology, 60
High School Teaching, 61
Medical Technology, 61
Microbiology, 61
Physiology and Pre-Professional, 61
Zoology, 51
Biomedical Engineering, Degree Program, 143, 234
Biomedical Engineering Research, Institute for, 170
Black Cultural Center (BCC), 19
Board, Room and, (See Residence Halls)
Board of Trustees, 278
Botany, 60
B.S./M.D., Degree Program, 70
Buchtel College of Arts and Sciences (See Arts and Sciences)
Buildings, Campus, 9
Business Administration Master of, Degree Programs, 152
Business Administration, College of, 80, 105, 152, 249
Accounting, 81, 154, 249
Admission, 80
Cooperative Education, 80
Credit and Grade-point Requirements, 31
Degrees Offered, 80
Finance, 81, 250
Graduation, 81
Joint Law Program, 155
Management, 82, 155, 251
Marketing, 82, 253
Master's Degree, 152
Admission, 152
Requirements, 152
Objectives, 80
Programs of Instruction, 81
Taxation, 154
Transfer of Courses, 80
Business Technology, 45
Business Management Technology, Degree Program, 45, 105, 185
Accounting, 45
Banking, 46
Credit Union, 46
Data Administration, 46
Small Business Management, 46, 122
Bypassed Credit, 28

C

Calendar, 2
Campus, 9
Buildings, 9
Location, 9
Career Planning and Placement, Office of, 16
Cartographic Specialization, Certificate Program, 112
Centers (see Research Centers and Institutes)
Certificate Programs, 7, 112, 180
Afro-American Studies, 112, 180
Aging Services, 112
Alcohol Services Aide, 112
Cartographic, 112
Child-Care Worker, 113
Composition, 114
Computer Physics, 113
Computer Science, 114
Criminal Justice Technology, 114
Criminal Justice/Security Emphasis, 114
Environmental Health, 114, 181
Environmental Studies, 115, 180
Fire Protection Technology, 115
Higher Education, 116
Hospitality Management, 116
Interior Design, 117
Latin American Studies, 117
Life-Span Development: Adulthood and Aging, 117
Life Span Development: Women’s Studies, 118
Linguistics Studies, 118
Manual Communication, 119
Mid-Careers in Urban Studies, 119
Office Administration, 119
Peace Studies, 120, 181
Planning, 120
Professional Communication, 121
Public Policy, 121
Secretarial Science, (See Office Administration)
Small Business Management, 122
Soviet Area Studies, 122
Teaching English as a Second Language, 122
Volunteer Program Management, 123
Certification, State Teachers, 75
Chemical Engineering, Degree Programs, 71, 141, 226
Facilities and Equipment, 11
Chemical Technology, Degree Program, 48, 90
Environmental, 49
Forensic, 49
Geology, 49
Industrial, 49
Rubber and Plastics, 49
Chemistry, Degree Programs, 61, 105, 133, 135, 197
Cooperative Program, 62
Child Care, 19
Child Development, 86
Child-Life Specialist, Degree Program, 86
Civil Engineering, Degree Program, 72, 142, 227
Classics, Degree Program, 63, 105, 198
Greek, 199
Latin, 199
Classical Civilization, 63, 105
Classification of Students, 24
Co-curricular Activities, 20
Departmental Organizations, 20
Listing of, 21
Performing Arts, 20
Personal Interest Organizations, 20
Sports, 20
Student Publications, 21
Commercial Art, Degree Program, 44, 184
Communication, Degree Program, 88, 158, 264
Business and Organizational Communication, 89
Communication and Rhetoric, 89
Mass Media-Communication, 89
Communicative Disorders, Degree Program, 89, 159, 245
Community Counseling, Degree Program, 146
Community and Technical College, 42, 182
Associate Degrees, 43
Baccalaureate Degrees, 42
Cooperative Education, 43
Credit and Grade-Point Requirements, 31
Objectives, 42
Programs of Instruction, 43
Requirements, 42
Community Services Technology, Degree Program, 52, 105, 184
Alcohol Services, 52
Gerontology, 52
Social Services, 52
Volunteer Programming, 52
Computer Center, 14
Computer Physics Certificate, 67, 113
Computer Science, Degree Program, 65, 108, 209
Business, 66
Mathematics, 65
Computer Science, Certificate Program, 114
Construction Technology, Degree Program, 73, 235
Continuing Education and Public Services, 173
Conferences and Seminars, Department of, 174
Education and Research in Adult Development, 174
Life and Work Planning Services, 174
Noncredit Courses, Department of, 173
Training in the Field of Long-Term Health Care, 175
Cooperative Education Program, 7, 43, 62, 65, 67, 71, 80, 182,
194, 236, 249, 272
Cost, 32
Counseling, Freshman, 17
Counseling, Degree Program, 145, 243
Classroom Guidance for Teachers, 146
Community, 146
Elementary, 146
Marriage and Family Therapy, 146
Secondary, 146
Special Education, 145
School Psychologist, 146
Counseling and Testing Center, 17
Counseling Service, 17
Testing Service, 17
Course Listings, 178
Course Numbering System, 31, 178
Credit by Examination, 28
Credit-Noncredit, 28
Criminal Justice Technology, Degree Program, 51, 105, 183
Criminal Justice Technology, Certificate Program, 114
Social Work, 51
Security Administration, 51
Culinary Arts, Degree Program, 45, 107
Cyrotechnology, Degree Program, 61, 196

