<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>About The University of Akron</td>
</tr>
<tr>
<td>2</td>
<td>Student Services and Activities</td>
</tr>
<tr>
<td>3</td>
<td>Admissions, Requirements, Procedures and Cost</td>
</tr>
<tr>
<td>4</td>
<td>Undergraduate Academic Programs</td>
</tr>
<tr>
<td>5</td>
<td>Graduate, Professional and Law Academic Programs</td>
</tr>
<tr>
<td>6</td>
<td>Research Centers and Institutes; Continuing Education and Public Services</td>
</tr>
<tr>
<td>7</td>
<td>Courses of Instruction</td>
</tr>
<tr>
<td></td>
<td>Directory</td>
</tr>
<tr>
<td></td>
<td>Index</td>
</tr>
</tbody>
</table>
Calendar 1983-85

Fall Semester 1983
Day and Evening Classes Begin
*Labor Day
Veterans Day (classes held)
**Thanksgiving Recess
Classes Resume
Final Examination Period
Mon., Aug. 29
Mon., Sept. 5
Fri., Nov. 11
Thurs.-Sat., Nov. 24-26
Mon., Nov. 28
Mon.-Sat., Dec 12-17

Spring Semester 1984
Day and Evening Classes Begin
Founders Day (classes held)
Spring Recess
†May Day
Final Examination Period
Commencement
Mon., Jan. 16
Tues., Feb. 14
Mon.-Sat., March 26-31
To be announced
Mon.-Sat., May 7-12
Sun., May 20

Summer 1984
First 5- and 8-Week Sessions Begin
*Independence Day
First 5-Week Session Ends
Second 5-Week Session Begins
Eight-Week Session Ends
Second 5-Week Session Ends
Mon., June 11
Wed., July 4
Fri., July 13
Mon., July 16
Fri., Aug. 3
Fri., Aug. 17

Fall Semester 1984
*Labor Day
Day and Evening Classes Begin
Veterans Day (classes held)
**Thanksgiving Recess
Classes Resume
Final Examination Period
Mon., Sept. 3
Tues., Sept. 4
Mon., Nov. 12
Thurs.-Sat.,
Nov. 29-Dec. 1
Mon., Dec. 3
Mon.-Sat., Dec. 17-22

Spring Semester 1985
Day and Evening Classes Begin
Founders Day (classes held)
Spring Recess
†May Day
Final Examination Period
Commencement
Mon., Jan. 21
Tues., Feb. 12
Mon.-Sat., March 25-30
To be announced
Mon.-Sat., May 13-18
Sun., May 26

Summer 1985
First 5- and 8-Week Sessions Begin
*Independence Day
First 5-Week Session Ends
Second 5-Week Session Begins
Eight-Week Session Ends
Second 5-Week Session Ends
Mon., June 10
Thurs., July 4
Fri., July 12
Mon., July 16
Fri., Aug. 2
Fri., Aug. 16

*University Closed
**University closed from Wednesday, November 23, at 5 p.m. until Monday, November 28 at 7 a.m.
†Classes suspended Noon to 4:00 p.m.
‡University closed from Wednesday, November 28 at 5 p.m. until Monday, December 3 at 7 a.m.
History

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

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

From 1910 to 1920, Akron was America's fastest-growing city, blossoming from 70,000 to 208,000 persons within that decade, and the University grew similarly. In 1914 a College of Engineering was established. Other professional colleges followed: Education (1921), Business Administration (1953), Law (1959), Community and Technical College (1964), Fine and Applied Arts (1967) and Nursing (1967). To make courses available to a broad cross-section of citizens, a comprehensive evening session was established in 1915. Today over 7,800 Evening College students pursue undergraduate and graduate education in every degree program offered by the University.

In undergraduate education, Akron was an early supporter of the free elective idea (1880s) and general education (1935), the latter program being developed into one of the most fully rationalized in the country. Graduate work evolved from awarding of the first master's degree (1882) to the beginning of doctoral work in 1958. Currently, doctoral programs are offered in 14 fields.

Since Buchtel College initiated college courses in rubber chemistry (1906), it is appropriate that the University's first Ph.D. program was offered in polymer chemistry. However, UA's first major research effort was the Guggenheim Airship Institute which flourished in the 1930s and 1940s.

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

The 150-acre campus with 70 modern buildings is located in a metropolitan area of 1.5 million persons. The University of Akron now enrolls more than 26,000 day and evening students in credit courses and an additional 7,000 in "informal" non-credit education courses. Its students come from 32 states and 60 foreign countries, and its over 50,000 alumni are situated around the globe in positions of responsibility. The University's long-time leadership in continuing adult education and cooperative town and gown activities has been supplemented by the cultural leadership it has provided in the renaissance of artistic endeavor in Akron.

On July 1, 1967, The University of Akron became a state university. Thus, it secured a base that enabled it to extend its influence far beyond local boundaries. Its first 111 years of service prepared it for a widening role in the future.

Mission and Goals

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

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

The foremost goals of The University of Akron are to foster and maintain high standards of quality in program offerings, teaching methods, research projects and public service. The validity of all existing programs, as well as the need for additional ones, is to be evaluated regularly in light of the University's goals and performance; and achievement standards are to be reviewed carefully to ensure excellence.

As an urban institution, The University of Akron strives to encourage a mutually beneficial relationship between the University and its environment by encouraging the use of the surrounding community as a laboratory for teaching and by structuring courses and research to meet the community's particular needs. In terms of educational needs, the University will continue to build on its long heritage of serving those seeking either career changes, professional development or self-enrichment in daytime, evening and weekend courses, through off-campus instruction, cooperative education and workshops. The University, once a small, denominational college, has evolved into an urban multiversity with an international responsibility. At The University of Akron the concept of an urban university has broadened from a demographic definition to a philosophical commitment that encompasses educational needs, social goals and community responsibilities.

These forces mold the philosophy that shape the Mission and Goals of The University of Akron.

Mission

The University of Akron is a comprehensive state-assisted urban university with national and international influence, sharing the same general mission as the other state universities to:

- Provide learning opportunities for a broad spectrum of students.
- Discover new knowledge through basic and applied research.
- Provide a forum for the examination of ideas and concepts and the generation of scholarly dialogue within the established principles of academic freedom.
- Develop necessary educational services throughout the state of Ohio.
- Plan 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.

In addition, The University of Akron's mission has certain distinctive characteristics determined by its location in the service
areas of three major urban centers and the Northeastern Ohio regional area. The University’s specific mission is to meet the educational needs and develop the cultural interests of students who work in and manage the industries, multinational firms, hospitals, businesses, government and other institutions and agencies in this area by providing:

- Academic programs leading to associate, baccalaureate, master’s and doctoral degrees.
- Educational programs which may lead to the awarding of a certificate, continuing education credits or other evidence of personal and professional improvement.
- Consortia with other universities which establish programs such as educational television, the medical school and joint doctoral programs.
- Community and regional commitments and public service which expand educational opportunities.

**Goals**

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

**Goal I**
The University will plan, develop, implement, and measure all of its efforts in light of its primary goal of teaching to provide optimum learning opportunities for students of varying ages, diverse backgrounds and different needs.

**Goal II**
The University will coordinate the growth and emphasis of its own; and by encouraging the integration of faculty and students and graduates.

**Goal III**
The University will provide public service to the urban community through its programs, faculty, students and graduates.

**Goal IV**
The University will coordinate the growth and emphasis of its programs with long-range plans and needs of the community.

**Goal V**
The University will contribute as much as possible within its resources to the development of quality of life for the future of the nation and the world of which the Akron community is a part and upon which its people and economy are dependent.

**Accreditation**

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

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

- Accreditation Board for Engineering and Technology
- American Assembly of Collegiate Schools of Business
- American Chemical Society
- American Dietetic Association
- The American Speech-Language-Hearing Association
- Committee on Allied Health Education and Accreditation of American Medical Association
- Council on Social Work Education (candidacy status)
- National Accrediting Agency for Clinical Laboratory Sciences
- National Association of Schools of Art
- National Association of Schools of Music
- National Council for Accreditation of Teacher Education
- National League for Nursing
- Ohio Board of Nursing Education and Nurse Registration
- Ohio State Department of Public Instruction
- Ohio Board of Nursing Education and Nurse Registration
- Ohio State Department of Public Instruction
- Ohio Board of Nursing Education and Nurse Registration
- Ohio State Department of Public Instruction
- Ohio Board of Nursing Education and Nurse Registration
- Ohio State Department of Public Instruction
- Ohio Board of Nursing Education and Nurse Registration
- Ohio State Department of Public Instruction

The University also holds membership in the following educational organizations:

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

The School of Law is accredited by:

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

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

The University of Akron covers a broad educational spectrum academically. Programs are available leading to the associate (two-year), bachelor's (four-year), master's (graduate) and doctoral (graduate or professional) degrees. A student can study in the College of Business Administration, Buchtel College of Arts and Sciences, Community and Technical College, College of Education, College of 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, sales people, supervisors, secretaries and management assistants. The following is a list of our associate degree programs.

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

Baccalaureate Programs

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

- Accounting
- Art
- Art History
- Ceramics
- Crafts
- Drawing
- Graphic Design
- Metallurgy
- Painting
- Photography
- Printmaking
- Sculpture
- Studio Art
- International
- Biology
- Botany
- Cytotechnology
- Ecology
- Medical Technology
- Microbiology
- Physiology
- Pre-Professional
- Pre-Dental
- Pre-Medicine
- Pre-Veterinary
- Zoology
- Business Administration
- Accounting
- Finance
- Management
- Marketing
- Chemical Engineering
- Chemistry
- Civil Engineering
- Construction
- Design
- Classics
- Greek
- Latin
- Communication
- Business and Organizational Communication and Rhetoric
Cooperative Education

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

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

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

Certificate Programs

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

<table>
<thead>
<tr>
<th>Afro-American Studies</th>
<th>Gender Identity Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartographic Specialization</td>
<td>Linguistic Studies</td>
</tr>
<tr>
<td>Computer Physics</td>
<td>Manual Communication</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Mid-Careers in Urban Studies</td>
</tr>
<tr>
<td>Environmental Studies</td>
<td>Peace Studies</td>
</tr>
<tr>
<td>Higher Education</td>
<td>Planning</td>
</tr>
<tr>
<td>Interior Design</td>
<td>Professional Communication</td>
</tr>
<tr>
<td>Latin American Studies</td>
<td>Public Policy</td>
</tr>
<tr>
<td>Life Span Development: Adulthood and Aging</td>
<td>Real Estate</td>
</tr>
<tr>
<td>Life Span Development:</td>
<td>Secretarial Science</td>
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<td></td>
<td>Soviet Area Studies</td>
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</tbody>
</table>
Graduate School

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

Accounting
Biology
Business/Law Joint Program
*Chemical Engineering
*Chemistry
*Civil Engineering
Communicative Disorders
Economics
Labor and Industrial Relations
*Electrical Engineering
*Elementary Education
Reading Specialist or Consultant
Engineering
Polymer Engineering
English
Family Ecology
Child Development
Family and Child Development
Finance
Geography
Geology
*Guidance and Counseling
*History
International Business
Management
Marketing
Mass Media-Communication
Communication and Rhetoric
Mass Media-Communication
Speech (General)
Mathematical Sciences
Mathematics
Statistics
Applied Mathematics
*Mechanical Engineering
Modern Languages
French
Spanish
Music
Accompanying
Composition
Music Education
Music History and Literature
Performance
Theory
Nursing
Philosophy
Physical Education 1-12
Outdoor Education
Physics
Political Science
*Polymer Science
*Psychology
*Educational Administration and Supervision
*Higher Education
School Psychology
*Secondary/All Fields
teaching Culturally Disadvantaged
*Sociology
Special Education
Taxation
Technical and Vocational Education
Theatre Arts and Dance Arts Management
Theatre Arts
Urban Studies
Public Administration
Urban Planning

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 during summer hours. The courses offered are fully accredited. The Evening College and Summer Sessions enrollment includes students working toward associate, baccalaureate and advanced degrees or are attending for additional education in their chosen profession. The Evening Program is a year-long educational endeavor.

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, Institute for Civic Education, Department of Special Programs and Developmental Programs.

Wayne General and Technical College

In order to better meet the needs of citizens in Wayne, Holmes and Medina counties, the Wayne General and Technical College opened its doors in 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, electronic 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 but 10 buildings. Presently, the campus covers 150 acres and includes 70 buildings with plans to renovate and build additional academic, recreational and parking facilities. The campus is illuminated at night and security personnel patrol the area hourly.

Location

The University is located in a large metropolitan area. Although the campus is centrally located within the city, the 150-acre plot is set apart from the downtown area. Students have easy access to retail outlets, transportation and churches. Automobile travelers find Akron only a short drive south of the Cleveland-Hopkins International Airport, which is located at 354 East Market Street, houses dance studios, a choreography laboratory, student offices, the Ohio Ballet studios, and the mothers of Columbus and Dance Institute's offices.

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

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

Carroll Hall: Adjacent to the Gardner Student Center, Carroll Hall houses classrooms, laboratories and offices for the Department of Counseling and Special Education, Geography, Developmental Programs and Computer Based Education as well as the University's Planning Department, audio-visual services, electronic systems engineering and the Learning Resources Center.

Central Services Building: This building, located 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 at a cost of $1,300,000, this building is located at 185 Carroll Street and houses the University's computer center offices, main computer and workrooms, as well as student and faculty keypunch areas and time-sharing terminals.

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

Buildings

Most of the buildings on campus bear the names of prominent persons from the area who are recognized for their contributions in administration, education, business, science or University service. Major buildings are listed below.
Crouse Hall: Crouse Hall houses the Department of Geology, classrooms and some offices for the College of Education.

Davis Gallery: Named in honor of Professor Emeritus of Art Emily H. Davis, the gallery opened in November, 1974, at 181 East Exchange Street, to provide cultural programs in the visual arts, a showcase for the artistic achievements of students and faculty and the finest exhibitions available of professional artwork.

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

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

Gardner Student Center: This complex was named for Donfred H. Gardner who was appointed dean of men in 1926, named the University's first dean of students in 1937, in 1955 named the University's first dean of administration and later, in 1959, promoted to vice president. He retired in 1962. This facility, which serves as a unifying force in the life of the institution, houses nearly 80 percent of all nonacademic activities on campus. It provides space for bowling alleys, meeting rooms, lounges, student activity and publication offices and workrooms, game and billiard room, University Bookstore, bank facilities, the Gardner Theatre and cafeteria and dining facilities.

Gladwin Hall: Housing the College of Nursing, allied health and biology laboratories, this newly constructed building was named in honor of distinguished alumna, Mary E. Gladwin (1887), who rendered unparalleled service as a war nurse. A $10 million complex opened in 1979, adjacent to Knight Chemical Laboratory, the facility includes a multi-purpose nursing laboratory, simulated six-bed hospital containing surgical labor delivery suite, nursery suite and a well-patient clinic.

Hower House: Located on Fir Hill, the 112-year-old mansion has been designated as an Historic Place by the National Park Service.

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

Kolbe Hall: Recognized by its colonnade arch, this complex was named for the first president of the Municipal University of Akron, Parke R. Kolbe. It houses the University Theatre, instructional media offices and studios, as well as classrooms and offices for the College of Business Administration and the Departments of Environmental Studies and Social Work.

Leigh Hall: Named in honor of Warren W. Leigh, first dean of the College of Business Administration, the facility located 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 130,000-volume law library, classrooms, moot courtroom, appellate-review office, seminar rooms and faculty offices. The center is located 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 center of men's and women's physical education activities. It contains offices of the Departments of Athletics and Physical Education, the ticket sales office, two large gymnasiums, a swimming pool, Office of Sports Information and related training and classrooms.

New South Hall: Owned by the University of Akron's Development Foundation, this building located at 200 East Exchange Street was the Holiday Inn. 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.

North Hall: Located on South Forge Street, this facility houses the administrative service departments of publications, purchasing, internal communications, public information and staff personnel.

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 located 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 unique cultural center was formally opened in 1973, costing more than $13.9 million. Designed to accommodate concerts, opera, ballet and theatre productions, the hall is a masterpiece in
terms of architecture, acoustics and creative mechanisms. It is located at the corner of East Center and Hill Streets.

Physical Plant Operations Center: This building is located at 146 Hill Street 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.

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

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

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

Service Building #1: This building, at 194 East Center Street, provides commercial art studios for the Department of Art.

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, the Division of Sciences and Engineering Technology and Public Services Technology offices and laboratories. The Institute for Life-Span Development and Gerontology and the History of American Psychology Archives also occupy a portion of the building. A student interested in employment counseling and assistance will find the Office of Career Planning and Placement conveniently located in this facility.

South Hall: This facility provides additional studios for the Department of Art.

Spicer Hall: This major student contact building had renovations completed in 1975. It houses the Registrar's Office, Academic Advising Services, the Office of Student Financial Aids and Employment, University College, the Evening College and Summer Sessions, the Parking Systems Office and offices for the University auditor, controller, cashier, accounts payable and receivable and the state examiner.

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

The University Club: Property of The University of Akron's Development Foundation, the club at 105 Fir Hill 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 are located on the second floor of the building.

West Hall: A renovated structure, located 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.

Zook Hall: Named to honor George F. Zook, president of the University from 1925 to 1933. This Buchtel Avenue facility houses the College of Education and provides a lecture room that seats 260, general classrooms, a handicrafts room, a teaching demonstration classroom, a microteaching laboratory, Center for Economic Education and the Student Teaching Office.

Facilities and Equipment

The growth of technology has produced a need for advanced instructional facilities and equipment. In order to provide the most effective and efficient program of study the University relies upon these modern teaching aids.

Buchtel College of Arts and Sciences

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

The Department of Chemistry is located in Knight Chemical Laboratories. The department offers outstanding instrumentation, such as nuclear magnetic resonance spectrometers, research grade gas chromatographs, infrared and ultraviolet spectrophotometers and other modern research tools for identification and characterization of their compounds. The University's Chemical Stores facility is located in the Department of Chemistry and maintains an inventory of more than 2,500 items including chemicals, glassware and apparatus.

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

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

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

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

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

The Department of Sociology facilities include a 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. The anthropology laboratories contain a variety of equipment necessary for cleaning and analyzing artifacts.

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

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

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

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

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

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

College of Education

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

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

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

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

College of Engineering

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

The Department of Civil Engineering staffs four major labora­ries. 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 as well as meters to determine pH, dissolved oxygen, conductivity and turbidity. Water/wastewater analytical kits and pH and dissolved oxygen meters are also available for field studies.

In the hydraulics laboratory a tilting flume enables the student to visualize water flow in streams and rivers. Models of bridges and dams can be studied; the wave tank enables a student to study the effect of waves on lakeshore erosion, harbors, marinas, breakwaters and off-shore structures; the mobile bed tank is used to demonstrate erosion and sediment deposition patterns around bridges, piers and culvert and storm drain outlets; with the flow visualization tank, a student can observe velocity profiles within the channels and around models by observing the hydrogen bubbles generated by the system.

In the soil mechanics and foundation engineering laboratory a student learns how to make various soil analyses by using triaxial cells, direct shear machines and compression machines to determine shear strength characteristics, a nuclear moisture-density device which is used in quality control during embankment construction and seismic and electrical resistivity equipment for geophysical exploration of soil and rock deposits.

In the structural materials laboratory the opportunity to observe experimental verifications of earlier training on the behavior of structural members subjected to tension, compression, bending and torsion is accomplished with the use of three universal testing machines, an MTS closed-loop system which has a loading capacity of 300,000 pounds and two Instron dynamic testing machines which can be used in either uniaxial or torsional loading. The laboratory also features a specially stiffened floor which is used for conducting bending tests of large steel and reinforced concrete beams as well as large size wall panels used in prefabricated construction. A student also has the opportunity to utilize multichannel strain indicators, oscilloscopes, x-y plotters and magnetic amplifier systems.