D

Dance, Degree Program, 92, 106, 270
Dance Organizations, 271
Data Processing, Degree Program, 47, 106, 186
Day Care, 19
Departmental Numbering System, 178
Departmental Organizations, 20
Developmental Programs, 54, 179
Dietetics, Degree Program, 87
Dining Hall Facilities, 18
Diploma Nursing Program, 55
Discipline, 29
Dismissal, 30
Distinguished Student Program, 7, 99, 182
Doctoral Degree Programs, Listing of, 8, 126
Dormitories (See Residence Halls)
Drafting Technology, Degree Program, 50, 192

D
E

Earth Science, Degree Program, 137
Ecology, Degree Program, 60
Economics Education, Degree Program, 1, 70
Economics, Degree Program, 63, 106, 136, 199
Labor Economics, 63, 106
Ecumenical Campus Ministry, 19
Education, College of, 74, 144, 236
   Admission, 74
   Bachelor Degrees, 74
   Bilingual Multicultural Education, 77, 150,
   Certification, 75
   Clinical and Field-Based Experiences, 74
   Credit and Grade-Point Requirements, 31
   Doctor of Education, 145
   Doctor of Philosophy, 144
   Elementary, 75
   Master's Degree, 145
   Non-Majors, 75
   Objectives, 74
   Physical, 78
   Programs of Instruction, 75, 145
   Requirements, 74
   Secondary, 77
   Special, 78
   Student Teaching, 75
   Technical, 77
Education and Research in Adult Development, 174
Educational Administration, 147, 246
Educational Foundations, 149, 236
Education Guidance and Counseling, 243
Educational Technology, Degree Program, 50, 182, 248
   Child Development, 50
   Elementary Aide, 51
   Library Technician, 51
Electrical Engineering, Degree Program, 72, 142, 229
Electronic Technology, Degree Program, 49, 190
Elementary Education, Degree Program, 75, 149, 237
   Counseling, 145
   Dual Certification, 76
   Elementary, 75
   Foreign Language, 76
   Kindergarten — Primary, 75
   Music, 75
   Non-Professional Degree Holder, 76
   Nursery School, 75
   Principal, 147
   Reading Specialist, 149
   Retraining, 76
Engineering, Degree Program, 71, 141, 226
Engineering, College of, 71, 141, 226
   Admission, 71
   Biomedical, 143, 234
   Chemical, 71, 141, 226
   Civil, 72, 142, 227
   Cooperative Plan, 71
   Credit and Grade-Point Requirements, 31
   Degrees Offered, 71
   Doctor of Philosophy, 141
   Electrical, 72, 142, 229
   Facilities, Laboratories and Equipment, 13
   Graduation Requirements for, 71
   Joint Program, 141
   Master's Degree, 141
   Mechanical, 73, 142, 231
   Objectives, 71
   Polymer, 143, 233
   Programs of Instruction, 71
   Requirements, 71
Engineering and Science Technology, 48
   Engineering Computer Science, 231
   Engineering Geology, Degree Program, 137
   English, Degree Program, 63, 106, 136, 200
   English Language Institute, 26, 179
   Environmental Health Certificate Program, 44, 181
   Environmental Studies, Certificate Program, 115, 180
   Environmental Studies, Center for, 170
   Evening College, 8, 101
   Expenses and Fees (See Fees)
F