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

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

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

College of Fine and Applied Arts

The Department of Art provides a complete studio environment which includes easels and drawing boards; a ceramics studio with pottery wheels and kilns; a metalsmithing/jewelry laboratory offering casting and fabricating equipment; photographic lights; tools and darkroom facilities; weaving looms; a printmaking workshop and a sculpturo shop with equipment for construction with wood, metal, clay, plaster, stone and foundry work including bronze and aluminum. The Graphic Design/Commercial Art studio is a complete visual communications facility with typositors, plate makers, typesetters, stat cameras, enlargers, laminators, a Diazo machine, Colosea proofing system and an offset lithographic press. The department's Apple II computers are used to further develop student potential and keep current with new trends in the art field. Continuous visual exhibitions are housed in the Emily Davis Gallery and the Guzzetta Hall Atrium Gallery.

The Department of Communication features a classroom/studio equipped with color cameras, lights, monitoring and control boards, slide and film chain and audio studio and video tape recorders. Radio facilities, located within WAUP-FM, include audio control boards, turntables, studios and a newsroom. In addition, the department now maintains a media editing/production laboratory/classroom.

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

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

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

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

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

College of Nursing

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

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

Computer Center

The Computer Center is centrally located on 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. A variety of peripheral equipment is attached to these computers including magnetic tape drives, disk drives and remote terminals. There is also a PRIME 850 computer which is dedicated for support of the College of Engineering Graphics Laboratory. An IBM 3881 Mark Sense Reader creates computer-readable tapes from specially marked forms providing fast and reliable data entry for test scoring services and surveys.

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

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, keypunch machines 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 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.

Learning Resources

The Center for Computer Based Education (CBE) is located in Carroll Hall 325B and offers coursework in English, chemistry, mathematics and foreign languages and conducts seminars for faculty to orient them towards and encourage them to use CBE and the emerging technology. It also provides those faculty who wish to integrate instructional computing into their curriculum with assistance in designing, developing, implementing and evaluating CBE courseware.

Instructional Media incorporates the departments of Audio-Visual Services, Electronic Systems and the Instructional Television Center.

Audio-Visual Services contains a centralized collection of instructional materials (film strips, slides, etc.) for the purposes of supplementing University professors' lectures. An extensive collection of moveable media—hardware and mediated software is housed in the audio-visual area for faculty and student use. Audio-Visual Services also prepares original artwork and photographic materials used by instructors for reinforcement of classroom learning principles. Electronic Systems complements the sophistication required by the Audio-Visual Services and the Instructional Television Center in the areas of facilities planning, installation of satellite learning resource areas and the maintenance of electronics equipment.

The Instructional Television Center functions as an effective teaching tool through continuous production of lectures originating from the center's studio. These are transmitted via 24 video channels and 15 audio channels to most classroom buildings on the university campus from the instructional Media Distribution Center.

The Learning Resources Center (LRC) is located in Carroll Hall 200. The LRC is equipped with 36 active learning carrels and 24 table study stations. The center is under supervised operations for an average of 50 hours weekly for the student to meet the natural sciences requirement.

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, etc.; 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.
Student Services

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

Student Development

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

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

Student Financial Aid and Employment

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

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

Career Planning and Placement

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

For the graduating student, opportunities are provided for interviews with on-campus representatives of prominent businesses, industries and branches of government, including the military services and education at the primary, elementary and secondary levels. Information on careers in both administration or teaching at the college and university level is available. In addition, direct job referrals are made to registrants; credential files are maintained and mailed upon request; company literature is available and career planning is provided.

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

Student Health Services

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

A residence hall student receives bed care for up to 72 hours, without charge. Students receiving bed care longer will be charged the daily rate which is currently charged by local hospitals for similar services.

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

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

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

In order 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.
Student Legal Programs

This office represents an innovative and unique approach to providing necessary, but limited, legal assistance to the student. While not providing the type of legal counseling that may be considered to be the practice of law, this office does provide assistance, guidance, and referral with respect to private rights which a student believes exist.

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

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

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

Counseling and Testing

The center provides psychological counseling, therapy and testing without charge to any student enrolled for credit as well as to faculty and staff.

Counseling Service

The center's Counseling Service offers assistance in the following areas:

- Career counseling involves discovering one's interests, needs, values, aptitudes, abilities, and goals, relating these to the world of work: exploring appropriate major subjects and career fields. A library of occupational information materials is available for use in connection with career exploration.
- Personal-emotional counseling deals with feelings of loneliness, inadequacy, guilt, anxiety and depression, harmful involvement with alcohol and drugs, interpersonal relationships especially with the immediate family, dating partners and roommates; personality development, identity and self-esteem.
- Educational counseling relates to educational goals, motivation, attitudes, abilities, and the development of effective study habits and skills.
- Group educational programs are offered in such areas as self-awareness and personal growth; improving grades, career counseling, improving relations with others, communications and listening skills; midlife career change and understanding and accepting an individual's sexuality.
- Consulting services deal with concerns of non-traditional 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, foreign language placement testing, 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).

In addition, individual testing is offered in conjunction with counseling. Such tests cover vocational interests, aptitudes, achievement, personality, assessment of learning disabilities, etc.

The Counseling and Testing Center is located in Simmons Hall. Counseling service, individually or in groups, is available by appointment or on an immediate basis, when necessary.

Bierce Library

Bierce Library is divided into two major segments: the main library on East Buchtel Avenue and the Science-Technology Division in Auburn Science and Engineering Center 104.
There are over 1,800,000 books, pamphlets, pictures, government documents, microforms, maps, records, audio tapes, films, filmstrips, slides and archival materials in the library. In addition, the library subscribes to over 4,300 periodicals. Through the University's membership in the Center for Research Libraries, interlibrary loan activities and reciprocal borrowing arrangements with other Ohio academic libraries, Bierce Library can provide the student with access to vast resources.

A student identification card serves as the library card. Group study rooms and photcopying services are available.

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

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

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

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

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

Cost: Room and Board
The current rate for housing accommodations and food service is $2,180 per year ($1,090 per semester).

Housing accommodations are also available during the summer on a limited basis. The charges are: per night, $5.50; per session, $176; and for the entire summer school period, $352. These prices reflect the cost of rooms only. A student is responsible for meals.

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

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

Residence Hall Radio Station (WRHA)
WRHA is the residence hall radio station 590 AM. The station is staffed entirely by students and participation is open to all University students.

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

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

Residence Halls

<table>
<thead>
<tr>
<th>Residence Hall</th>
<th>Number of Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha Gamma Delta House</td>
<td>52</td>
</tr>
<tr>
<td>464 E. Carroll Street</td>
<td></td>
</tr>
<tr>
<td>Battick Hall (women)</td>
<td>24</td>
</tr>
<tr>
<td>421 E. Carroll Street</td>
<td></td>
</tr>
</tbody>
</table>
Hourly Pre-School

The Hourly Pre-School is open to children of a student or faculty member while they are in class or studying. 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. Children must be between the ages of two and one-half through six years, and tuition is $1.10-$1.35 per hour. Registration is handled on a per-semester basis for all parents and space is allotted hourly on a "first-come" basis.

Ecumenical Campus Ministry

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

A student is invited to share in this ministry through participation in any of its programs and services. The Catholic campus ministers are available at the Newman Center, 143 South Union Street (north of Olin Hall); and the Protestant minister is available at the AGAPE Center, 263 East Mill Street.

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

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

Learning through research papers, classes and experiments is equally as important to students as the learning experience obtained through social life. It is with pride that the University offers great opportunities for student involvement through over 180 different student activities.

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

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

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

Performing Arts

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

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

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

A University student interested in music may audition for membership in the famous 250-piece Marching Band, the Concert Choir, the Jazz Pops Vocal Ensemble, the award-winning Jazz Ensemble, the University Orchestra, the select Student/Faculty Chamber Orchestra, the Symphony Band, the outstanding Opera Theatre, the Evening Chorus which performs regularly with the Akron Symphony Orchestra or any number of other small or specialized musical ensembles or clubs.

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

Sports

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

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

In order to enhance and expand classroom learning, many academic departments sponsor organizations which provide social and educational programs in a particular field of study. Speakers, Career Nights, associations with professional societies and projects to sharpen professional skills are a few of the activities these organizations sponsor.

Personal Interest Organizations

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

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

In addition to organizations, there are opportunities for students to hold a position on a number of all-campus advisory committees. These groups, while technically not organizations, are open to interested students and function as organizations with the same benefits for their members.

One of these, the Campus Activities Board (CAB), strives to present a unique and diverse package of events to all University students, with an emphasis on cultural and educational events and festivals. Stressing a cooperative relationship with other campus organizations, CAB will train interested students in the presentation of campus activities. Highlights of each collegiate year include CAB’s annual Renaissance Fayre in December and its annual Native American/Indian Festival in April. Lectures, theatrical presentations, concerts, dance performances, film screenings and exhibitions are some of the other presentations highlighted by the Campus Activities Board.

The Gardner Student Center presents another opportunity through Student Center Programming (SCP). SCP is an activities board responsible for providing social and recreational activities and programs for all students who use the Student Center.

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 describing campus events. Copies of each edition are distributed to students free of charge at various spots on campus.

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

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

Arete is composed of journals and newsletters produced by law students to advance the goals of the profession, present opinions of contemporary issues related to law and to facilitate communication among law students.

Directory of Student Organizations

July 1983

Athletics

Cheerleaders
Freibee Club
Gymnastics Club
Intramurals — Men’s, Women’s
Karate Club (Tae Kwon Do)
Ski Club
Table Tennis Club
Water Ski Club

Communications and Publications

Airos (literary magazine)
Amateur Radio Club
The Buchtelite (newspaper)
Forensic Union
Tel-Buch (yearbook)
WRHA
Women in Communications

Departmental Organizations

Accounting Association
Administrative Management Society
American Chemical Society
American Institute of Chemical Engineers
American Society of Civil Engineers
American Society of Mechanical Engineers
American Society for Personnel Administration
Biology Club
Collegiate Nursing Students
Computer Science Club
Council for Exceptional Children
Data Processing Club
Der Deutsche Studentenklub
Electronics Club
Finance Club
Geography Club
Industrial Management Student Association
Institute of Electronic and Electrical Engineers
International Food Service Executive Association
Johnson Club (English)
Le Cercle Francais Universitaire
Math Club
Medical Assisting Club
Medical Technology Club
Philosophy Club
Psychology Club
Slavic Club
Social Work League
Society of Physics Students
Student Art League
Student Dietetic Association

Evening College

Alpha Sigma Lambda
Chi Sigma Nu
Evening Student Council
Gamma Beta
Nite-Life (newspaper)
Phi Beta Sigma Fraternity, Inc.

Graduate Student Groups

Chinese Student Association
Graduate Student Council

Association of College Honor Society Members

Alpha Kappa Delta (sociology)
Eta Kappa Nu (electrical engineering)
Kappa Delta Pi (education)
Kappa Omicron Phi (home economics)
Omicron Delta Kappa (student activities)
Phi Alpha Theta (history)
Phi Eta Sigma (freshmen)
Pi Delta Phi (French)
Sigma Delta Pi (Spanish)
Sigma Pi Sigma (physical)
Tau Beta Pi (engineering)

Other Honor Societies

Alpha Alpha Alpha (social work)
Beta Gamma Sigma (business administration)
Deltata Alpha Alpha (German)
Financial Management Association Honor Society
Mu Kappa Tau (marketing)
Omicron Delta Epsilon (economics)
Phi Theta Kappa (Community and Technical College)
Pi Mu Epsilon (mathematics)

Professional Fraternities

Alpha Epsilon Rho (broadcasting)
Delta Alpha Phi (accounting)
Delta Nu Alpha (transportation)
Delta Sigma Pi (business)
Lambda Alpha Epsilon (criminal justice)
National Student Speech and Hearing Association
Phi Delta Kappa (education)
Pi Lambda Theta (education)

Recognition Societies
Gamma Theta Upsilon (geography)
Honors Club
Kappa Kappa Psi (band)
Pi Kappa Delta (forensic)
Pi Sigma Epsilon (marketing)
Tau Beta Sigma (band)

Law Groups
ARETE
Black American Law Students Association
Bracton's Inn
International Law Society
Law Association for Women's Rights
Phi Alpha Delta Law Fraternity
Student Bar Association

Military Recognition Societies
Arnold Air Society — AFROTC
Pathfinders — Army ROTC

Performing Arts
Choral Ensembles
Jazz/Pops Singers
Men's Glee Club
Opera Theatre
Symphony Chorus
Concert Choir
Women's Glee Club

Experimental Dance Ensemble
Instrumental Ensembles
Brass Choir
Chamber Orchestra
Jazz Ensemble
Jazz Sextet
Percussion Ensemble
Marching Band
University Orchestra
University Steel Drum Band
Symphony Band
Wind Ensemble
Woodwind Choir
University Theatre Guild

Personal Interest
Advertising Association
Akron Simulation Society
American Congress on Surveying and Mapping
Arab Students Organization
Associated General Contractors
Associated Students Government
Black United Students (BUS)
Campus Campaign for Reproductive Rights
Center for Concern
Chess and Go Club
Chinese Martial Arts Club
College Republicans

Democrats Club
Future Physicians Club
Gospel Chorus
Hellenic Club
Indian Students Association
International Affairs Society
International Students Club
Malaysian Students Organization
Minority Business Students Association
Nigerian Student Union
Cutting Club
The Palestine Club
Phi Law Club
Public Relations Student Society of America (PRSSA)
Residence Hall Council
Residence Hall Program Board
Sancti Class Board
Stargate
Student Toastmasters Club
Turkish American Student Association
Vietnamese Student Club

Religious Organizations
The Alpha Omega Christian Fraternity
American Friends Service Committee
Bahá'i Club
Baptist Student Union
Ecumenical Christian Fellowship
Kappa Phi Club
Students for Christ
True Vine Campus Ministry
University Christian Outreach (formerly Bread of Life)

Social Fraternities
Alpha Phi Alpha
Delta Tau Delta
Lampada Chi Alpha
Phi Beta Sigma
Psi Delta Theta
Pi Kappa Psi
Phi Kappa Tau
Phi Sigma Kappa
Pi Kappa Epsilon (Lone Star)
Sigma Nu
Sigma Pi
Tau Kappa Epsilon
Theta Chi

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

Panhellenic Council
Admissions

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

Recommended High School Courses

Students should pursue the following college preparatory curriculum:

- 4 units of English
- 3 units of mathematics
- 3 units of science
- 3 units of social science
- 3 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 to those required in mathematics and science.

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

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

Classification of Students

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

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

Admission Procedure

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

Admission procedures vary slightly for different types of students. The various admissions categories include recent high school graduate, adult student, transfer student, postbaccalaureate student, special student, transient student and international student. For information on admission to Graduate School, see Section 5 of this Bulletin.

Recent High School Graduates

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

- Obtain an application form from the Office of Admissions. If your request is by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student payment is being made.
- At the time of application, a student transcript must be sent to the Office of Admissions. The record must be received 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 placement test results. If a mathematics or English placement test is deemed necessary to comply with this policy, the student must take the appropriate placement test(s) in mathematics and/or English by the completion of your first term of attendance. In order to arrange for the mathematics test, contact the Testing Bureau, Simmons Hall 161, at 375-7084. The English test can be taken by contacting the Department of Developmental Programs, Carroll Hall 210, at 375-7087. Have test score(s) interpreted by contacting the dean of the University College, Spicer Hall 214, at 375-7086, two days after taking the appropriate test(s). Please note that failure to take the required test(s) prohibits enrollment in college-level mathematics and/or English courses.

- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.
- In the letter of admission to the University, directions for academic counseling will be explained. All freshmen receive academic advisement through Academic Advising Services of the University College. The evening student at the same level will be advised by the Evening College.

Adult Students

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

The following application procedures should be followed:

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

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

- If the student is under 21 years of age the student must submit results of either the ACT or SAT. The University of Akron's Counseling and Testing Center serves as a testing center for the ACT test.

These test scores are needed before an applicant is formally admitted to the University.

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 is eligible to re-enter the institution from which transfer is desired, and the student presents scholastic records judged to be satisfactory by University of Akron officials. The assessment of scholastic records may include consideration of prior courses, grade point average, credit value and other such factors which the University or individual colleges use in evaluating, ranking or otherwise determining admissibility to the University or to specific programs.

A transfer student should apply as follows:

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

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

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

- The University requires enrollment in basic mathematics and/or English if the student’s academic advisor determines that deficiencies exist in one or both of these areas. This recommendation will be
based on the following: Work completed at a previous institution in math 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) in mathematics and/or English by the completion of first term of attendance. (Arrange for the mathematics test by contacting the Testing Bureau (Simmons 161, 375-7084); arrange for the English test by contacting the Department of Developmental Programs (Carroll 210, 375-7087), and have test score(s) interpreted by contacting the dean of the University College two days after taking the appropriate test(s).

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

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

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

• Information regarding registration for classes and academic advisement will be forthcoming in the letter of admission to the special student program.

Transit Students

An undergraduate transit student must apply to the Office of Admissions. A graduate student must apply through the Graduate Program's Office.

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

• Obtain a transit student application from the Office of Admissions. The University of Akron, Akron, OH 44325. Fill it out and return it with the non-refundable application fee (a one-time charge).

• Receive advice and written approval by the home institution of the coursework for which the student plans to enroll.

• After admittance, information regarding registration will be received.

The admissions officers act as transit student counselors, and one day of open registration is set apart for transit students to register for classes.

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 post-baccalaureate student through the Office of Admissions.

This procedure should be followed:

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

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

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

• In the letter of admission, the student will receive information on registration and instructions for academic counseling by a faculty member in the appropriate department.

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 1982-83 academic year, approximately 713 students with citizenship other than the United States attended the University. These students represent 83 countries and are pursuing studies in a number of major fields.

Admission Procedures

Applicants from abroad can be admitted to the University only in September, the beginning of the academic year. All admission requirements should therefore be completed by July 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, Ohio 44325 USA. Fill it out and return it with the non-refundable application fee (a one-time charge).

• Submit official transcripts from all secondary or middle schools and all universities attended previously. Original records in languages other than English must be accompanied by exact English translations.

• International students must also complete an autobiographical essay to be included with the application. This essay should cover any significant personal, occupational and educational experiences.

• Proof of English language proficiency. The University requires each student for whom English is not the native language to participate in the Test of English as a Foreign Language (TOEFL). This test is administered throughout the world in major cities. Applications may be obtained from bi-national agencies, USIS offices or by applying directly to Educational Testing Service, Princeton, N J 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 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 $7,500 per year for undergraduate and graduate study for tuition and living expenses while attending. Immigration regulations prevent a student from earning any substantial portion of this amount. There are virtually no scholarships available to an undergraduate from abroad, although a graduate student may request and often receives 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. This insurance coverage is mandatory.

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 (1-20) from the international student adviser. During orientation, the international student is given an English language placement examination in addition to the proficiency examination overseas. The student may be required to participate in noncredit English classes if it is felt the results of this placement examination warrant such action.

English Language Institute

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

Special Note

The University has a director of International Programs, a full-time international student adviser and instructors of English as a Second Language. If an international applicant has questions about housing, climate or immigration regulations, the student is encouraged to contact the international student adviser directly.

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

Special International Education Programs

The University sends students to different parts of the world as part of its continuing program — Classrooms Around the World. This program, offered for graduate or undergraduate credit, began in 1960.
Procedures and Requirements

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

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

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

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

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

Student Schedules

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

A day student in the University College and a first-term student in the Community and Technical College should make all changes through an 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 the student's adviser. After midpoint of a course, a student must have the written approval of both the course instructor and the student's adviser in order to withdraw. Such approval must be dated and processed through the offices of the Registrar and the Cashier prior to the final examination period. Should the instructor or adviser refuse to sign the withdrawal form, the student may appeal to the dean of
the student's college, who shall make the final decision after consultation with the instructor and advisor who declined to approve the withdrawal.

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

A student may be dropped from a course by the dean if absences are repeated and the instructor recommends this action. A dismissed student may gain readmission only with the permission of the instructor and the dean. A student dropped from a course receives an "F" which counts as work attempted whenever grade-point ratio calculations are made.

Transfer Credit
Coursework taken at an institution of higher education in the United States of America which is fully accredited or has been granted candidacy status by Middle States Association of Colleges and Schools/Commission on Higher Education (MSA/CHE); New England Association of Schools and Colleges (NEASC); North Central Association of Colleges and Schools (NCA); Northwest Association of Schools and Colleges (NASC); Southern Association of Colleges and Schools - Commission on Colleges (SACS); Western Association of Schools and Colleges - Accrediting Commission for Senior Colleges (WASC-Sr.); Western Association of Schools and Colleges - Accrediting Commission for Junior Colleges (WASC-Jr.) as designated in Accredited Institutions of Postsecondary Education - Programs/Candidates as published for The Council on Postsecondary Accreditation (COPA) by the American Council on Education will be listed on The University of Akron official academic record. Each course will reflect the course number, title, grade and credit value; no grade-point value will appear on the record and no grade-point average will be calculated for the coursework listed. The name of the institution will be listed on the University official academic record as well as the date that the coursework was taken.

Credit by Examination
A student interested in earning credits by special examination may do so with the permission of the dean of the student's college and the dean of the college in which a particular course is offered and by payment of the 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 the General 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.

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Transient Student
A University of Akron student may take coursework 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 coursework listed. The name of the institution will be listed on the University official academic record as well as the date that the coursework was taken.
Grade 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.

With the consent of the student's adviser, the first or second year of foreign languages may be taken on a "CR/NC" basis at any time the student is registered, regardless of the grade-point average.

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

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

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

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

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

A student taking a course on a noncredit basis is expected to meet the full requirements of the course as required by the instructor.

Re-Examination

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

*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.
Repeating Courses

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

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

The student must repeat the same course within 12 months of the completion of the prior attempt unless given special permission by the student's dean to extend this period or substitute another course if the previous course is not longer offered. Such 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>
</tr>
<tr>
<td>B+</td>
<td>3.30</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.70</td>
</tr>
<tr>
<td>C+</td>
<td>2.30</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.70</td>
</tr>
<tr>
<td>D+</td>
<td>1.30</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>D-</td>
<td>0.70</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
<tr>
<td>AUD (Audit)</td>
<td>0.00</td>
</tr>
<tr>
<td>CR (Credit)</td>
<td>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 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 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 coursework during the term because the nature of the course does not permit completion within a single term, such as work toward a thesis.

PI — Permanent Incomplete: Indicates that the student's instructor and the instructor's dean have for special reason authorized the change of an incomplete ('IP') to a permanent incomplete ('PI').

W — Withdraw: Indicates that the student registered for the course but withdrew officially sometime after the second week of the term.

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

INV — Invalid: Indicates the grade reported by the instructor for the course was improperly noted and thus unacceptable for proper processing.

*Fully accredited by an appropriate regional accrediting association or which has a "G" intergrated Transfer Credit Practices of Selected Educational Institutions: the American Association of Collegiate Registrars and Admissions Officers.
Importance of Grades

A student becomes either eligible or ineligible to remain at the University, according to the grade-point value of each grade for each course the student has completed. A student who maintains specified levels of scholastic achievement receives privileges to participate in extracurricular activities.

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

A student must maintain a grade-point average of at least 2.00 ("C") and complete approximately 30 credits to be eligible to transfer to a degree-granting college from the University College. Acceptance is dependent on the approval of the dean of the college which the student chooses to enter and on academic performance to date.

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

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

Probation-Dismissal

A student who fails to maintain a grade-point average of 2.00 ("C") is placed on academic probation and may be subject to change of courses, suspension or some other form of discipline. Academic discipline is determined by the dean of the college in which the student is enrolled. Reinstatement of a student is determined by the dean of the college from which the student was dismissed.

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

Graduation with Honors

For a student who entered the University January 1982 and thereafter who is being awarded an initial baccalaureate degree and who has completed 60 or more credits at the University, the degree will be if the overall grade-point average is

- Summa Cum Laude ........................................... 3.75 or higher
- Magna Cum Laude ........................................... between 3.50 and 3.74
- Cum Laude ........................................... between 3.25 and 3.49

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

- with distinction ........................................... 3.75 or higher
- between 3.50 and 3.74
- between 3.25 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 if the overall grade-point average is

- Summa Cum Laude ........................................... 3.75 or higher
- Magna Cum Laude ........................................... between 3.50 and 3.74
- Cum Laude ........................................... between 3.25 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 if the overall grade-point average is

- with distinction ........................................... 3.75 or higher
- between 3.50 and 3.74
- between 3.25 and 3.49

Graduation

Requirements for Baccalaureate and Associate Degrees

A candidate for the baccalaureate or the associate degree must

- file an application for graduation with the registrar; if the candidate plans to complete degree requirements at the end of fall semester, submit an application by or before May 15. If the plan is to complete degree requirements at the end of spring semester, submit an application by or before September 15.
- earn a minimum 2.00 grade-point average as computed by the Office of the Registrar for work attempted at the University consistent with the Repeating course policy. The grade-point average achieved at the time of completion of requirements for a degree will be used to calculate rank in class and honors.
- meet all degree requirements which are in force at the time a transfer is made to a degree-granting college. If the student should transfer to another major, then the requirements should be those in effect at the time of the transfer. For a student enrolled in an associate degree program in the Community and Technical College the requirements shall be those in effect upon entrance into the program.
- be approved for graduation by appropriate college faculty, University Council and Board of Trustees.
- complete the requirements for a degree in not more than five calendar years from the date of transfer, as defined below. In the event the student fails to complete the degree requirements within
The date of transfer for a student in a baccalaureate program will be the date that the student is accepted by the degree-granting college. For a student enrolled in an associate degree program in the Community and Technical College, the date of transfer refers to the date of entrance into the program.

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

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

Discharge all other obligations at the University.

Credit and Grade-Point Requirements for Graduation Listed by College and Degrees Granted

<table>
<thead>
<tr>
<th>College and Degrees Granted</th>
<th>Min. Grade-Point Avg. Req.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Sciences</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science in Cytotechnology</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Labor Economics</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Political Science/Criminal Justice</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Medical Technology</td>
<td>2.00</td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science in Engineering</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Chemical Engineering</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Civil Engineering</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Electrical Engineering</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Mechanical Engineering</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Construction Technology</td>
<td>2.00</td>
</tr>
<tr>
<td>Education*</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Arts in Education</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Education</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Technical Education</td>
<td>2.00</td>
</tr>
<tr>
<td>Business Administration</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Finance</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Marketing</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Industrial Management</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Science in Accounting</td>
<td>2.00</td>
</tr>
<tr>
<td>Fine and Applied Arts</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Business and Organizational Communication</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Dietetics</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Fashion and Nutrition</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Clothing and Textiles</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Family and Child Development</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Communicative Disorders</td>
<td>2.00</td>
</tr>
<tr>
<td>Bachelor of Arts in Theatre Arts</td>
<td>2.00</td>
</tr>
</tbody>
</table>

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

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

For instance:

3300.220 English Literature

In the above example, the first four digits of the number (3300) indicate the college and department. In this case, 3000 represents the Buchtel College of Arts and Sciences; 330 denotes the Department of English. The second set of digits (220) following the colon, indicates exactly which course in the Department of English is being specified. The course number also indicates the level at which the course is being taught and the point at which the student is ready to take the course.

An explanation of that numbering system follows:

100-199 First-year-level courses
200-299 Second-year-level courses
300-399 Third-year-level courses
400-499 Fourth-year-level courses
500-699 Master's-level courses
600-799 J.D.-level courses
800-899 Doctoral-level courses

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

Fees subject to change without notice.

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

<table>
<thead>
<tr>
<th>Fee Description</th>
<th>Resident (Ohio)</th>
<th>Non-Resident (Ohio)</th>
<th>Resident (Non-Ohio)</th>
<th>Non-Resident (Non-Ohio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Fee</td>
<td>$4,600</td>
<td>$5,880</td>
<td>$6,700</td>
<td>$8,200</td>
</tr>
<tr>
<td>General Fee</td>
<td>$328</td>
<td>$328</td>
<td>$328</td>
<td>$328</td>
</tr>
<tr>
<td>Books (average)</td>
<td>$250</td>
<td>$250</td>
<td>$250</td>
<td>$250</td>
</tr>
<tr>
<td>Food and Housing in Residence Halls</td>
<td>$2,270</td>
<td>$2,270</td>
<td>$2,270</td>
<td>$2,270</td>
</tr>
<tr>
<td>Total Undergraduate Fee for regular load</td>
<td>$2,138</td>
<td>$4,408</td>
<td>$6,200</td>
<td>$8,300</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.

1. **Undergraduate Fee (all students)**
   - $4,600 for regular load
   - $328 for General Fee
   - $250 for Books (average)
   - $2,270 for Residence Halls

2. **General Fee**
   - $25 per credit for 1-14 credits
   - $5 per credit for 15-24 credits
   - $4 per credit for 25 credits and over

3. **Admission Application Fee**
   - $25 for non-residents
   - $25 for residents

4. **Special Fees**
   - Late Registration Fee: $25
   - Graduation Fees (non-refundable):
     - Each degree (except law): $25
     - Each Juris Doctor degree: $40
     - In Absentia per degree (add'l): $5
   - Department of Special Programs and ICE:
     - Course charge based on number of Continuing Education Units:
       - $93 for 10-19 contact hours
       - $3 per CEU
   - Transcript Fee: $3

5. **Miscellaneous Fees**
   - ACT Test: $12
   - ACT Special Testing: $21
   - Education Administration Battery: $10
   - Miller Analogies Test: $15
   - Transcripts:
     - $3 for the first transcript and $1 for each additional one
     - $2 per credit
   - Credit by Examination:
     - Undergraduate and post-baccalaureate: $25
     - Graduate and professional (law): $47
     - Resident: $56 per credit
     - Non-resident: $164 per credit
   - Non-refundable:
     - Refundable
     - Refundable
     - Refundable
     - Refundable
     - Refundable
     - Refundable
     - Refundable
     - Refundable
   - Change of course registration:
     - $25 for each schedule change form processed
     - $15 for insufficient funds or returned check charge
     - $10 for co-op course fee
     - $5 for bypassed credit
     - $10 for CLEP (each authorization)

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.
The week board plan.

Room and Board

The current total cost of housing accommodations and food service is $1,135 per semester or $2,270 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 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 of The University of Akron is required of all residence hall students and all international students except those who present proof that they already have similar coverage. Other day students carrying nine or more credits, graduate students carrying six or more credits may purchase this insurance, at the same annual individual rate, through the Student Health Services Office.

The University of Akron Residency Requirements

Payment of non-resident tuition surcharge is required of any student who does not qualify as a permanent resident of Ohio as defined by one or more of the following sections:

3333-1.10, Ohio Student Residency for State Subsidy and Tuition Surcharge Purposes

Intent, Authority and Definitions

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 while insuring that the same benefit is conferred on all bona fide domiciliaries of this state whose permanent residence and legal citizenship is in Ohio, and whose actual source of financial support is subject to Ohio taxation. This rule is adopted pursuant to Chapter 119 of the revised code, and under the authority conferred by the Ohio Board of Regents by section 3333.31 of the revised code.
For purposes of this rule a "Resident of Ohio for all other legal purposes" shall mean any person who maintains a 12-month place or places of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be subjected to tax liability under section 5747.02 of the revised code, provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.

"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.

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.

General Residency for Subsidy and Tuition Surcharge Purposes

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

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

Specific Exceptions and Circumstances

- 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.
- 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.
- Any alien holding an immigration visa or classified refugee shall be considered a resident of the state of Ohio for all other legal purposes and shall be eligible for Ohio residency for these purposes.
- No persons holding a student or temporary visa shall be eligible for Ohio residency for these purposes.
- A dependent person classified as a resident of Ohio for these purposes shall continue to be considered a resident during continuous full-time enrollment and until his or her completion of any one academic degree program.
- In determining residency of a dependent student, removal of 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 item (C) (1) of this rule.
- Any person once classified as a non-resident, upon the completion of 12 consecutive months of residency in Ohio for all other legal purposes, must apply to the institution he or she attends for reclassification as a resident of Ohio for these purposes if such a 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 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 information regarding the sources of a student's actual financial support to that end.
- Any reclassification of a person who was once classified as a non-resident for these purposes shall have prospective application only from the date of such reclassification.
- A person who is transferred by his employer beyond the territorial limits of the 50 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.
- A person who has been employed in a migratory labor force in the state of Ohio and his or her dependents shall be considered a resident for these purposes provided such person has worked in Ohio at least four months during each of the three years preceding the proposed enrollment.

Procedures

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

Note

The registrar shall classify a student as a bona fide resident or non-resident student at the time of registration for each semester or session. The registrar may in advance of his determination seek the advice of the Committee on Residence Status.
The committee is comprised of the director of Institutional Research and Systems Development who shall act as chairman, the University registrar, the dean of the School of Law and the University auditor.

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

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

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

For purposes of residency determination only, enrollment of 12 credit hours or more will be considered full-time. 

Regulations Regarding Refunds—Credit/Noncredit

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

Fees Subject to Refund—Credit

Certain fees are subject to refund:

- Instructional and non-resident surcharge.
- General fee.
- Parking (only if permit is returned).
- Student teaching.
- Laboratory breakage and late service deposit.
- Residence hall fees (not 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 designate official withdrawal from all credit courses on or before the second day of the enrolled term;
- if the student requests in writing to the dean or designate official withdrawal after the second day of the fall or spring semesters, the following refund percentages apply:
  - 3 through 12 calendar days: 70%
  - 13 through 24 calendar days: 50%
  - 25 through 26 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 15-week fall/spring semester or the five-week summer term scheduling pattern will be handled on a pro rata basis according to the number of days the section 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 less $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 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

- If the 7th, 8th, 12th, 15th, 22nd, 24th, or 33rd day falls on a Friday, Saturday or a holiday, the deadline will become the next business day.
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 upon being breached by the student, or otherwise terminated by the University, is subject to the following refund provisions.

A full refund of any prepaid fees (including the advance $100 rental payment*) and release of other financial liability therefore under the following circumstances: graduation of the student from the University; academic dismissal of the student from the University; non-attendance or complete withdrawal by the student from the University prior to the start of the contract term; in the event mandatory or recommended participation in academic programs of the University require the student to commute regularly beyond the Akron metropolitan area (i.e., student teaching or co-op engineering assignments).

A partial refund of prepaid fees will be made (including the advance $100 rental payment*) according to the refund schedule below, and release of financial liability for subsequent terms covered by the contract term, in the event the student completely withdraws from The University of Akron after the start of the contract term. In such instances, the student shall not be liable for damages.

A partial refund of prepaid fees will be made (including the advance $100 rental payment*) in accordance with the refund schedule below:

- In the event the University, in its sole discretion, terminates the contract for reasons related to the orderly operation of the residence halls, or for reasons relating to health, physical or emotional safety and well-being of the student, or for reasons relating to the health, safety and well-being of the person or property of other students, faculty, staff or University property. In such instances, the student shall not be liable for damages and shall be released of further financial liability beyond the date of termination.

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>Refund Inclusive Dates</th>
<th>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.

*Advance rental payment NOT refundable to freshmen
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 insure that no one is denied the opportunity of a college education because of economic background.

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 pay for college.

Sources of Aid

In order to meet the needs of the financial aid applicant there are a number of sources from which aid can be received. The following programs represent those sources of aid for which The University of Akron selects recipients and/or distributes the funds. The application(s) for these programs can be obtained at the Office of Student Financial Aid and Employment.

Federal Programs

Pell Grant

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

Supplemental Educational Opportunity Grant

The Supplemental Educational Opportunity Grant (SEOG) is a federal grant that is awarded by the school the student attends. The amount of the grant is determined by the school attended, and is based on the need and the costs at that school. Entering freshmen must have a 1.75 grade-point average to be eligible for the SEOG. The following minimum grade-point average must be maintained in order to be eligible for the SEOG as a continuing student: 1.75 at the end of the first year and 2.00 at the end of the second and third years.

College Work-Study Program

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

National Direct Student Loan

The National Direct Student Loan (NDSL) Program offers low interest, long-term loans for an eligible student. Eligibility and loan amounts are determined by the office on the basis of need. This loan must be repaid, beginning six months after ceasing to be at least a half-time student. Interest at five percent is calculated at the time repayment of the loan begins if the student is teaching in certain fields or locations after graduation, eligibility for cancellation of all or part of the amount that was borrowed is possible. Entering freshmen must have a 1.75 grade-point average to be eligible for the NDSL. The following minimum grade-point averages must be maintained in order to be eligible for the NDSL as a continuing student: 1.75 at the end of the first year and 2.00 at the end of the second and third years.

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. Application for the loan can be made at a bank, savings and loan or credit union. This loan must be repaid to the lender beginning six months after ceasing to be at least a half-time student. The interest on the loan is nine percent, 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 Bachelors of Science in Nursing. These are based on need, and the amounts are determined by the Office of Student Financial Aid. These programs are generally reserved for a student who has been accepted by the College of Nursing.

State Programs

Ohio Instructional Grant (OIG)

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

Ohio Academic Scholarship

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

Ohio National Guard Scholarship

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

Ohio War Orphans Scholarship

Scholarships are available to a student whose father or mother was disabled or killed in a war. For information contact the Ohio Board of Regents.
**University Programs**

**Scholarships**

The University offers scholarships to the student with high academic achievement. Academic scholarships are awarded to the continuing student as well as the outstanding high school student who plans to enroll. These academic scholarships are renewable each year based on continued high academic performance. A University Financial Aid/ Scholarship Application must be submitted, but a need analysis form is not required. The majority of awards for the 1982/83 academic year ranged from $200 to $500.

The Presidential Scholarship Program was initiated for the 1975/76 academic year. Each year, approximately 25 to 35 scholarships are awarded to entering freshmen. For the 1982/83 academic year, the scholarship amount was $1,000. This scholarship is considered to be most prestigious.

The Honors Program at the University awards a number of scholarships each year to new freshmen. In 1982/83, the scholarships ranged from $500-$900. This combination scholarship/academic program is also considered to be a most prestigious program.

**Loans**

The University offers short-term loans to the student who needs temporary help in paying tuition. These loans must be repaid in full at the end of the term for which the money was borrowed. Information and applications are available at the Student Loan Office (Spicer 105). Special long-term loans are available to selected students in certain fields who need partial help.

**Application for Financial Aid**

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

**Computation of Financial Aid**

The College Scholarship Service determines what the family may be able to contribute toward the student’s education; this amount is called the family contribution. Some of the key factors involved in computing the family contribution are:

- Family income
- Family assets
- Family size
- Number in college
- Medical bills
- Unusual expenses

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

**Independent Students**

An independent student is one who:

- Has not been or will not be claimed as an exemption for federal income tax purposes by either of the student’s parent(s) or adoptive parent(s) for the school year in which aid is received as well as the prior calendar year.
- Has not or will not live with one or both parents or 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 the 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 25 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. If the student is over the age of 25, the student may complete this form. 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 as to alternatives such as the Guaranteed Student Loan and/or short-term loans, will be made.

**Distribution of Aid**

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

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

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

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

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

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

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

If family circumstances alter, contact the Office of Financial Aid so the aid package can be reviewed.