Facilities and Equipment, 11
   Arts and Sciences, 11
   Community and Technical, 12
   Computer Center, 13
   Education, 12
   Engineering, 13
   Fine and Applied Arts, 14
   Nursing, 14
   University Library and Learning Resources, 17
   Faculty, Alphabetical Listing of, 281
   Faculty, by Division, Listing of, 294
   Faculty, Emeritus, 279
   Family Development, Degree Program, 86
   Fees and Expenses, 32
   Refunds, 36
   Finance, Degree Program, 81, 250
   Financial Aid, 36
      Application, 39
      Computation, 39
      Eligibility, 40
      Federal Programs, 38
      Independent Students, 39
      Inquiries, 40
      ROTC, 57
      State Programs, 38
      Student Rights and Responsibilities, 40
      University Programs, 38
   Fine and Applied Arts, College of, 84, 156, 255
      Admission, 84
      Art, 84, 255
      Communication, 88, 158
      Communicative Disorders, 89, 159
      Dance, 92, 270
      Degrees Offered, 84
      Faculty, Laboratories and Equipment, 13
      Graduation, 84
      Home Economics and Family Ecology, 85, 156, 257
      Master's Degree, 156
      Music, 87, 156, 259
      Objectives, 84
      Programs of Instruction, 84
      Social Work, 89, 159, 267
      Theatre, 91, 158, 269
   Fire and Hazardous Materials Research, Center for, 170
   Fire Protection Technology, Degree Program, 51, 106, 183
   Fire Protection Technology, Certificate Program, 115
   Foods and Nutrition, 86
   Foreign Languages, Degree Program (See Modern Languages)
   Foreign Language, Graduate School, 136, 140
   Fraternities, 21
   French, Degree Program, 136, 211
   Futures Studies and Research, Institute for, 171
G

General Studies, 54, 179
Grades, 165
Graduation, 165
History, 162
Honor System, 165
Honors, 165
Honors and Awards, 167
Joint Business Program, 155, 163
Law Review, 165
Library, 154
Moot Court, 166
Objectives, 162
Pre-Legal Education, 162
Requirements, 164
Scholarships, 167
Writing Program, 164
Learning Resources, 18
Library, 18
Minor, 108
Life and Work Planning Services, 174
Life-Span Development and Gerontology, Institute for, 171, 181
Life-Span Development: Adulthood and Aging, Certificate Program, 117
Life-Span Development: Women's Studies, Certificate Program, 118
Linguistic Studies, Certificate Program, 118
Loans, Student, 39
Management, Degree Program, 82, 153, 251
Industrial Accounting, 82
Production, 82
Personnel, 82
Manufacturing Technology, Degree Program, 49, 191
Computer Aided Manufacturing, 49
Industrial Supervision, 49
Marketing, Degree Program, 82, 253
Industrial, 83
International, 83
Marketing Communications, 83
Physical Distribution, 83
Retail, 83
Marketing and Sales Emphasis, 45
Marketing and Sales Technology, Degree Programs, 47, 187
Fashion, 47
Industrial, 47
Retailing, 47
Mathematical Sciences, Degree Program, 65, 108, 137, 207
Cooperative Program, 65
Mechanical Engineering, Degree Program, 73, 142, 231
Mechanical Technology, Degree Program, 49, 191
Medical Assisting, Degree Program, 43, 188
Medical Studies, 181
B.S./M.D., Degree Program, 70
Medical Technology, Degree Program, 61, 196
Microbiology, 61
Mid-Careers in Urban Studies, Certificate Program, 119
Middle School Degree Program, 150
Military Science (Army ROTC), 57, 180
Ministry, Ecumenical Campus, 19
Minor Areas of Study, 104
Mission of the University, 4
Modern Languages, Degree Programs, 56, 108, 211
French, 211
German, 212
Italian, 212
Russian, 213
Spanish, 213
Multicultural Education, 77, 149, 246
Music, Degree Program, 87, 156, 259
Accompanying, 87, 157
Composition, 88, 156
History and Literature, 87, 157
Jazz Studies, 88, 108
Music Education, 88, 157
Organizations, 21, 262
Performance, 88, 157
Theory, 88, 158
Music Education, 88, 157
Musical Organizations, 21, 262
National Direct Student Loan, 38
Natural Sciences, Division Major, 69
Northeastern Ohio Universities College of Medicine (NEOUCOM), 97, 196
Admission, 97
Cost, 97
History, 97
Location, 97
Program, 97
Purpose, 97
Nursery, Pre-School, 19
Nursing, Degree Program, 93, 160, 272
Admission, 93
Agencies, 96
Credit and Grade-Point Requirements, 31
Diploma, 55
Facilities and Equipment, 14
Graduation, 94
Master of Science Degree, 160
Admission, 160
Instructional Program, 161
Philosophy, 160
Objectives, 93
Philosophy, 93
Probation, 94
Program of Study, 94
Reapplication, 94
Requirements, 93
Off-Campus Programs, 8
Office Administration, 47, 108, 187
Office Administration, Certificate Program, 119
Administrative Secretarial, 119
Word Processing, 120
Office Services Technology, Degree Program, 48
Ohio Instructional Grant, 38
Organizational Development, Center for, 171
Orientation, Freshmen, 27
Counseling, 27
Outdoor Education, Degree Program, 76, 150, 242
Peace Studies, Center for, 171
Peace Studies, Certificate Program, 120, 181
Pell Grant, 38
Performing Arts, 20
Personal Interest Organizations, 20
Philosophy, Degree Program, 66, 109, 138, 214
Physical Education, 78, 150, 241
Outdoor Education, 78, 150, 242
Athletic Training, 78, 150
Physics, Degree Program, 66, 109, 138, 215
Applied Physics/Engineering Physics, 67
Biophysics, 67
Chemical Physics, 67
Computer Physics, 67
Computer Physics (See Certificate Programs), 113
Cooperative Industrial Employment Program, 67
Facilities and Equipment, 11
Geophysics, 67
Physics/Astrophysics/Astronomy, 67
Polymer Physics, 67
Physiology and Pre-Professional, 61
Placement Office, 16
Planning, Certificate Program, 120
Political Science, Degree Program, 67, 109, 139, 216
Political Science/Criminal Justice, 67
Political Science/Public Policy Management, 68
Polymer Engineering, Center for, 171
Polymer Engineering, Degree Program, 143, 233
Polymer Science, Degree Program, 134, 139, 223
Polymer Science, Institute of, 171
Postbaccalaureate Student, 25
Pre-School, Nursery, 19
Probation-Dismissal, 30
Professional Communication, 121
Program Board, Residence Hall, 19
Psychologist, School, 146
Psychology, Degree Programs, 68, 110, 134, 139, 218
Public Policy, Certificate Program, 121
Public Service Technology, 50, 184
Public Services/Outreach Coordination, 174
Publications, Student, 21