Eligibility for Aid as it Applies to Certain Classifications of Students

Transfer Students
A student transferring to The University of Akron at the beginning of fall semester must have the previous college complete a financial aid transcript and send it to the Office of Student Financial Aid and Employment.

If a student is transferring to the University during the academic year and has received a Pell Grant and/or OIG the previous session, the student must:

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

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

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

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

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

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

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

Student Rights and Aid Responsibilities
A financial aid recipient has various rights and responsibilities, including the right to expect confidentiality regarding financial aid as well as a response in a reasonable amount of time after submitting applications. Outside scholarships received must be reported.

A National Direct Student Loan and Nursing Student Loan recipient has the responsibility of informing the Office of Student Financial Aid of changes of address, graduation plans, etc.

Probably the most important responsibility the student has is to meet the requirements of the "standards of progress." The "standards of progress" states that the student must make progress toward a degree. To make progress, the student must maintain full-time status if the aid was based on full-time status; if the student's aid was based on less than full-time status, the student must maintain at least half-time status to meet the "standards of progress."

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
section

Undergraduate Academic Programs
Community and Technical College

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

Objectives

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

- Consistent with the philosophy of learning as a life-long experience, the community 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 graduates of a program work 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 in Electronic Technology degree or the Bachelor in Mechanical Technology degree are:

- Compliance with the general University requirements for a baccalaureate degree as listed in this Bulletin
- Compliance with the general studies program as outlined in this Bulletin
- Completion of the requirements for the associate degree in a related engineering technology at The University of Akron or other accredited institution.
- Successful completion of a minimum of 135 credits including associate degree program, general studies courses and the following course requirements.

Bachelor of Science in Electronic Technology

(An ABET accredited engineering technology curriculum)

For the first- and second-year requirements, see associate degree program in 2860: electronic technology:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2860:101</td>
<td>Digital Systems</td>
<td>3</td>
</tr>
<tr>
<td>2860:150</td>
<td>Advanced Circuits</td>
<td>4</td>
</tr>
<tr>
<td>2860:151</td>
<td>Industrial Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>2860:152</td>
<td>Digital Systems</td>
<td>4</td>
</tr>
<tr>
<td>2860:153</td>
<td>Control Systems</td>
<td>4</td>
</tr>
<tr>
<td>2860:154</td>
<td>Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>2860:155</td>
<td>Communications Systems</td>
<td>3</td>
</tr>
<tr>
<td>2860:156</td>
<td>Technology Project</td>
<td>1</td>
</tr>
<tr>
<td>2920:310</td>
<td>Economics of Technology</td>
<td>3</td>
</tr>
<tr>
<td>3470:251</td>
<td>Descriptive Statistics and Probabilities</td>
<td>1</td>
</tr>
<tr>
<td>3470:252</td>
<td>Distributions</td>
<td>1</td>
</tr>
<tr>
<td>4450:206</td>
<td>Fortran (Science and Engineering)</td>
<td>2</td>
</tr>
<tr>
<td>6500:301</td>
<td>Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:302</td>
<td>Production and Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:303</td>
<td>Computer Programming Electives*</td>
<td>2</td>
</tr>
<tr>
<td>2860:406</td>
<td>Technical Electives</td>
<td>5</td>
</tr>
</tbody>
</table>

Prior to enrolling in the program and to taking 2860:150 Advanced Circuits, a student must have completed at least 45 credits of a two-year Electronic Technology Associate degree program; maintained a grade-point ratio of 2.00 or higher in major courses (Mathematical Analysis or equivalent, Basic Physics or equivalent, and technical courses in the 2860 or 2900 series or equivalent); and maintained a minimum overall grade-point ratio of 2.00.

Bachelor of Mechanical Technology

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

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

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

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

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

### Requirements for Graduation

Candidates for the associate degree must:

- Complete the required courses listed in the program.
- Complete as a minimum, the number of credits listed for each program.
- Earn a minimum grade-point average of 2.00 in all 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 set forth in "Requirements for Graduation." Section 3 in this Bulletin.

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

### Cooperative Education

Minimum requirements for cooperative education students include the following:

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

### Programs of Instruction

#### Allied Health

**2740: Medical Assisting Technology**

This program prepares students for the education 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100-105</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>2020:240</td>
<td>Human Relations</td>
<td>4</td>
</tr>
<tr>
<td>2420:111</td>
<td>Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>2540:119</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>2540:121</td>
<td>Office Problems</td>
<td>3</td>
</tr>
<tr>
<td>2540:150</td>
<td>Beginning Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>2540:151</td>
<td>Intermediate Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>2540:263</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>2540:286</td>
<td>Keyboarding on Word Processing Equipment</td>
<td>3</td>
</tr>
<tr>
<td>2740:120</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>2740:130</td>
<td>Medical Assisting Techniques I</td>
<td>3</td>
</tr>
<tr>
<td>2740:230</td>
<td>Pharmacology in Medical Assisting</td>
<td>3</td>
</tr>
<tr>
<td>2740:231</td>
<td>Medical Assisting Techniques II</td>
<td>2</td>
</tr>
<tr>
<td>2740:232</td>
<td>Medical Assisting Techniques III</td>
<td>2</td>
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<tr>
<td>2740:240</td>
<td>Medical Machine Transcription</td>
<td>2</td>
</tr>
<tr>
<td>2740:241</td>
<td>Medical Records</td>
<td>3</td>
</tr>
<tr>
<td>2740:250</td>
<td>Medical Assisting Specialties</td>
<td>3</td>
</tr>
<tr>
<td>2840:100</td>
<td>Basic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>3100:206</td>
<td>Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>5550:211</td>
<td>First Aid</td>
<td>2</td>
</tr>
</tbody>
</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 will then receive 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:

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### 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.

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### Surgeon's Assistant Option

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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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### General Elective

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### Associate Studies

#### 2020: Arts

Through basic coursework 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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*Deadline for application to the program is March 15.

**Two of the following are required: 1100:221, 2, 3, 4.

†See "The University College," Section 4 of this Bulletin for alternate course options.

---

*Deadline for application to the program is March 15.
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 coursework from various disciplines and focuses on education for individual development.

2240: Commercial Art

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

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.

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.

Business and Office Technology

2240: Commercial Art
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

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#### Banking

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#### Marketing and Sales Emphasis

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#### Recommended Electives

- **Data Administration**
  - 2400-201 Elements of Distribution
  - 2420-202 Personnel Practices
  - 2420-221 Business Mathematics
  - 2420-230 Business Machines

- **Small Business Management**
  - 2400-210 Technical Elective
  - 2400-250 Business Communications
2430: Real Estate

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

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<td></td>
<td>Electives</td>
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2440: Data Processing

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

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<thead>
<tr>
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<th>Course Title</th>
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<tbody>
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<td>Cobol Programming</td>
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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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<td>2520 106</td>
<td>Visual Presentation</td>
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<td>2520 202</td>
<td>Retailing Fundamentals</td>
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<td>2520 210</td>
<td>Consumer Service Fundamentals</td>
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Options

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<td>Fashion</td>
<td>History of Costumes</td>
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<td>Clothing Communication</td>
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Industrial

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<td>2440 120</td>
<td>Introduction to Information Processing</td>
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<td>2520 201</td>
<td>Principles of Wholesaling</td>
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Retailing

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<th>Course Title</th>
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</table>

2540: Secretarial Science

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

Core Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>Beginning Typewriting</td>
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<td>Intermediate Typewriting</td>
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<td>2540 171</td>
<td>Shorthand Principles</td>
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<td>Shorthand and Transcription</td>
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<td>Information Management</td>
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<tr>
<td>2540 263</td>
<td>Business Communications</td>
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<tr>
<td>2540 274</td>
<td>Advanced Dictation and Transcription</td>
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</table>

* Associate degree courses may be applied toward a four-year business education degree.
A certificate program is offered in secretarial science. A
ternational Executive Secretarial Science
50
2020 240
Human Relations
3
2420 200
Personnel Practices
3
2420 211
Basic Accounting I
3
2420 221
Administrative Office Supervision
2
2420 250
Business Mathematics
3
2440 125
Business Communications
3
2450 150
Beginning Typing
3
2450 151
Intermediate Typing
3
2450 244
Information Management
3
2450 263
Advanced Typing
3
2450 281
Machine Transcription
3
Electives
5

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
1100 — — Physical Education
1
1100 105 Introduction to Public Speaking
2
1100 106 Effective Oral Communication
3
2020 121 English
4
2020 240 Human Relations
3
2420 101 Elements of Distribution
3
2420 104 Introduction to Business
3
2420 170 Business Mathematics
3
2420 202 Personnel Practices
3
2420 280 Essentials of Law
3
2440 140 Introduction to Information Processing
2
2560 221 Transportation Traffic Principles and Practices
3
2560 228 Introduction to Travel
2
Electives
6

General
1100 — — Physical Education
1
1100 105 Introduction to Public Speaking
2
1100 106 Effective Oral Communication
3
2020 121 English
4
2020 221 Technical Report Writing
3
2020 240 Human Relations
3
2020 247 Survey of Basic Economics
3
2420 101 Elements of Distribution
3
2420 104 Introduction to Business
3
2420 170 Business Mathematics
3
2420 202 Personnel Practices
3
2420 205 Essentials of Law
3
2440 120 Introduction to Information Processing
2
2540 119 Business English
3
2540 125 Business Communications
3
2550 110 Transportation Economic Policy
3
2550 115 Motor Transportation
3
2550 116 Air Transportation
2
2550 117 Water Transportation
2
2550 118 Transportation Rate System
5
2550 220 Transportation Terminal Management and Safety
2
2550 221 Transportation Traffic Principles and Practices
3
2550 224 Transportation Regulations
4
2550 227 Transportation of Hazardous Materials and Wastes
2
Engineering and Science Technology

2840: Chemical Technology

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

Core Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1100-120</td>
<td>Physical Education</td>
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<tr>
<td>2020-121</td>
<td>English</td>
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<tr>
<td>2020-131</td>
<td>Mathematical Analysis I</td>
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<tr>
<td>2020-222</td>
<td>Technical Report Writing</td>
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<tr>
<td>2840-101</td>
<td>Introductory Chemistry</td>
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<td>Basic Physics: Mechanics</td>
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<tr>
<td>2840-152</td>
<td>Basic Physics: Electricity and Magnetism</td>
<td>2</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>Quantitative 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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<tr>
<td>2840-270</td>
<td>Natural and Synthetic: Organic Polymers</td>
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General Electives: 9 credits

Total credits: 28

Options

Environmental

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<th>Course Title</th>
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<tbody>
<tr>
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<td>Technical Computations</td>
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<tr>
<td>3100-130</td>
<td>Principles of Microbiology</td>
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<tr>
<td>3370-200</td>
<td>Environmental Geology</td>
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<td>Technical Electives (3100-426 Applied Aqueous Ecology recommended)</td>
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Forensic

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<td>2220-250</td>
<td>Criminal Case Management</td>
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Geology

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Industrial

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Rubber and Plastics

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<td>Technical Computations</td>
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<td>Technical Electives (3940-401 Introduction to Elastomers and 3940-402 Introduction to Plastics recommended)</td>
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</table>

2860: Electronic Technology

(ABET accredited engineering technology curriculum)

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
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<td>American Urban Society</td>
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<td>2840-151</td>
<td>Basic Physics: Mechanics</td>
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<td>2840-153</td>
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<td>2860-231</td>
<td>Control Principles</td>
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2880: Manufacturing Technology

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

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>Introduction to Manufacturing Management</td>
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<td>2860-131</td>
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<td>Controlling and Scheduling Production</td>
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<td>Labor-Management Relations</td>
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Industrial Supervision Option

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Total credits: 51

Technical Electives (2 credits required from following)

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<td>Numerical Control Programming</td>
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2920: Mechanical Technology
(ABET accredited engineering technology curriculum)

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

<table>
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General Electives (2 credits required from following):

1100.012   | Elements of Structures            | 4       |
1100.013    | Technical Report Writing          | 3       |
1100.014    | Technical Drawing I               | 3       |
1100.015    | Technical Drafting                | 3       |
1100.016    | Design Materials                  | 3       |
1100.017    | Dynamics                          | 2       |
1100.018    | Mechanical Design I               | 5       |
1100.019    | Mechanical Design II              | 3       |
1100.020    | Surveying                         | 3       |
1100.021    | Advanced Surveying                 | 4       |
1100.022    | Subdivision Design                 | 2       |
1100.023    | Construction                       | 3       |
1100.024    | Construction Administration        | 2       |
1100.025    | Materials Testing I                | 3       |
1100.026    | Structural Drafting                | 2       |
1100.027    | Cartography                        | 3       |
1100.028    | General Electives                  | 9       |

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.

<table>
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<th>Course Name</th>
<th>Credits</th>
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2980: Surveying and Construction Technology
(ABET accredited engineering technology curriculum)

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

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Surveying

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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

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*Faculty may select substitute course for students
**May substitute 2940.140. 2 credits.
2210: Handicapped Services

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

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<td>200:240</td>
<td>Human Relations</td>
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<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
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<tr>
<td>2210:100</td>
<td>Introduction to Interpreting for the Deaf</td>
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<tr>
<td>2210:104</td>
<td>Sign Language Gestures and Mime</td>
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<td>Specialized Interpreting</td>
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A student with a particular interest in corrections may vary the program of study by making the following substitutions: 3850:330 Criminology, 3 credits; 3850:432 Probation and Parole, 3 credits; or 2600:278 Techniques of Community Work, 4 credits; and 3850:431 Corrections, 3 credits, for courses: 2220:250 Criminal Case Management, 6 credits; 2220:200 Criminal Justice Theory and Practice, 3 credits; and 2220:240 Dynamics of Vice Crime and Substance Abuse, 3 credits. Students must complete electives to equal the 64 credit program requirement.

2220: Criminal Justice Technology

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

<table>
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<th>Course Title</th>
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<tr>
<td>220:102</td>
<td>Criminal Law for Police</td>
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<td>Evidence and Criminal Legal Process</td>
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<tr>
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<td>Dynamics of Vice Crime and Substance Abuse</td>
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Security Administration Option

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<td>Criminal Case Management</td>
<td>6</td>
</tr>
<tr>
<td>2220:260</td>
<td>Administration and Supervision in the Public Service</td>
<td>3</td>
</tr>
<tr>
<td>2840:100</td>
<td>Basic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3850:100</td>
<td>Introduction to Sociology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>General Electives</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Technical Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

A student with a particular interest in corrections may vary the program of study by making the following substitutions: 3850:330 Criminology, 3 credits; 3850:432 Probation and Parole, 3 credits; or 2600:278 Techniques of Community Work, 4 credits; and 3850:431 Corrections, 3 credits, for courses: 2220:250 Criminal Case Management, 6 credits; 2220:200 Criminal Justice Theory and Practice, 3 credits; and 2220:240 Dynamics of Vice Crime and Substance Abuse, 3 credits. Students must complete electives to equal the 64 credit program requirement.

2230: Fire Science Technology

This program prepares persons to serve governmental, industrial and other fire protection agencies in fire fighting and prevention, property protection and in handling emergency situations.

<table>
<thead>
<tr>
<th>Course 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>1101:105</td>
<td>Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>200:121</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>200:131</td>
<td>Mathematics Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>202:222</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>202:240</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>202:243</td>
<td>American Urban Society</td>
<td>3</td>
</tr>
</tbody>
</table>

**The following are recommended: 139. Life Saving, 155, Swimming; 173, Self Defense; or 174, Karate.**
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2220:106</td>
<td>Introduction to Fire Science</td>
<td>3</td>
</tr>
<tr>
<td>2220:102</td>
<td>Fire Prevention and Building Construction</td>
<td>3</td>
</tr>
<tr>
<td>2220:140</td>
<td>Fire Investigative Methods</td>
<td>2</td>
</tr>
<tr>
<td>2220:202</td>
<td>Fire Fighting Tactics and Strategy</td>
<td>3</td>
</tr>
<tr>
<td>2220:204</td>
<td>Fire Prevention Practices</td>
<td>3</td>
</tr>
<tr>
<td>2220:205</td>
<td>Fire Detection and Suppression Systems I</td>
<td>3</td>
</tr>
<tr>
<td>2220:206</td>
<td>Fire Detection and Suppression Systems II</td>
<td>3</td>
</tr>
<tr>
<td>2230:250</td>
<td>Hazardous Materials</td>
<td>4</td>
</tr>
<tr>
<td>2230:254</td>
<td>Legal Aspects of Fire Protection</td>
<td>3</td>
</tr>
<tr>
<td>2230:256</td>
<td>Fire Protection for Business and Industry</td>
<td>3</td>
</tr>
<tr>
<td>2240:260</td>
<td>Administration and Supervision for Public Services</td>
<td>3</td>
</tr>
<tr>
<td>2840:152</td>
<td>Basic Physics-Mechanics</td>
<td>2</td>
</tr>
<tr>
<td>5550:211</td>
<td>First Aid</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>General Electives</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Technical Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

**2260: Community Services Technology**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:105</td>
<td>Introduction to Public Speaking</td>
<td>1</td>
</tr>
<tr>
<td>1100:106</td>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>2020:012</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>2020:222</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
<td>2</td>
</tr>
<tr>
<td>2020:242</td>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>2220:250</td>
<td>Black Americans</td>
<td>2</td>
</tr>
<tr>
<td>2220:101</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>2250:100</td>
<td>Introduction to Community Services</td>
<td>3</td>
</tr>
<tr>
<td>2250:150</td>
<td>Introduction to Gerontological Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:267</td>
<td>Alcohol Use and Abuse</td>
<td>3</td>
</tr>
<tr>
<td>2260:276</td>
<td>Techniques of Community Work</td>
<td>4</td>
</tr>
<tr>
<td>2260:279</td>
<td>Technical Experience: Community and Social Work</td>
<td>4</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3850:100</td>
<td>Introduction to Sociology</td>
<td>4</td>
</tr>
<tr>
<td>7750:270</td>
<td>Poverty in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7750:276</td>
<td>Introduction to Social Welfare</td>
<td>4</td>
</tr>
<tr>
<td>2260:261</td>
<td>Alcoholism Treatment</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:262</td>
<td>Basic Helping Skills in Alcohol Problems</td>
<td>4</td>
</tr>
<tr>
<td>2260:290</td>
<td>Special Topics: Alcohol Services</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**Gerontology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:251</td>
<td>Community Services for Senior Citizens</td>
<td>3</td>
</tr>
<tr>
<td>2260:252</td>
<td>Resident Activity Coordination</td>
<td>3</td>
</tr>
</tbody>
</table>

**Volunteer Programming**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:290</td>
<td>Fundamentals of Volunteer Management</td>
<td>3</td>
</tr>
<tr>
<td>2260:291</td>
<td>Recruitment and Interviewing of Volunteers</td>
<td>3</td>
</tr>
</tbody>
</table>

**Technical Electives (suggested)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:245</td>
<td>Infant Toddler Day Care Programs</td>
<td>3</td>
</tr>
<tr>
<td>2220:106</td>
<td>Juvenile Justice Process</td>
<td>3</td>
</tr>
<tr>
<td>2260:240</td>
<td>Drug Use and Abuse</td>
<td>3</td>
</tr>
<tr>
<td>2260:241</td>
<td>Drug Treatment</td>
<td>3</td>
</tr>
<tr>
<td>2260:290</td>
<td>Special Topics in Community Services Technology</td>
<td>2-4</td>
</tr>
</tbody>
</table>

**Social Services Emphasis**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:105</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>1100:112</td>
<td>English Composition</td>
<td>4</td>
</tr>
<tr>
<td>2020:121</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>2020:222</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>2020:242</td>
<td>American Urban Society</td>
<td>3</td>
</tr>
<tr>
<td>2020:247</td>
<td>Survey of Basic Economics</td>
<td>3</td>
</tr>
<tr>
<td>2020:254</td>
<td>Black American</td>
<td>2</td>
</tr>
<tr>
<td>2260:100</td>
<td>Introduction to Community Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:150</td>
<td>Introduction to Gerontological Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:260</td>
<td>Alcoholism Treatment</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 Service</td>
<td>5</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3850:100</td>
<td>Introduction to Sociology</td>
<td>4</td>
</tr>
<tr>
<td>7750:270</td>
<td>Poverty in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7750:276</td>
<td>Introduction to Social Welfare</td>
<td>4</td>
</tr>
</tbody>
</table>

**Options**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2260:261</td>
<td>Alcoholism Treatment</td>
<td>3</td>
</tr>
</tbody>
</table>

*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., Assistant Dean

History

The Wayne General and Technical College of The University of Akron is located on 163 acres one mile northwest of Orrville, Ohio. The College was founded in 1972, culminating 10 years of effort on the part of local 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 lifelong learning, and to fairly and critically evaluate 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 college bulletin, Wayne College, 1982-84.
University College

Marion A. Ruebel, Ph.D., Dean
Dudley C. Johnson, Jr., M.S.Ed., Associate Dean, Academic Advising Services
C. Johnson, Jr., M.S.Ed., Assistant to the Dean

Objectives

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

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

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

1100: General Studies

The Department of General Studies of the University College provides a student with courses aimed at developing ability to understand and express ideas effectively, to comprehend the processes involved in accurate thinking and to learn the responsibilities of an educated member of society. Also, these courses help 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 fruit of a half century of planning, revision and developing.

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

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

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

Program of Instruction

The required General Studies courses are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>1100.105</td>
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<tr>
<td>1100.106</td>
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<tr>
<td>1100.111</td>
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<td>1100.115</td>
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<td>1100.120</td>
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<tr>
<td>1100.320</td>
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<td>1100.330</td>
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</tbody>
</table>

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

A. Completion of a minimum of two courses totaling at least six credits selected from the following four sets of course offerings:

- **3250:244 Introduction to Economic Analysis**, three credits. (A student majoring in engineering is advised to take this as one of the student's selections.)
- **3250:202 Principles of Macroeconomics**, three credits. (A student majoring in business, economics, etc., is advised to take this as one of the student's selections.)
- **3250:100 Introduction to Economics**, three credits.
- **3402:201 United States History to Civil War**, four credits.
- **3402:202 United States History since Civil War**, four credits.
- **3701:100 Government and Politics in United States**, four credits.
- **3850:100 Introduction to Sociology**, four credits.
- **3870:150 Cultural Anthropology**, four credits.

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

- **2042:202 American Urban Society**, three credits.
- **2042:247 Survey of Basic Economics**, three credits.

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

**Minimum of six credits of science. This requirement may be met either by taking courses in the Departments of Biology, Chemistry, Geology or Physics, or by any combination of two out of four of the natural science courses, 1100.221, 222, 223 and 224 (three credits each).**
better prepare the student for the future. Sensible course loads, proper choice of subjects, scholastic achievement, study habits, outside work loads and other circumstances have an effect on successful work and can all be matters for concern in this kind of counseling.

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

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**Developmental Programs**

The Department of Developmental Programs provides academic support for all University students, especially those who wish to strengthen their educational preparation in specific areas or who have been out of school for a number of years and feel the need for remediation. Through 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 undergraduate students without charge and provide professional diagnosis and remedy of weaknesses in these vital skills.

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**Diploma Nursing Program**

The University, in cooperation with the hospital schools of nursing at Akron City Hospital, Akron General Medical Center 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 three schools of nursing differ slightly in regard to courses taken and their sequence.

The following courses are offered:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:120</td>
<td></td>
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<tr>
<td>3100:206</td>
<td></td>
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<tr>
<td>3100:207</td>
<td></td>
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<tr>
<td>3150:124</td>
<td></td>
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<tr>
<td>3750:100</td>
<td></td>
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<tr>
<td>3750:130</td>
<td></td>
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<tr>
<td>3850:100</td>
<td></td>
</tr>
<tr>
<td>7400:133</td>
<td></td>
</tr>
</tbody>
</table>

Microbiology   3
Anatomy and Physiology 3
Anatomy and Physiology 3
Chemistry 3
Introduction to Psychology 3
Developmental Psychology 4
Introduction to Sociology 4
Nutrition Fundamentals 3
Reserve Officers' Training Corps

1500: Aerospace Studies

The Department of Aerospace Studies provides the student with the opportunity to pursue a commission in the United States Air Force while qualifying for graduation from The University of Akron. The United States Air Force has been in the forefront of contributions to flight, research and development, effective management of resources and people and education largely because of the existence of a well-educated, versatile and professional officer corps. The primary source of these officers is the Air Force ROTC.

The program is designed to prepare the student to become an officer who is dedicated and responsible; critical and creative in thinking; able to communicate clearly; and skilled in effective management.

Both the four- and two-year program are open to the full-time male and female student who will have completed at least a baccalaureate degree at commissioning.

Programs

Four-Year Program

A full-time day student 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.

Credit for portions of the GMC may be given for completion of two or more years of high school junior ROTC, participation in Civil Air Patrol, military school training or prior service in any branch of the United States Armed Forces.

Upon completion of the GMC requirements, the cadet who wishes to compete for the last two years of the program, the Professional Officer Course (POC), must meet the qualifications for that program.

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 3 semester credits.

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

As a pilot-qualified student enrolled in the Air Force ROTC Flight Instruction Program (FIP) the student can get an important start on an Air Force flying career.

When enrolled in FIP, the student will receive up to 25 hours of flight instruction at an FAA approved civilian-operated flying school near the campus. Approximately 18 hours will be dual instruction and the other seven will be solo flying. In addition to the flight training, the student will participate in a ground school covering the rules and regulations pertaining to flying.

The Air Force pays for flight instruction, textbooks, navigational equipment and transportation to and from the flying school.

Base Visits

Classroom instruction is made more meaningful for the cadet through visits to Air Force bases. To bring the scope of Air Force operations into a clearer perspective, Air Force ROTC strives to enable every cadet to make at least one such visit each year. Many cadets have the opportunity to make more.

Requirements for Admission

General Qualifications

• Be a citizen of the United States or applicant for naturalization.
• Be a full-time student.
• Be in sound physical condition.
• Be of good moral character.
• Meet age requirements as follows:
  — AFROTC four-year scholarship recipients must be at least 17 years of age and able to complete commissioning requirements prior to age 25.
  — If not on scholarship status, but designated for pilot or navigator training, be able to complete all commissioning requirements prior to age 26.
  — If not on scholarship status and not qualified for flying training, be able to complete commissioning requirements prior to age 30.

Additional Qualifications for Professional Officer Course

• Be at least 17 years of age.
• For the four-year program cadet, complete the General Military Course or receive credit for junior ROTC, Civil Air Patrol, military school training or prior service.
For the two-year student applicant, complete the six-week field training course.

Receive a satisfactory score on the Air Force Officer Qualifying Test (AFOQT).

Pass an Air Force physical examination.

Be interviewed and selected by a board of Air Force Officers.

Enlist in the Air Force Reserve prior to entry into the Professional Officer Course.

Requirements for Commissioning

- Complete the POC and field training.
- Earn at least a baccalaureate degree.
- Agree to accept, if offered, a commission in the United States Air Force.
- Agree to serve for a period of not less than three years on 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 full reimbursement for curriculum-required textbooks. In addition, all scholarship cadets receive $100 monthly non-taxable subsistence allowance.

Four-year scholarships are available for an applicant in pilot, navigator and scientific/engineering career 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.
- Air Force Officer Qualifying Test scores.
- Passing an Air Force medical examination.

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

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

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

Financial Allowances

A cadet enrolled in the POC will receive a nontaxable subsistence allowance of $100 per month.

Uniforms and Textbooks

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

1600: Military Science

The University's Army Reserve Officer Training Corps (ROTC) was established in 1919, making it one of the oldest in the country. The main goal of the Army program is to provide both the active Army and Army Reserve and National Guard with commissioned male and female officers whose civilian education and attitudes contribute to the development of a military defense structure which reflects as well as defends our society. The 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 skills; 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 and 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 1.5 credits per semester. MS I and II are held two hours each week and include studies in: national security affairs, marksmanship, leadership fundamentals, basic military course.

The graduate perpetuates and strengthens the tradition of our nation's citizen soldier concept.

Two-Year Program

A student can enter the advanced course by completing MS I and MS II, by attending a basic military skills summer camp at Ft. Knox, KY or by having prior military service or training. Course studies are held four hours per week for three semester credits. The material includes: advanced leadership, application of tactics, methods of instruction, resource management, military history and the responsibilities of an officer.

The advanced course includes a six-week paid summer camp attended usually between the junior and senior year. A student in the advanced course is paid $100 per month or approximately $1000 per school year. Upon graduation, the student will serve either with the Reserves, National Guard or on active duty.

Cadet Activities

The Department of Military Science offers numerous activities to enrich classroom instruction; provide a better understanding
of the military and military life; and improve technical skills.

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

Requirements for Admission

Qualifications for Enrollment
- United States citizenship (an alien student may be enrolled under special circumstances).
- Full-time student (an advanced course student must be enrolled in baccalaureate degree course).
- Good moral character.
- Age requirements as follows:
  - be at least 17 for enrollment in the basic course;
  - be under 30 years of age by the time of commission (may be waived);
  - a scholarship student must be under 25 by commissioning date.
- Be mentally and physically fit.

Qualifications for Advanced Course
- Basic qualifications for enrollment above.
- Completion of basic course, basic summer camp, veteran or 90 hours campus seminar.
- 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 a service obligation as follows:

<table>
<thead>
<tr>
<th>ROTC</th>
<th>Active Duty Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Course</td>
<td>4 years 3 years active or 6 years Reserve/National Guard no obligation</td>
</tr>
<tr>
<td>Basic Course</td>
<td></td>
</tr>
</tbody>
</table>

Scholarships

The Army ROTC has four-year scholarships available to high school seniors. Additionally, there are three-, two- and one-year scholarships available on a competitive basis to men and women enrolled in the ROTC program. Additionally, some scholarships are available to a student interested in enrolling in ROTC. These scholarships provide tuition, fees, text materials and a $100 per month allowance to the student for the period of the scholarship. All scholarship students must agree to spend four years on active duty.

Uniform 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 the advanced course student while in the program.

Financial Allowances

An advanced course member and all scholarship students are paid a non-taxable allowance of $100 per month while in the program. 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 Reserve 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 Reserve 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 gets paid as such.

Aviation

A qualified student pursuing a degree in aviation-related areas or other technical fields which can be related to aviation may apply for the Guaranteed Aviation Specialty Program. Upon graduation and commissioning the student will attend flight school and serve on active duty as an Army aviator. To be accepted, a student must pass a flight physical and the Flight Aptitude Selection Test.
Buchtel College of Arts and Sciences

Claibourne E. Griffin, Ph.D., Dean
Paul S. Wingard, Ph.D., Associate Dean
William A. Francis, Ph.D., Assistant to the Dean

Objectives

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

- The commitment to humanity — that loyal devotion to the heritage contained in those disciplines growing out of the ancient, liberal arts which teach man both his limitations and potentials. The college seeks to provide an appropriate environment for a student to acquire an ability to evaluate, integrate and understand the conditions of man's existence, to understand himself in the natural world and in a particular civilization or society. No course or combination of courses can insur 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

Requirements for 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 Medical Technology
Social Sciences Division: Bachelor of Arts, Bachelor of Science in Geography/Cartography, Bachelor of Science in Labor Economics, Bachelor of Science in Political Science/Criminal Justice, Bachelor of Science in Political Science/Public Policy.

Requirements for Baccalaureate Degrees

A student transferring into the college must have completed the equivalent of, or taken, 1100:111-112 English Composition, three credits of Modern University Mathematics and the remainder of the lower-division General Studies program.

Requirements for the bachelor's degree include:

- Completion of the General Studies program.
- A minimum of 47 credits consisting of either:
  - 300/400-level courses both in and outside the student's major.
  - any courses outside major department as specified in and approved by the student's major adviser and the department or division head (permission should be obtained prior to enrollment)
• Demonstration of ability to use English and another language:
  — for English, this ability will be shown by the completion of the
    General Studies sequence of 1100:111.2 English Composition.
  — for the other language, this ability will be shown by the completion
    of a second year of a foreign language on the University level or by
demonstrating equivalent competence through a test approved by
the Department of Modern Languages.
• Completion of requirements in a major field of study (see Programs of Instruction) and the recommendation of the student’s
  major department.
• Attaining a minimum grade-point average of 2.00 in all work in the
  major field.
• Fulfilling the University requirements for a baccalaureate degree set
  forth in Section 3 of this Bulletin.

Any student who wishes to receive a second baccalaureate
degree must complete 32 credits of coursework in addition to
the 128 credits necessary for the first degree; 16 of these credits
must be 300/400-level courses or other approved courses.

Major Field
To qualify for graduation, a student must concentrate or major
in the work of either a department or a division of the college.
Part or all of these credits may be taken in specifically required
courses depending upon the major chosen. The longer and
more professionally-oriented majors should be started during the
first year when the student is still under the guidance of the
Office of Academic Advising Services.

Ordinarily a student will select a department in which to major.
The exact requirements for each major will be found on the
following pages. Some departments offer more than one type of
major. No minor is required; but in some cases, the major
includes certain courses in other departments. As soon as the
student is transferred to the college, the head of the student’s
major department becomes the academic adviser.

A student who desires a broader education than the depart­
mental major offers may elect a divisional major and qualify in
the general area of the humanities or the natural sciences. The
exact requirements for these majors will be found on the follow­
ing 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 usually is required. The edu­
cation and psychology courses required for the secondary
school teaching certificate may be taken as electives toward
the arts and sciences degrees. Additional elective credits will
generally enable the student to meet the requirement of a
second teaching field, without exceeding the 128 credits
necessary for graduation.

The number of credits in a teaching field required for certifica­
tion can be determined by referring to: "Teaching Fields," Col­
lege 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>5100:150</td>
<td>Introduction to Professional Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:250</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>5300:265</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>5300:310</td>
<td>Principles of Teaching in the Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>5300:325</td>
<td>Content Reading in Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>5300:345</td>
<td>Human Relations in Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>5300:355</td>
<td>Managing Classroom Behavior at the Secondary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level</td>
<td></td>
</tr>
<tr>
<td>5300:375</td>
<td>Exploratory Experience</td>
<td>1</td>
</tr>
<tr>
<td>5300:411</td>
<td>Instructional Techniques 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>5300:403</td>
<td>Student Teaching Seminar</td>
<td>1</td>
</tr>
<tr>
<td>5300:495</td>
<td>Student Teaching</td>
<td>8</td>
</tr>
</tbody>
</table>

Programs of Instruction

3100: Biology

Bachelor of Science
Bachelor of Science in Cytotechnolgy
Bachelor of Science in Medical Technology
- The General Studies and the second year of a foreign language.*
- Core requirements:
  - 3100:111 Principles of Biology
  - 3100:211 General Genetics
  - 3100:216 Organic Evolution
  - 3100:217 General Ecology
  - 3100:311 Cell Biology
  - 3100:384 Techniques and Instrumentation Laboratory
  - 3150:135 Principles of Chemistry I
  - 3150:134 Qualitative Analysis I
  - 3150:201 II Organic Chemistry and Biochemistry I and II
- 3150:263, 350, 355 Organic Chemistry
- 3450:147 Elementary Functions I and II
- 3450:111, 2.3 Modern University Mathematics
- 3450:121, 2.3 Mathematics
- 3470:251, 2.3 Statistics
- 300/400-level courses: the student is required to complete one
course in anatomy/physiology and two courses in organismal biology
which has been approved by the department.
- A student majoring in biology or medical technology should consult a
member of the biology faculty during the first year.

Areas of Specialization

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

Botany
- 3100:440 Mycology
- 3100:443 Mycology

*Second year of foreign language and Eastern Civilizations not required for Bachelor of Science in Medical Technology.
**Not required for Bachelor of Science in Medical Technology.
†Not required for B.S. in Biology degree.
‡Or with permission, 3150:121.2.
+Required for B.S. in Cytotechnolgy.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:445</td>
<td>Plant Morphology</td>
<td>4</td>
</tr>
<tr>
<td>3100:447</td>
<td>Plant Pathology</td>
<td>3</td>
</tr>
<tr>
<td>3100:449</td>
<td>Plant Biosystematics</td>
<td>2</td>
</tr>
<tr>
<td>Electives:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3100:341:2</td>
<td>Flora and Taxonomy I and II</td>
<td>6</td>
</tr>
<tr>
<td>3100:441</td>
<td>Plant Development</td>
<td>4</td>
</tr>
<tr>
<td>3100:442</td>
<td>Plant Anatomy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Ecology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:422</td>
<td>Conservation of Biological Resources</td>
<td>4</td>
</tr>
<tr>
<td>3100:424</td>
<td>Limnology</td>
<td>3</td>
</tr>
<tr>
<td>3100:464</td>
<td>General and Comparative Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3300:275</td>
<td>Specialized Writing</td>
<td>3</td>
</tr>
<tr>
<td>3350:495</td>
<td>Soil and Water Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>3370:101</td>
<td>Introductory Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3450:221:2</td>
<td>Analytic Geometry-Calculus I and II</td>
<td>8</td>
</tr>
<tr>
<td>3470:251-6</td>
<td>Statistics</td>
<td>6</td>
</tr>
<tr>
<td>4450:206</td>
<td>Forensics Programming or other</td>
<td></td>
</tr>
<tr>
<td>3100:331</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:426</td>
<td>Applied Aquatic Ecology</td>
<td>3</td>
</tr>
<tr>
<td>3100:440</td>
<td>Mycology</td>
<td></td>
</tr>
<tr>
<td>3100:443</td>
<td>Phycology</td>
<td>4</td>
</tr>
<tr>
<td>3100:423:2</td>
<td>Quantitative Analysis and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>3100:427</td>
<td>Analytical Chemistry Lecture or one</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>course from each group below</td>
<td></td>
</tr>
<tr>
<td>3100:351</td>
<td>Invertebrate Zoology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
</tr>
<tr>
<td>3100:353</td>
<td>General Entomology</td>
<td>4</td>
</tr>
<tr>
<td>3100:358</td>
<td>Ornithology</td>
<td>3</td>
</tr>
<tr>
<td>3100:458</td>
<td>Vertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>3100:341:2</td>
<td>Flora and Taxonomy I and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>3100:342</td>
<td>Flora and Taxonomy II</td>
<td>3</td>
</tr>
</tbody>
</table>

**Microbiology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:331:2</td>
<td>Microbiology</td>
<td>8</td>
</tr>
<tr>
<td>3100:431</td>
<td>Bacterial Physiology or Virology</td>
<td>3</td>
</tr>
<tr>
<td>3100:435:4</td>
<td>Immunology</td>
<td>4</td>
</tr>
<tr>
<td>Electives:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3100:355</td>
<td>Parasitology</td>
<td>4</td>
</tr>
<tr>
<td>3100:433</td>
<td>Pathogenic Bacteriology</td>
<td>4</td>
</tr>
<tr>
<td>3100:440</td>
<td>Mycology or Physiology</td>
<td></td>
</tr>
<tr>
<td>3100:443</td>
<td>Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:461:2</td>
<td>Human Physiology</td>
<td>8</td>
</tr>
<tr>
<td>3100:401:2</td>
<td>Biochemistry</td>
<td>6</td>
</tr>
</tbody>
</table>