R

Radiologic Technology, 43, 189
Reading Specialist, Degree Program, 149, 238
Real Estate, Degree Program, 46, 186
Refunds, Credit, 36
Noncredit, 37
Registration, 27
Repeating a Course, 29
Research Centers and Institutes, 170
Biomedical Engineering Research, Institute for, 170
Economic Education, Center for, 170
Environmental Studies, Center for, 170
Fire and Hazardous Materials Research, Center for, 170
Futures Studies and Research, Institute for, 171
International Programs, Center for, 171
Life-Span Development and Gerontology, Institute for, 171, 181
Organizational Development, Center for, 171
Peace Studies, Center for, 171
Polymer Engineering, Center for, 171
Polymer Science, Institute of, 171
Ray C. Bliss Institute of Applied Politics, 170
Small Business Institute, 172
Technological Assistance, Institute of, 172
Urban Studies, Center for, 172
Residence Halls, 18
Cost, 18
Dormitories, Listing of, 19
Food, 18
Refunds, 37
Residence Hall Council (RHC), 19

S

Schedules, Student, 27
Bypassed Credit, 28
Credit by Examination, 28
Modification of, 27
Transfer Credit, 27
Transient Student, 28
Withdrawal, 27
Scholarships, 38
School and Community Relations, Certification, 147
School Psychology, Degree Program, 146, 245
Secondary Education (All Fields), Degree Programs, 77, 151, 239
Counseling, 146
Principal, 147
Secretarial Science (See Office Administration)
Social Sciences Division Major, 69
Social Work, Degree Program, 89, 159, 267
Social Worker, School, Certification, 147
Sociology, Degree Programs, 68, 110, 134, 139, 220
Sociology/Anthropology, 68, 140
Sociology/Corrections, 58
Sociology/Law Enforcement, 68
Sororities, 21
Soviet Area Studies, Certificate Program, 122
Spanish, 140, 213
Special Education, Degree Programs, 78, 145, 244
Special Education Programs, 247
Special Student, 25
Speech Pathology and Audiology, Degree Program, (See Communicative Disorders)
Sports Activities, 20
Student Development, 16
Student Financial Aid and Employment, 16
Student Health Services, 17
Student Organizations, 21
Student Publications, 21
Student Services, 16
The University of Akron

Student Teaching, 75
Summer Sessions, 8, 101
Superintendent, City, 146
Supervisor, Education, 148
Supplemental Educational Opportunity Grant, 38
Surgical Assisting Technology, Degree Program, 44, 189
Surgeon's Assistant, 44
Surveying and Construction Technology, 50, 192
Construction, 50
Surveying, 50

T

Taxation, Degree Program, 154
Teaching English as a Second Language: Certificate Program, 122
Technical Education, 77, 151, 240
Technological Assistance, Institute for, 172
Testing Service, 17
Textiles and Clothing, Degree Program, 86
Theatre, Degree Programs, 91, 158, 268
Acting, 91
Arts Management, 159
Design/Technology, 91
Musical Theatre, 91
Theatre Arts, 91
Theatre Organizations, 270
TOEFL, 26
Training in the Field of Long-Term Health Care, 175
Transfer Credits, 27
Transfer Student, 25
Transient Student, 26
Transportation, Degree Program, 48, 110, 183
Airline/Travel Industry, 48
Tuition, (See Fees)

U

Undergraduate Student, 24
University College, 54, 179
Academic Advising Services, 54
Developmental Programs, 54
Diploma Nursing Program, 55
General Studies, 54
Objectives, 54
Program of Instruction, 54
Urban Studies, Degree Program, 135, 140, 224
Urban Planning, 140
Public Administration, 140
Urban Studies, Center for, 172

V

Veterans Information, 35
Visiting Teacher, School Social Worker Certification Program, 147
Volunteer Program Management: Certificate Program, 123

W

Wayne General and Technical College, 8, 53
Admission, 53
Credit and Grade-Point Requirements, 31
History 53
Mission and Goals, 53
Withdrawal from Class, 27
World Processing, 120
Work-Study Program, 38
WRHA Radio Station, 19

Z

Zoology, 61

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