**Physiology and Pre-Professional**

(Pre-medical, pre-dental, pre-veterinary and pre-pharmacy student)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:461:2</td>
<td>Human Physiology</td>
<td>8</td>
</tr>
<tr>
<td>3100:466:7</td>
<td>Developmental Anatomy</td>
<td>8</td>
</tr>
<tr>
<td>3650:261:2</td>
<td>Physics for Life Sciences I and II</td>
<td>8</td>
</tr>
<tr>
<td>Electives:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3100:365</td>
<td>Histology</td>
<td>3</td>
</tr>
<tr>
<td>3100:480</td>
<td>Radiation Biology</td>
<td>3</td>
</tr>
<tr>
<td>3450:221:2</td>
<td>Analytic Geometry-Calculus I, II and III</td>
<td>12</td>
</tr>
<tr>
<td>3650:267:8</td>
<td>Life Sciences Physics Computations I and II</td>
<td>2</td>
</tr>
<tr>
<td>3100:423:2</td>
<td>Quantitative Analysis and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>3100:427</td>
<td>Analytical Chemistry Lecture</td>
<td>3</td>
</tr>
<tr>
<td>3100:456:6</td>
<td>Analytical Chemistry Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

**Zoology**

A minimum of 12 credits from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:351</td>
<td>Invertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>3100:428</td>
<td>Biology of Behavior</td>
<td>2</td>
</tr>
<tr>
<td>3100:458</td>
<td>Vertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>3100:464</td>
<td>General and Comparative Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:465:7</td>
<td>Developmental Anatomy</td>
<td>8</td>
</tr>
</tbody>
</table>

At least one of the following courses should also be included:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:341</td>
<td>Flora and Taxonomy I</td>
<td>3</td>
</tr>
<tr>
<td>3100:442</td>
<td>Flora and Taxonomy II</td>
<td>3</td>
</tr>
<tr>
<td>3100:440</td>
<td>Mycology or Physiology</td>
<td></td>
</tr>
<tr>
<td>3100:443</td>
<td>Phycology</td>
<td>4</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:425</td>
<td>Introductory Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:341</td>
<td>Flora and Taxonomy I</td>
<td>3</td>
</tr>
<tr>
<td>3100:351</td>
<td>Invertebrate Zoology</td>
<td>4</td>
</tr>
<tr>
<td>3100:383</td>
<td>Laboratory Techniques and Instrumentation</td>
<td>2</td>
</tr>
<tr>
<td>3100:458</td>
<td>Vertebrate Zoology</td>
<td>4</td>
</tr>
</tbody>
</table>

Electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:331</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:342</td>
<td>Flora and Taxonomy II</td>
<td>3</td>
</tr>
<tr>
<td>3100:426</td>
<td>Applied Aquatic Ecology</td>
<td>3</td>
</tr>
<tr>
<td>3100:428</td>
<td>Biology of Behavior</td>
<td>2</td>
</tr>
<tr>
<td>3100:440</td>
<td>Mycology</td>
<td>4</td>
</tr>
<tr>
<td>3100:443</td>
<td>Phycology</td>
<td>4</td>
</tr>
<tr>
<td>3100:445</td>
<td>Plant Morphology</td>
<td>4</td>
</tr>
<tr>
<td>3100:464</td>
<td>General and Comparative Physiology</td>
<td>4</td>
</tr>
<tr>
<td>3100:485</td>
<td>Laboratory Animal Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Medical Technology**

A foreign language and Eastern Civilizations are not required.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:206:7</td>
<td>Anatomy and Physiology</td>
<td>6</td>
</tr>
<tr>
<td>3100:331:2</td>
<td>Microbiology</td>
<td>8</td>
</tr>
<tr>
<td>3100:355</td>
<td>Parasitology</td>
<td>4</td>
</tr>
<tr>
<td>3100:383</td>
<td>Laboratory Techniques and Instrumentation</td>
<td>2</td>
</tr>
<tr>
<td>3100:437</td>
<td>Immunology</td>
<td>4</td>
</tr>
<tr>
<td>3100:335:6</td>
<td>Analytical Chemistry for Laboratory Technicians</td>
<td>8</td>
</tr>
</tbody>
</table>

The first three years of instruction are given in the University. The senior year consists of a minimum of 32 credits of coursework in the 3120 series. These courses will be available only to the student selected for the clinical experience portion of the B.S.M.T. program in a CAHEA approved hospital school of normal bition will be charged. The University is affiliated with the following hospital schools: Akron City Hospital, Akron General Medical Center, Barberton Citizens Hospital, Canton Aultman Hospital, Cleveland Metropolitan General Hospital, Elyria Memorial Hospital, Mt. Sinai Hospital in Cleveland, Northern Columbiana County Community Hospital, St. Alexius Hospital (Cleveland), St. Thomas Hospital Medical Center and the Children's Hospital Medical Center of Akron. The student must apply to a hospital school for separate admission. The University cannot guarantee placement. A student may train at other approved schools after obtaining special permission from the head of the Department of Biology.

The University grants the B.S. in Medical Technology after receipt of evidence of satisfactory completion of the hospital instructional program.

A minimum of 36 credits in biology is necessary to qualify for a Bachelor of Science degree. Additional courses in biology or other sciences are usually necessary to satisfy the admission requirements of graduate and professional schools for advanced work and professional studies.

All majors for a Bachelor of Science degree in biology take the sequence of courses listed above which will provide an understanding of the fundamentals of modern biology. During the first year, a student intending to major in biology should consult a member of the biology faculty.

**Cytotechnology**

A foreign language is not required.

The first three years of instruction are given in the University. The senior year consists of a minimum of 32 credits in the 3120 series.
These courses are available only to the student selected for the clinical experience portion of the B.S.C.T. program in a CAHEA approved school. Normal tuition will be charged. The student must apply with a separate admission to an approved school. The university will assist in the process but cannot guarantee admission.

The University will grant the B.S. in Cytotechnology after receipt of satisfactory completion of the hospital instructional program.

The following credits are required in addition to core requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:206:7 Anatomy &amp; Physiology</td>
<td>6</td>
</tr>
<tr>
<td>3100:212 Genetics Laboratory (Optional)</td>
<td>1</td>
</tr>
<tr>
<td>3100:331:2 Microbiology</td>
<td>6</td>
</tr>
<tr>
<td>3100:365:6 Histology I &amp; II</td>
<td>6</td>
</tr>
<tr>
<td>3100:383:4 Laboratory Techniques and Instrumentation in Biology</td>
<td>2</td>
</tr>
<tr>
<td>3100:437 Immunology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Bachelor of Arts**

- **The General Studies and the second year of a foreign language.**
- **At least 17 credits in the humanities or social sciences, including at least two of the following:**
  - 3400:477 Western Science to 1800 | 4   |
  - 3400:478 Western Science since 1800 | 4   |
  - 3600:464 Philosophy of Science | 3   |
- **At least 24 credits in the biological sciences which must include:**
  - 3100:111:2 Principles of Biology | 8   |
  - 3100:211 General Genetics | 3   |
  - 3100:216 Organic Evolution | 2   |
  - 3100:217 General Ecology | 2   |
  - 3100:311 Cell Biology | 3   |
  - 3100:310 Principles of Microbiology | 3   |
  - **At least one year of chemistry, including, preferably, some biological chemistry (3150:129, 3150:131, General Chemistry is suggested):**

**3150: Chemistry**

**Bachelor of Science (A.C.S. certified)**

- **The General Studies and the second year of a foreign language.**
- **At least 45 departmental credits including:**
  - 3150:132 Principles of Chemistry I | 4   |
  - 3150:133 Principles of Chemistry II | 3   |
  - 3150:134 Qualitative Analysis | 2   |
  - 3150:263 Organic Chemistry I | 3   |
  - 3150:264 Organic Chemistry II | 2   |
  - 3150:265 Organic Chemistry Laboratory I | 2   |
  - 3150:266 Organic Chemistry Laboratory II | 2   |
  - 3150:313 Physical Chemistry Lecture I | 3   |
  - 3150:314 Physical Chemistry Lecture II | 3   |
  - 3150:315 Physical Chemistry Laboratory I | 2   |
  - 3150:316 Physical Chemistry Laboratory II | 2   |
  - 3150:425 Quantitative Analysis | 3   |
  - 3150:427 Analytical Chemistry Laboratory | 3   |
  - 3150:428 Analytical Chemistry Laboratory II | 2   |
  - 3150:472 Advanced Inorganic Chemistry | 3   |
- **At least two advanced courses:**
  - 3150:401 Biochemistry Lecture I | 3   |
  - 3150:402 Biochemistry Lecture II | 3   |
  - 3150:404 Biochemistry Lecture I | 3   |
  - 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   |
  - 365:041 Methods of Mathematical Physics I | 3   |
  - 3940:407 Polymer Science | 4   |
- **Physics:**
  - 3650:291:2 Elementary Classical Physics I and II | 8   |
  - **Recommended:**
    - 4450:206 Fortran (Science and Engineering) | 2   |

**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 | 3   |
  - 3150:264 Organic Chemistry Lecture II | 3   |
  - 3150:266 Organic Chemistry Laboratory II | 2   |
  - 3150:303 Elementary Physical Chemistry I | 3   |
  - 3150:313 Physical Chemistry Lecture I | 3   |
  - 3150:304 Elementary Physical Chemistry II | 3   |
  - 3150:314 Physical Chemistry Laboratory II | 3   |
  - 3150:423 Quantitative Analysis | 3   |
  - 3150:425 Quantitative Analysis Laboratory | 2   |
  - 3150:427 Analytical Chemistry Lecture | 3   |
- **At least two courses from the following:**
  - 3150:315 Physical Chemistry Laboratory I | 2   |
  - 3150:316 Physical Chemistry Laboratory II | 2   |
  - 3150:401 Biochemistry Lecture I | 3   |
  - 3150:402 Biochemistry Lecture II | 3   |
  - 3150:404 Biochemistry Laboratory I | 1   |
  - 3150:405 Biochemistry Laboratory II | 1   |
  - 3150:415 Chemical Instrumentation | 3   |
  - 3150:416 Instrumental Methods of Analysis | 3   |
  - 3150:421 Qualitative Organic Analysis | 4   |
  - 3150:426 Analytical Chemistry Laboratory | 2   |
  - 3150:463 Advanced Organic Chemistry | 3   |
  - 3150:472 Advanced Inorganic Chemistry | 3   |
  - 3150:499 Research Problems | 2   |
  - 3940:401 Introduction to Elastomers | 3   |
  - 3940:402 Introduction to Polymers | 2   |
  - 3940:407 Polymer Science | 4   |
  - 3940:411 Molecular Structure and Physical Properties of Polymers I | 3 |
  - 3940:412 Molecular Structure and Physical Properties of Polymers II | 2 |
  - 3940:413 Molecular Structure and Physical Properties of Polymers III | 2 |
- **Physics:**
  - 3650:291:2 Elementary Classical Physics I and II | 8   |
  - **Recommended:**
    - 3650:261:2 Physics for the Life Sciences I and II | 8   |
    - or 3650:231:2 Concepts of Physics I and II | 8   |
- **Mathematics**
  - 3450:149 Pre-Calculus Mathematics | 4   |
  - 3450:221:2 Analytic Geometry-Calculus I and II | 8   |
    - or equivalent |
    - **Recommended:**
      - 4450:206 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 2.0 ("C") in the major requirements;
- be on schedule in the student’s curriculum.
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 courses are:

- 3150:300 Cooperative Education Work Period
- 3150:301 Cooperative Education Work Period
- 3150:302 Cooperative Education Work Period
- 3150:403 Cooperative Education Work Period

A certificate is awarded upon completion of the program. Courses required for certification are 3150:301, 302 and 403; 3150:300 is optional.

A registration fee for each work period is charged to partially cover 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

- The General Studies.
- At least 24 departmental credits including

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3200.314 Archaeology of Rome</td>
<td>3</td>
</tr>
<tr>
<td>3200.361 Literature of Greece</td>
<td>3</td>
</tr>
<tr>
<td>3200.362 Literature of Rome</td>
<td>3</td>
</tr>
<tr>
<td>Classical Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

- Language courses must be above the 200 level in order to be included in the total of 24 credits. In the case of a Latin major, three credits in this language (preferably in Latin grammar and idiom) must be taken during the second 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.

3250: Economics

Bachelor of Arts

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250.201 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3250.202 Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3250.400 Macroeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>3250.410 Microeconomic Theory</td>
<td>3</td>
</tr>
<tr>
<td>Economics Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

- Mathematics:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450 Modern University Mathematics</td>
<td>9</td>
</tr>
</tbody>
</table>

- Statistics (one of the following):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500.321.2 Quantitative Business Analysis I and II</td>
<td>6</td>
</tr>
<tr>
<td>3470.251 Descriptive Statistics and Problems</td>
<td>1</td>
</tr>
<tr>
<td>3470.252 Distribution</td>
<td>1</td>
</tr>
<tr>
<td>3470.253 Hypothesis Testing</td>
<td>1</td>
</tr>
<tr>
<td>3470.255 Regression and Correlation</td>
<td>1</td>
</tr>
<tr>
<td>3470.256 Experimental Design</td>
<td>1</td>
</tr>
<tr>
<td>3470.257 Time Series and Index Numbers</td>
<td>1</td>
</tr>
<tr>
<td>or 3470.461 Applied Statistics</td>
<td>4</td>
</tr>
</tbody>
</table>

- Electives — 30-32 credits.

Bachelor of Science in Labor Economics

- The General Studies.
- At least 30 departmental credits including:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250.201 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3250.202 Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3250.300 Labor Problems</td>
<td>3</td>
</tr>
<tr>
<td>3250.410 Macroeconomic Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

- Two of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250.333 Labor Economics</td>
<td>3</td>
</tr>
<tr>
<td>3250.431 Labor and the Government</td>
<td>3</td>
</tr>
<tr>
<td>3250.432 The Economics and Practice of Collective Bargaining</td>
<td>3</td>
</tr>
<tr>
<td>3250.435 Human Resource Policy</td>
<td>5</td>
</tr>
<tr>
<td>Economics Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

- Statistics (one of the following):

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500.321.2 Quantitative Business Analysis I and II</td>
<td>6</td>
</tr>
<tr>
<td>or 3470.251 Descriptive Statistics and Problems</td>
<td>1</td>
</tr>
<tr>
<td>3470.252 Distribution</td>
<td>1</td>
</tr>
<tr>
<td>3470.253 Hypothesis Testing</td>
<td>1</td>
</tr>
<tr>
<td>3470.255 Regression and Correlation</td>
<td>1</td>
</tr>
<tr>
<td>3470.256 Experimental Design</td>
<td>1</td>
</tr>
<tr>
<td>3470.257 Time Series and Index Numbers</td>
<td>1</td>
</tr>
<tr>
<td>or 3470.461 Applied Statistics</td>
<td>4</td>
</tr>
</tbody>
</table>

- At least eight credits in 300/400-level courses geography, history, political science, psychology or sociology.
- Electives — 45-47 credits.
Bachelor of Arts

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

At least 35 credits in the department including the following course and distribution requirements:

- Required courses:
  - 3300:301 English Literature I 4
  - 3300:302 English Literature II 4
  - 3300:316 Shakespeare: The Mature Plays 3
  - 3300:341 American Literature I 3
  - 3300:342 American Literature II 3

- Distribution requirements:
  - One linguistics or English language course. A minimum of four 400-level courses.
  - At least 30 credits in geography including the following: 3
    - 3350:442 Thematic Cartography 3
    - 3350:444 Map Compilation and Reproduction 3
    - 3350:447 Introduction to Remote Sensing 3
    - 3350:448 Automated Computer Mapping 3
    - 3350:449 Advanced Remote Sensing 3
    - 3350:481 Introduction to Geographic Research 3
    - 3350:483 Introduction to Spatial Analysis 3
    - 3350:496 Field Research Methods 3

- Certificate Program in Linguistic Studies

A certificate program is offered. A full description of this program may be found in "Interdisciplinary and Certificate Programs," Section 4 of this Bulletin.

3350: Geography

Bachelor of Arts

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

At least 26 departmental credits including:

- 3360:210 Physical and Environmental Geography 3
- 3360:240 Maps and Map Reading 3
- 3360:320 Economic Geography 3
- 3360:330 Rural and Urban Settlement 3
- 3360:340 Cartography 3
- 3360:481 Geographic Research Methods 3
- 3360:496 Field Research Methods 3

- At least one course from the following:
  - 3360:350 Anglo-America 3
  - 3360:353 Latin America 3
  - 3360:356 Europe 3
  - 3360:358 U.S.S.R. 3
  - 3360:360 Asia 3
  - 3360:363 Africa South of the Sahara 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.

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 course work 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 those foreign culture 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: 3
  - 3350:442 Thematic Cartography 3
  - 3350:444 Map Compilation and Reproduction 3
  - 3350:447 Introduction to Remote Sensing 3
  - 3350:448 Automated Computer Mapping 3
  - 3350:449 Advanced Remote Sensing 3
  - 3350:481 Introduction to Geographic Research 3
  - 3350:483 Introduction to Spatial Analysis 3
  - 3350:496 Field Research Methods 3

3370: Geology

Bachelor of Science

Geology

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

At least 26 departmental credits including:

- 3370:101 Introductory Physical Geology 4
- 3370:102 Introductory Historical Geology 4
- 3370:210 Geomorphology 3
- 3370:230 Crystallography 3
- 3370:231 Mineralogy 3
- 3370:232 Petrology 3
- 3370:324 Sedimentation and Stratigraphy 3
- 3370:350 Structural Geology 4
- 3370:360 Introductory Invertebrate Paleontology 4
- 3370:395 Field Methods in Geology 3
- 3370:432 Optical Mineralogy 3
- 3370:496 Geology Field Camp 6

- Non-geology courses required for majors:
  - 3150:102 Principles of Chemistry I and II 7
  - 3450:211 Analytic Geometry-Calculus I and II 8
  - 3650:231 Concepts of Physics I and II 8
  - or equivalent

- Electives

Additional work in a supporting science, mathematics or engineering is strongly recommended. During the first year, a student intending to major in geology should consult a member of the geology faculty.

Geophysics

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

At least 26 departmental credits including:

- 3370:101 Introductory Physical Geology 4
- 3370:102 Introductory Historical Geology 4
- 3370:250 Structural Geology 4
- 3370:441 Fundamentals of Geophysics 3
- 3370:446 Exploration Geophysics 3
- 3370:496 Geology Field Camp 6

- Non-geology required courses:
  - 3150:102 Principles of Chemistry I and II 7
  - 3450:211 Analytic Geometry-Calculus I and II 12
  - 3450:235 Differential Equations 3
  - 3650:291 Elementary Classical Physics I and II 8
  - 3650:431 Mechanics 3
  - 3650:436 Electricity and Magnetism 3

*Students planning to pursue the Bachelor of Science degree in Geography/Cartography should select courses 2203:242 American Urban Society and 247 Survey of Basic Economics as general electives.

**See department head for possible substitutions.
Bachelor of Arts

- The General Studies and the second year of a foreign language.
- At least 44 departmental credits including:
  3370:101 Introductory Physical Geology 4
  3370:102 Introductory Historical Geology 4
  3370:231 Mineralogy 3
  3370:232 Petrology 2
  3370:350 Structural Geology 4
  3370:360 Introductory Invertebrate Paleontology 4
  3370:496 Geology Field Camp 6
  Elective geology courses (minimum eight credits at the 300/400-level) 17

- Non-geology courses required for majors:
  3150:111 Principles of Chemistry 1 4
  3450:148 Elementary Functions II (or equivalent) 3

- At least seven credits from the following:
  3100:111 Principles of Biology (or equivalent) 4
  3150:113 Principles of Chemistry II (or equivalent) 3
  3650:231 Concepts of Physics (or equivalent) 4

3400: History

Bachelor of Arts

- The General Studies and the second year of a foreign language (French, German or Russian suggested).
- A minimum of 30 departmental credits including:
  3400:405 Historical Methods 2
  History Electives* 28
  Of the 28 remaining history credits a student must take some distribution of the courses in American and European history. A suitable pattern would be:
  3400:212 United States Survey (eight credits).
  3400:207 Modern Europe (eight credits).

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**:
  3450:221.2A Analytic Geometry-Calculus I and II 6
  3450:221.2B Analytic Geometry-Calculus I and III 6
  3450:235 Differential Equations 3
  3450:311 Abstract Algebra 3
  3450:312 Linear Algebra 3
  3450:421 Differential Calculus I and II 6
  3450:445 Introduction to Topology 3
  Mathematics Electives 10
(Effective credits must be approved 300/400-level courses in the department.)

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

Applied Mathematics

- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including:
  3450:221.2A Analytic Geometry-Calculus I and II 12
  3450:235 Differential Equations 3
  3450:311 Abstract Algebra 3
  3450:421.2A Advanced Calculus I and II 6
  3450:427 Introduction to Numerical Analysis 3
  3450:436 Mathematical Models 3
  3450:451 Theoretical Statistics 3
  Mathematics Electives 7
(Effective credits must be approved 300/400-level courses in the department.)

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

Cooperative Education Program —
Mathematical Sciences

Schedule

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

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

- Sixty credits with a grade-point average of at least 2.00 out of a possible 4.00 in the program of mathematical sciences curriculum and be on schedule in the curriculum.
- Acceptance by a cooperative education coordinator or director following interviews.

A transfer student must:

- Complete 16 credits of academic work at The University of Akron with a grade-point average of at least 2.00 out of a possible 4.00. Be on schedule in the mathematical sciences curriculum.

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

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 University course.

The courses are as follows:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460:201</td>
<td>Introduction to Fortran Programming</td>
<td></td>
</tr>
<tr>
<td>3460:211</td>
<td>Fortran (Science and Engineering)</td>
<td>2</td>
</tr>
<tr>
<td>3460:212</td>
<td>Introduction to Computer Concepts</td>
<td>3</td>
</tr>
<tr>
<td>3460:213</td>
<td>Assembly Programming</td>
<td>3</td>
</tr>
<tr>
<td>3460:214</td>
<td>Introduction to Cobol Programming</td>
<td>2</td>
</tr>
<tr>
<td>3460:215</td>
<td>Introduction to APL Programming</td>
<td>2</td>
</tr>
<tr>
<td>3460:216</td>
<td>Introduction to PL/I Programming</td>
<td>2</td>
</tr>
<tr>
<td>3460:217</td>
<td>Introduction to Pascal Programming</td>
<td>2</td>
</tr>
<tr>
<td>3460:218</td>
<td>Systems Programming</td>
<td>3</td>
</tr>
<tr>
<td>3460:219</td>
<td>Introduction to Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>3460:220</td>
<td>Introduction to Discrete Structures</td>
<td></td>
</tr>
<tr>
<td>3460:221</td>
<td>Structured Programming</td>
<td>3</td>
</tr>
<tr>
<td>3460:222</td>
<td>Introduction to Software Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

• Electives — Computer Science — 12 credits.

Options

Mathematics

At least 21 credits to include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:221</td>
<td>Analytic Geometry-Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>3450:222</td>
<td>Analytic Geometry-Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>3450:223</td>
<td>Analytic Geometry-Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>3450:224</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>3450:225</td>
<td>Numerical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>3470:450</td>
<td>Statistics</td>
<td></td>
</tr>
</tbody>
</table>

Systems and Information Science

At least 23 credits to include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:111</td>
<td>Algebra</td>
<td>1</td>
</tr>
<tr>
<td>3450:112</td>
<td>Algebra Functions and Graphing</td>
<td>1</td>
</tr>
<tr>
<td>3450:113</td>
<td>Matrices</td>
<td>1</td>
</tr>
<tr>
<td>3450:114</td>
<td>Linear Programming</td>
<td>1</td>
</tr>
<tr>
<td>3450:115</td>
<td>Analytic Geometry</td>
<td>1</td>
</tr>
<tr>
<td>3450:116</td>
<td>Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>3450:117</td>
<td>Integral Calculus</td>
<td>1</td>
</tr>
<tr>
<td>3450:118</td>
<td>Introduction to Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>3450:119</td>
<td>Descriptive Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>3450:120</td>
<td>Introduction to Basic Programming</td>
<td>1</td>
</tr>
<tr>
<td>3470:251</td>
<td>Descriptive Statistics and Probability</td>
<td>1</td>
</tr>
<tr>
<td>3470:252</td>
<td>Distributions</td>
<td>1</td>
</tr>
<tr>
<td>3470:253</td>
<td>Hypothesis Testing</td>
<td>1</td>
</tr>
<tr>
<td>3470:254</td>
<td>Regression and Correlation</td>
<td>1</td>
</tr>
<tr>
<td>3470:255</td>
<td>Experimental Design</td>
<td>1</td>
</tr>
<tr>
<td>3470:256</td>
<td>Operations Research</td>
<td>3</td>
</tr>
</tbody>
</table>

Business

A total of 29 credits to include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3550:201</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3550:202</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3450:111</td>
<td>Algebra</td>
<td>1</td>
</tr>
<tr>
<td>3450:112</td>
<td>Algebra Functions and Graphing</td>
<td>1</td>
</tr>
<tr>
<td>3450:113</td>
<td>Matrices</td>
<td>1</td>
</tr>
<tr>
<td>3450:114</td>
<td>Linear Programming</td>
<td>1</td>
</tr>
<tr>
<td>3450:115</td>
<td>Analytic Geometry</td>
<td>1</td>
</tr>
<tr>
<td>3450:116</td>
<td>Differential Equations</td>
<td>1</td>
</tr>
<tr>
<td>3450:117</td>
<td>Integral Calculus</td>
<td>1</td>
</tr>
<tr>
<td>3450:118</td>
<td>Introduction to Numerical Methods</td>
<td>3</td>
</tr>
<tr>
<td>3450:119</td>
<td>Descriptive Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>3450:120</td>
<td>Introduction to Basic Programming</td>
<td>1</td>
</tr>
<tr>
<td>3470:251</td>
<td>Descriptive Statistics and Probability</td>
<td>1</td>
</tr>
<tr>
<td>3470:252</td>
<td>Distributions</td>
<td>1</td>
</tr>
<tr>
<td>3470:253</td>
<td>Hypothesis Testing</td>
<td>1</td>
</tr>
<tr>
<td>3470:254</td>
<td>Regression and Correlation</td>
<td>1</td>
</tr>
<tr>
<td>3470:255</td>
<td>Experimental Design</td>
<td>1</td>
</tr>
<tr>
<td>6500:201:2</td>
<td>Accounting I and II</td>
<td>8</td>
</tr>
<tr>
<td>6500:371</td>
<td>Business Finance</td>
<td>3</td>
</tr>
<tr>
<td>6550:301</td>
<td>Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6560:300</td>
<td>Marketing Principles</td>
<td>3</td>
</tr>
</tbody>
</table>

Computer Science Certificate Program

A computer science certificate program is available for the qualified student. See Section 4 of this Bulletin for complete details.

3470: Statistics

Bachelor of Science

Bachelor of Arts

Mathematics

At least 21 credits to include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:111</td>
<td>Analytic Geometry-Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>3450:112</td>
<td>Analytic Geometry-Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>3450:113</td>
<td>Analytic Geometry-Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>3450:224</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>3450:225</td>
<td>Numerical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>3470:450</td>
<td>Probability</td>
<td></td>
</tr>
</tbody>
</table>

Options

Mathematics

At least 21 credits to include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:221</td>
<td>Analytic Geometry-Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>3450:222</td>
<td>Analytic Geometry-Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>3450:223</td>
<td>Analytic Geometry-Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>3450:224</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>3450:225</td>
<td>Numerical Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>3470:450</td>
<td>Probability</td>
<td></td>
</tr>
</tbody>
</table>

**Any 300/400 level course with a 3460 or 4450 number which is not required in the computer science program. Any 300/400 level course in another department may be used if its subject matter is essentially computer science and if the head of the Department of Mathematical Sciences approves.**

undergraduate curriculum. A student preparing for graduate studies should usually satisfy the following requirements of 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 Physics Laboratory Techniques
  - 3650:304 Modern Physics
  - 3650:311 Intermediate Laboratory I
  - Physics Electives
  - 11 credits
- Mathematics:
  - 3650:221 Analytic Geometry-Calculus I and II
  - 12 credits
- Electives — 46 credits.

Areas of Specialization

Applied Physics/Engineering Physics

<table>
<thead>
<tr>
<th>Bachelor of Science degree recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>A suggested program of 32 credits including the following:</td>
</tr>
<tr>
<td>3650:321 Physics Laboratory Techniques</td>
</tr>
<tr>
<td>3650:404 Energy and the Environment</td>
</tr>
<tr>
<td>3650:421 Applied Physics Laboratory</td>
</tr>
<tr>
<td>3650:438 Methods of Applied Physics</td>
</tr>
<tr>
<td>4200:305 Materials Science</td>
</tr>
<tr>
<td>4300:202 Introduction to Mechanics of Solids</td>
</tr>
<tr>
<td>4400:231 Circuits I, II</td>
</tr>
<tr>
<td>4400:333 Circuits III, IV</td>
</tr>
<tr>
<td>4600:125 Engineering Graphics</td>
</tr>
<tr>
<td>4600:310 Fluid Mechanics</td>
</tr>
</tbody>
</table>

**Additional physics courses are usually necessary to satisfy the admission requirements of graduate schools for advanced work in physics or certain other physical sciences.

Courses 1100:224, 3650:130, 137, 138, 141 and 160 are not applicable toward the required credits of physics courses.

**Other courses by permission, see adviser.

Courses 1100:224, 3650:130, 137, 138, 141 and 160 are not applicable toward the required 24 credits of physics courses without special permission.

---

*For Spanish majors some dissimilation among languages, literature and culture courses is required. Consult an adviser.
### Biophysics
*(Bachelor of Science or Bachelor of Arts degree)*

A suggested program of 27 credits to include the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:111 Principles of Biology</td>
<td>8</td>
</tr>
<tr>
<td>3100:211 General Genetics</td>
<td>3</td>
</tr>
<tr>
<td>3100:214 Organic Evolution</td>
<td>3</td>
</tr>
<tr>
<td>3100:311 Cell Biology</td>
<td>2</td>
</tr>
<tr>
<td>3100:480 Radiation Biology</td>
<td>3</td>
</tr>
<tr>
<td>3150:263 Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>3650:421 Applied Physics Laboratory</td>
<td>2</td>
</tr>
</tbody>
</table>

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

A suggested program of 20 credits to include the following:

- 3150:263 Organic Chemistry: 6 credits
- 3160:315 Physical Chemistry I: 6 credits
- 3150:316 Physical Chemistry Laboratory I: 4 credits
- 3650:421 Applied Physics Laboratory: 2 credits
- 3650:471 NMR Spectroscopy I: 2 credits

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

A suggested program of 21 credits to include the following:

- 4400:231 I Circuits I: 6 credits
- 4400:333 Circuits III, IV: 6 credits
- 4450:10 Computer Methods: 3 credits
- 4450:410 Computer Methods: 3 credits

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

A suggested program of 18 credits to include the following:

- 3370:101 Introduction to Physical Geology: 4 credits
- 3370:102 Introduction to Historical Geology: 4 credits
- 3370:350 Structural Geology: 4 credits
- 3370:441 Fundamentals of Geophysics: 3 credits
- 3370:446 Exploration Geophysics: 3 credits

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

A suggested program of 24 credits to include the following:

- 3150:263 Organic Chemistry: 6 credits
- 3150:315 Physical Chemistry I: 6 credits
- 3650:421 Applied Physics Laboratory: 2 credits
- 3940:407 Systems Programming: 3 credits
- 3940:410 Computer Methods: 3 credits

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

A suggested program of 34 credits to include the following:

- 3650:321 Physics Laboratory Techniques: 2 credits
- 3650:331 Astrophysics I, II: 6 credits
- 3650:404 Energy and the Environment: 3 credits
- 3650:405 Optics: 3 credits
- 3650:421 Applied Physics Laboratory: 2 credits
- 3650:436 Methods of Applied Physics: 3 credits
- 3650:445 Theoretical Mechanics: 4 credits
- 3650:446 Electromagnetic Theory: 4 credits
- 3650:481 Methods of Mathematical Physics I, II: 6 credits
- 3650:499 Undergraduate Research: 1-4 credits

The preceding requirements specify the minimum curriculum for the B.S. and B.A. degrees 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 which in effect allows the substitution of 16 credits of science courses (either in one additional scientific discipline, or equally in two additional scientific disciplines) for the two-year foreign language requirement. For further information, refer to Buchtel College of Arts and Sciences, "Natural Sciences Division Major," Section 4 of this Bulletin, or contact the Department of Physics.

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### Computer Physics Certificate Program

See Section 4 of this Bulletin for complete details.

### Cooperative Industrial Employment Plan

For the academically qualified undergraduate student majoring in physics, an optional cooperative plan is available which provides a sequenced schedule of professionally-oriented industrial employment (totaling a full calendar year) alternating with periods of on-campus classroom instruction. This cooperative plan requires a five-year period for the completion of the bachelor's degree program in physics, with the spring term of the third year plus the fall and summer terms of the fourth year typically spent off campus with a participating industrial employer.

Arrangements are made on an individual basis and must be initiated by the student during the second year of undergraduate study. For further information, contact the department.

---

### 3700: Political Science

#### Bachelor of Arts

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:100 Government and Politics in the United States</td>
<td>4</td>
</tr>
<tr>
<td>3700:102 Comparative Politics</td>
<td>4</td>
</tr>
<tr>
<td>3700:201 Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>3700:303 Introduction to Political Thought</td>
<td>3</td>
</tr>
<tr>
<td>3700:310 International Politics and Institutions</td>
<td>4</td>
</tr>
<tr>
<td>3700:446 The Supreme Court and Constitutional Law</td>
<td>4</td>
</tr>
<tr>
<td>Political Science Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Electives — 45 credits.

#### Bachelor of Science in Political Science/Criminal Justice

- Completion of all requirements for the Associate Degree in Criminal Justice Technology established by the Community and Technical College.
- Completion of General Studies requirements.
- Completion of 47 credits of 300/400-level courses.
- At least six credits of coursework which will introduce the student to a foreign culture. Such courses shall be selected by the student with the approval of the advisor 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 *

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:100 Government and Politics in the United States</td>
<td>4</td>
</tr>
<tr>
<td>3700:210 State and Local Government and Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

*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:
  - 3750:100 Government and Politics in the United States
  - 3750:201 Introduction to Political Science
  - 3750:370 The American Bureaucracy
  - 3750:395 Internship: Government and Politics
  - 3750:411/541 Policy Process
  - 3750:442/542 Methods of Policy Analysis
  - 3750:480/580 Policy Problems

- The student will take an additional nine credits in either of the following two areas:
  - Domestic Public Policy
    - 3700:210 State and Local Politics
    - 3700:240 American Political Parties
    - 3700:380 Urban Politics and Policies
    - 3700:381 State Politics
    - 3700:382 Intergovernmental Relations
    - 3700:402 Politics and the Media
    - 3700:440/540 Public Opinion and Political Behavior
    - 3700:441/541 Supreme Court and Constitutional Law
  - International Policy
    - 3700:200 Comparative Politics
    - 3700:310 International Politics and Institutions
    - 3700:325 Comparative Public Policy
    - 3700:326 Politics of Developing Nations
    - 3700:415/515 Comparative Foreign Policy
    - 3700:420/520 Issues and Approaches to Comparative Politics

- Statistics:
  - 3470:251.2 Statistical Methods
  - 3470:251.3 Introduction to Statistics

- Computer Science:
  - 3460:209 Introduction to Fortran Programming
  - 3460:210 Introduction to Computer Concepts
  - 3460:211 Introduction to Computer Concepts
  - 3460:451/551 Data Base Management

- Accounting:
  - 6200:201 Accounting I
  - 6200:470/570 Governmental and Institutional Accounting

- Economics:
  - 3250:220 Principles of Microeconomics
  - 3250:330 Labor Problems
  - 3250:405 Public Finance

- Psychology:
  - 3750:101 Introduction to Psychology

- Management:
  - 6500:301 Management: Principles and Concepts
  - 6500:341 Personnel Management

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:
  - 3750:100 Introduction to Psychology
  - 3750:110 Quantitative Methods in Psychology
  - 3750:120 Introduction to Experimental Psychology
  - Psychology Electives

- 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

(3850: Sociology; 3870: Anthropology)

Bachelor of Arts

Sociology

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

- A minimum of 30 credits in sociology including:
  - 3850:100 Introduction to Sociology
  - 3850:201 Social Research I and II
  - 3850:403 History of Sociological Thought
  - 3850:404 Contemporary Sociological Theories
  - Sociology Electives

- Electives — 45 credits.

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

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
  - 3850:201 Social Research I and II
  - 3850:403 History of Sociological Thought
  - 3850:404 Contemporary Sociological Theories
  - 3870:150 Cultural Anthropology
  - 3870:151 Physical Anthropology
  - 3870:156 New World Prehistory
  - 3870:461 Language and Culture

- Electives — 44 credits.
Division Majors

Humanities

The humanities division consists of the departments of Classics, English, Modern Languages and Philosophy. The disciplines of history and the creative and dramatic arts (art, music, theatre arts) are included. The divisional major must include the following:

- The General Studies and the second year of a foreign language.
- A minimum of 54 credits, at least 24 of which must be in courses at the 300/400 level. The 54 credits must include 18 credits in each of any three of the following six fields: classics, English, history, modern languages, philosophy and the creative and dramatic arts.
- The first two years of any language in either classics or modern languages will not be included in the 18-credit requirement for those disciplines.

By field, the 18-credit requirement must include:

- **Classics:**
  - 3200:161.2 Comparative Literature 6
  - 3200:199 Classical Mythology 3
- **English:**
  - 300/400 level, including at least two courses at the 400 level (minimum) 9
- **History:**
  - 300/400 level (minimum) 10
- **Modern Languages:**
  - Composition and Conversation Literature 6
  - Any combination of linguistics and culture-civilization 6
- **Philosophy:**
  - 3600:101 Introduction to Philosophy 3
  - 3600:170 Introduction to Logic 3
- **Creative and Dramatic Arts:**
  - Non-performance courses in art (7100), music (7500) and theatre arts (7800) 18

Courses for the humanities 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.

Natural Sciences

The natural sciences division consists of the departments of Biology, Chemistry, Geology, Mathematical Sciences, Computer Science, Physics and Polymer Science. The divisional major must include:

- The General Studies.
- At least 24 credits from one of the departments of the natural sciences division.
- At least 16 credits from another of the following disciplines: biology, chemistry, engineering, geology, mathematics or computer science or statistics, physics, polymer science.
- At least 15 credits from a third of these disciplines; or alternatively, at least eight credits in each of two other of these disciplines.
- A foreign language is strongly recommended.

The courses for the natural sciences division major must be selected from those courses eligible for inclusion in the major of these disciplines. For further information, please contact the Office of the Dean, Buchtel College of Arts and Sciences.

Social Sciences

The social sciences division consists of the departments of Economics, Geography, History, Political Science, Psychology, Sociology and Urban Studies (graduate program only). The divisional major must include the following:

- The General Studies and the second year of a foreign language.
- A minimum of 54 credits, at least 24 of which must be in courses at the 300/400 level. The 54 credits must include a minimum of 15 credits in each of any three of the following six fields: economics, geography, history, political science, psychology and sociology-anthropology.

By field, the 15-credit requirement must include:

- **Economics:**
  - Any except 3250:100 Introduction to Economics (must include 3250:201 Principles of Macroeconomics and 3250:202 Principles of Microeconomics) 15
- **Geography:**
  - 15
- **History:**
  - Minimum of seven credits at the 300/400 level 15
- **Political Science:**
  - At least seven credits at the 300/400 level
  - 3700:100 Government and Politics in the United States
  - 3700:201 Introduction to Political Science 15

Each student shall take at least one course in two of the four areas (American government and politics, comparative politics, international politics and political theory) shown below:

- **American Government and Politics:**
  - 3700:210 State and Local Government and Politics 3
  - 3700:340 American Political Parties and Interest Groups 3
  - 3700:341 The American Congress 3
  - 3700:342 Minority Group Politics 3
  - 3700:350 The American Presidency 3
  - 3700:360 The Judicial Process 3
  - 3700:370 The American Bureaucracy 4
  - 3700:380 Urban Politics and Policies 4
  - 3700:391 State Politics 3
  - 3700:402 Politics and the Media 3
  - 3700:440 Public Opinion and Political Behavior 4
  - 3700:441 The Policy Process 3
  - 3700:461 The Supreme Court and Constitutional Law 4
  - 3700:480 Policy Problems 3
- **Comparative Politics:**
  - 3700:200 Comparative Politics 4
  - 3700:320 Britain and the Commonwealth 3
  - 3700:331 Western European Politics 3
  - 3700:332 Soviet and East European Politics 3
  - 3700:333 Politics of China and Japan 3
  - 3700:336 Politics of Developing Nations 3
  - 3700:327 African Politics 3
  - 3700:420 Issues and Approaches in Comparative Politics 3
  - 3700:425 Latin American Politics 3
- **International Politics:**
  - 3700:220 American Foreign Policy 3
  - 3700:310 International Politics and Institutions 4
  - 3700:415 Comparative Foreign Policy 3
- **Political Theory:**
  - 3700:302 American Political Ideas 3
  - 3700:303 Introduction to Political Thought 3
  - 3700:304 Modern Political Thought 3
- **Psychology:**
  - 15
- **Sociology-Anthropology:**
  - 15

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.

*Course will not apply toward 54 credits in major.
Bachelor of Science/Doctor of Medicine Degree (B.S./M.D. Program)

Introduction

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

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

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

Requirements

- The General Studies.
- The following courses to meet divisional major:

*Deadline for application to program is December 15

<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 381</td>
<td>Human Genetics</td>
<td>2</td>
</tr>
<tr>
<td>3100 466.7</td>
<td>Developmental Anatomy</td>
<td>8</td>
</tr>
<tr>
<td>3150 132.3</td>
<td>Principles of Chemistry I and 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 I</td>
<td>6</td>
</tr>
<tr>
<td>3150 265</td>
<td>Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>3150 266</td>
<td>Organic Chemistry Laboratory (Clinical)</td>
<td>2</td>
</tr>
<tr>
<td>3150 401.2</td>
<td>Biochemistry I</td>
<td>6</td>
</tr>
<tr>
<td>3450 221.2</td>
<td>Analytic Geometry-Calculus I and II</td>
<td>8</td>
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<tr>
<td>3650 261.2</td>
<td>Physics</td>
<td>8</td>
</tr>
<tr>
<td>3650 287.8</td>
<td>Physics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>3750 110</td>
<td>Quantitative Methods in Psychology</td>
<td>2</td>
</tr>
<tr>
<td>3750 109</td>
<td>Introduction to Psychology</td>
<td>3</td>
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</table>

- Additional courses as follows:

<table>
<thead>
<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>1880 201</td>
<td>Medical Seminar and Practicum I</td>
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</tr>
<tr>
<td>1880 301</td>
<td>Medical Seminar and Practicum II</td>
<td>1.3</td>
</tr>
<tr>
<td>3100 190.1</td>
<td>Health Care Delivery Systems</td>
<td>2</td>
</tr>
<tr>
<td>3100 290.1</td>
<td>Health Care Delivery Systems</td>
<td>2</td>
</tr>
<tr>
<td>2780 290</td>
<td>Special Topics, Allied Health</td>
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- Humanities:

<table>
<thead>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1880 31.0</td>
<td>Seminar on Humanities in Medical Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Additional study in the humanities from courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>specified by the Humanities Committee**</td>
<td>16</td>
</tr>
</tbody>
</table>

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

**Completion of elementary or intermediate courses in one modern language will not satisfy this humanities requirement. For additional information concerning the B.S./M.D. Six-Year Program, see "Northeastern Ohio Universities College of Medicine," Section 4 of this bulletin."
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 technological progress of society.

The program of study at the undergraduate level is principally the five-year cooperative plan. While this plan is optional, by far the greater number of students elect the co-op method of obtaining a bachelor's degree.

Along with the emphasis on preparation for professional practice within the college, University policy assures that each student obtains a substantial exposure to the humanities.

A graduate is prepared for study on the master's and doctoral level in engineering or for employment in the engineering profession directly 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
- Trigonometry ½ 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 and the approval of the dean.

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

Degrees
The college offers curricula leading to the degrees of Bachelor of Science in Chemical, Civil, Electrical, and Mechanical Engineering; Bachelor of Science in Engineering; and Bachelor of Construction Technology.

Requirements for Graduation
- Compliance with University requirements, Section 3, of this Bulletin.
- Completion of the requirements in the appropriate list of courses.
- 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 etc. 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, dyestuffs and food products.

The chemical engineer will usually be employed in one or more of the following activities: research and development, plant design and construction, process control, plant operations, sales and management. In addition to the processing industries, the chemical engineer is increasingly in demand in such areas of current interest as water and air pollution, biological engineering and energy engineering.

(An ABET accredited engineering curriculum)

- General Studies — 28 credits
- Natural science:
  - 3150:132 Principles of Chemistry I, II 7
  - 3150:134 Qualitative Analysis 2
  - 3450:221 Analytic Geometry-Calculus I, II, III 12
  - 3450:235 Differential Equations 3
  - 3450:305 Advanced Mathematics Elective 2
- Advanced chemistry:
  - 3150:263 Organic Chemistry I, II 6
  - 3150:265 Organic Chemistry Laboratory 2
  - 3150:313 Physical Chemistry I, II 6
- Engineering core:
  - 4200:120 Engineering Fundamentals 1
  - 4200:305 Materials Science 2
  - 4300:201 Statics 3
  - 4400:320 Basic Electrical Engineering 4
  - 4450:206 Fortran (Science and Engineering) 2
  - 4600:125 Engineering Graphics 2
- Chemical engineering:
  - 4200:200 Material and Energy Balances 4
  - 4200:321 Fluid and Thermal Transfer Theory 3
  - 4200:322 Thermodynamic Mass Transfer Theory 3
  - 4200:325 Equilibrium Thermodynamics 4
  - 4200:351 Fluid and Thermal Operations 3
  - 4200:352 Transport Laboratory 2
  - 4200:353 Mass Transfer Operations 3
  - 4200:364 Operations Laboratory 1
  - 4200:430 Chemical Reaction Engineering 3
  - 4200:435 Process Analysis and Control 3
  - 4200:441 Process Economics and Design 4
  - 4200:442 Plant Design 4
- Electives:
  - Advanced Chemistry or Polymer Science 3
  - Chemical Engineering Design 3
  - Free Elective, advisor approved 3

4300: Civil Engineering

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

The civil engineering curriculum at the University is divided into two options: design and construction. The design option allows specialization in environmental engineering, foundation engineering, hydraulic engineering, structural engineering and transportation engineering. The construction option includes introductory work in the five areas above but specializes in the engineering and financial aspects of construction. Each option contains a group of elective courses.

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

Credits are listed below by design (D) and construction (C) options.

(An ABET accredited engineering program)

- General Studies — 28 credits
- Natural science:
  - 3150:132 Principles of Chemistry I, II 7
  - 3370:101 Introductory Physical Geology 4
  - 3450:221 Analytic Geometry-Calculus I, II, III 12
  - 3450:235 Differential Equations 3
  - 3470:461 Applied Statistics 4
  - 3500:291 Elementary Classical Physics I, II 8
- Engineering core:
  - 4200:305 Materials Science 2
  - 4300:130 Introduction to Engineering 1
  - 4300:201 Statics 3
  - 4300:202 Introduction to Mechanics of Solids 3
  - 4400:320 Basic Electrical Engineering 4
  - 4450:206 Fortran (Science and Engineering) 2
  - 4600:125 Engineering Graphics 2
  - 4600:203 Dynamics 3
  - 4600:305 Thermal Science 2
  - 4600:310 Fluid Mechanics 3
- Civil engineering:
  - 4300:230 Surveying 4
  - 4300:336 Theory of Structures 3
  - 4300:313 Soils Mechanics 3
  - 4300:314 Geotechnical Engineering 3
  - 4300:323 Water Supply and Wastewater Disposal 3
  - 4300:341 Hydraulics 2
  - 4300:351 Transportation Engineering 3
  - 4300:360 Engineering Materials Laboratory 1
  - 4300:401 Steel Design 3
  - 4300:403 Reinforced Concrete Design 3
  - 4300:445 Hydrology 3
  - 4300:448 Hydraulics Laboratory 1
  - 4300:471 Construction Administration 3
  - 4300:472 Construction Engineering 3
- Business:
  - 6200:201 2 Accounting I, II 8
  - 6200:301 Business Law I 3
  - 6400:371 Business Finance 3
- Construction technology:
  - 2980:231 Building Construction 2
  - 2980:241 Cost Analysis and Estimating 3
- Electives:
  - Technical Electives 10
  - 5

75
4400: Electrical Engineering

The many branches of electrical engineering include: production and distribution of electrical energy, research, development, manufacture and operation of electrical and electronic products, and systems for instrumentation, automation, tracking and telemetry.

The growth of electronic research and manufacturing has been accelerated by the space age. There is hardly a segment of the economy which has not been influenced by electronics. The high speed digital computer has found its way into virtually all aspects of modern life. A student wishing to specialize in computer engineering will find appropriate electives available.

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

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

(An ABET accredited engineering curriculum)

**General Studies — 28 credits.**

**Natural science:**
- 3150 132 3 Principles of Chemistry I, II 7
- 3450 221 2 3 Analytic Geometry-Calculus I, II, III 12
- 3450 225 Differential Equations 3
- 3450 — Mathematics Elective 2
- 3650 291 2 Elementary Classical Physics I, II 8
- 3650 301 Elementary Modern Physics 3

**Engineering core:**
- 4200 305 Materials Science 2
- 4300 201 Statics 3
- 4300 202 Introduction to Mechanics of Solids 3
- or 4600 203 Dynamics 3
- 4400 101 Engineering Design 1
- 4400 206 Fourier (Science and Engineering) 2
- 4600 125 Engineering Graphics 2
- 4600 305 Thermal Science 2

**Electrical engineering:**
- 4400 231 2 Circuits I, II 6
- 4400 333 Circuits III 3
- 4400 343 Electrical Measurements 4
- 4400 353 Electromagnetic Fields I 4
- 4400 359 Transmission Lines and Networks 3
- 4400 361 Physics of Electronic Devices 3
- 4400 362 Electronic Circuits 4
- 4400 363 Switching and Logic 4
- 4400 371 Control Systems I 3
- 4400 381 2 Energy Conversion I, II 7

**Electives:**
- Technical Electives (includes three credits design) 7
- Free Electives, adviser approval 3

4600: Mechanical Engineering

The mechanical engineer designs and analyzes physical systems. A high level of professional competence in this field can only be achieved through an extensive study of mathematics, mechanics, fluid flow and the thermal sciences. Among the many subtopics included in these major headings are stress analysis, vibrations, compressible and incompressible fluid flow, thermodynamics, energy conversion, environmental control, heat transfer and automatic controls. The typical mechanical engineering design problems may involve any one or possibly all of these areas in the design of a complex system.

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. Transfer credits from other two-year programs where the course content compares favorably may be admitted to the program.

**General Studies** — 21 credits.

*When the eight semester credits of English are met either by transfer credits, courses taken as part of the associate degree program or by examination the credits shall be technical elective credits so that the program total of 68 credits is satisfied.*
### Bachelor of Science in Engineering

This degree program was established to introduce flexibility into the College of Engineering. Within the 68 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 |
Objectives

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

- Special experiences, knowledge and skills particularly useful for teaching in urban and inner-city educational institutions, in keeping with the urban mission of the University.
- A knowledge of a major field and related fields of inquiry and the ability to use this knowledge in interpreting 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 constructive action as teacher-citizens as well as teacher-scholars.
- An understanding of the learner and the learning processes and the ability to translate these into appropriate teaching behaviors in acting and reacting with students.
- Skill in the acquisition of inquiry techniques appropriate to generalizing knowledge, and choices, and practice in using them to inquire into educational problems in rational, defensible ways.
- Human relations skills, including an appreciation of the values and feelings essential for working with young people and with adults, and the ability to develop relationships in a wide variety of professional and social roles in educational or community settings.

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 but that the student be apprised 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 junior and senior high schools; the special fields of art, business, home economics, music, physical education, slow learners, and speech and hearing therapy, and post-secondary technical education. A minimum of 128 credits with a grade-point average of 2.00 must be completed to qualify for the bachelor’s degree.

The specific subjects required for degrees in certain fields are set forth in subsequent pages. In all cases, the requirements include courses in the General Studies, subject matter areas and professional sequences.

The Bachelor of Arts in Education degree is granted to those whose major is one of the academic fields or speech and hearing therapy. The Bachelor of Science in Education is granted to those whose major is in the other special fields or in elementary education. The Bachelor of Science in Technical Education is awarded to those who complete the requirements of that program.

* The secondary education student also must have eight credits in teaching field with a 2.50 average.
Clinical and Field-Based Experiences

Each teacher education student is required to satisfactorily participate 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-I system.

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

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

Clinical and field-based hours are listed under the College of Education in “Courses of Instruction,” Section 7 of this Bulletin.

Student Teaching

Student teaching is done in the public schools under the direction of supervising teachers and a representative of the College of Education faculty.

In order to qualify for student teaching, a student must maintain a 2.50 average in the teaching field. Satisfactory work also must be done in other teaching fields and in professional education to warrant recommendation for a teaching certificate.*

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 included in the Recommended Sequence for Secondary Education listed in this section. 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 to eight inclusive. The requirements for a major in elementary education are as follows:

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

<table>
<thead>
<tr>
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<th>Credits</th>
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<tbody>
<tr>
<td>3350:100 Introduction to Geography</td>
<td>3</td>
</tr>
<tr>
<td>3350:350 Anglo-America</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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  One of the following three courses:

<table>
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<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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- Professional education:

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</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>5100:350 Educational Measurement and Evaluation</td>
<td>2</td>
</tr>
<tr>
<td>5100:450 Problems in Education</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200:141 Handicrafts</td>
<td>2</td>
</tr>
<tr>
<td>5200:288 Children's Literature</td>
<td>3</td>
</tr>
<tr>
<td>5200:321 Art for the Grades</td>
<td>2</td>
</tr>
<tr>
<td>5200:333 Science Elementary Grades++</td>
<td>2</td>
</tr>
<tr>
<td>5200:335 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, Programs and Practices</td>
<td>3</td>
</tr>
</tbody>
</table>

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

*Music majors, before assignment for student teaching, are required to pass the General Musicianship Examination described in the music section of the College of Fine and Applied Arts. To avoid possible delay in graduation, it is necessary for the student to take the examination six months prior to the anticipated assignment for student teaching.

†The elementary education major is responsible for completing 300 field and clinical hours in addition to student teaching. It will be the responsibility of the department to assign these credits to the appropriate courses.

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

79
5200:310 Introduction to Early Childhood Education  2
5200:311 Curriculum for Preschool Learning Centers  2
5200:312 Introduction to Early Childhood Education—Laboratory  1
5200:313 Curriculum for Preschool Learning Centers—Laboratory  1
5200:360 Nursery School—Laboratory  3
7400:265 Child Development  3

• Electives — 4 credits.

Certification for Teaching Foreign Language In the Elementary School

A person desiring certification to teach modern foreign language on the elementary level must meet the regular requirements for certification on the secondary level, plus these Ohio requirements:

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

Certification of Non-Professional Degree Holders for Elementary School

To qualify for a Provisional Elementary Certificate, the holder of a baccalaureate degree in fields other than education should complete the coursework equivalent to that required for a major in elementary education.

Requirements:

• 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:150</td>
<td>Introduction to Professional Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:250</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>5200:141</td>
<td>Handcrafts</td>
<td>2</td>
</tr>
<tr>
<td>5200:266</td>
<td>Children's Literature</td>
<td>3</td>
</tr>
<tr>
<td>5200:300</td>
<td>Student Participation</td>
<td>1</td>
</tr>
<tr>
<td>5200:321</td>
<td>Art for the Grades</td>
<td>2</td>
</tr>
<tr>
<td>5200:333</td>
<td>Science for Elementary Grades</td>
<td>3</td>
</tr>
<tr>
<td>5200:335</td>
<td>Teaching of Language Arts</td>
<td>5</td>
</tr>
<tr>
<td>5200:336</td>
<td>Teaching Elementary School Mathematics**</td>
<td>3</td>
</tr>
<tr>
<td>5200:337</td>
<td>Teaching of Reading</td>
<td>3</td>
</tr>
<tr>
<td>5200:338</td>
<td>Teaching of Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>5200:339</td>
<td>Principles of Diagnostic Teaching of Reading</td>
<td>3</td>
</tr>
<tr>
<td>5200:343</td>
<td>Science for Elementary Grades—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200:346</td>
<td>Teaching Elementary School Mathematics—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200:347</td>
<td>Teaching of Reading—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200:348</td>
<td>Teaching of Social Studies—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200:350</td>
<td>Principles of Diagnostic Teaching of Reading</td>
<td>3</td>
</tr>
<tr>
<td>5200:355</td>
<td>Multicultural Education Concepts, Programs, and Practices</td>
<td>3</td>
</tr>
<tr>
<td>5200:365</td>
<td>Comprehensive Musicanship for the Elementary Classroom Teacher</td>
<td>3</td>
</tr>
<tr>
<td>5200:403</td>
<td>Seminar in Student Teaching</td>
<td>1</td>
</tr>
<tr>
<td>5200:453</td>
<td>Student Teaching</td>
<td>6</td>
</tr>
<tr>
<td>5200:456</td>
<td>Student Teaching</td>
<td>6</td>
</tr>
<tr>
<td>5550:334</td>
<td>Games and Rhythms—Elementary Grades</td>
<td>2</td>
</tr>
<tr>
<td>5570:101</td>
<td>Personal Health</td>
<td>2</td>
</tr>
</tbody>
</table>

• Certification for teaching kindergarten is desired, the following courses must be scheduled:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200:330</td>
<td>Early Elementary Education I</td>
<td>3</td>
</tr>
<tr>
<td>5200:331</td>
<td>Early Elementary Education II</td>
<td>3</td>
</tr>
<tr>
<td>5200:334</td>
<td>Early Elementary Education III</td>
<td>3</td>
</tr>
</tbody>
</table>

Retraining from Secondary to Elementary Certificate

• The holder of a provisional, professional, permanent high school or special certificate may obtain a Provisional Elementary Certificate valid for elementary teaching (grades one-eight) upon submitting evidence of the satisfactory completion of the following credits:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:250</td>
<td>Human Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5200:336</td>
<td>Teaching Elementary School Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>5200:337</td>
<td>Teaching of Reading</td>
<td>3</td>
</tr>
<tr>
<td>5200:346</td>
<td>Teaching Elementary School Mathematics—Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>5200:347</td>
<td>Teaching of Reading—Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

• Such a certificate shall be designated as a "retraining" certificate and shall be made standard upon evidence of the completion of the following coursework in elementary education:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200:141</td>
<td>Handcrafts</td>
<td>2</td>
</tr>
<tr>
<td>5200:266</td>
<td>Children's Literature</td>
<td>3</td>
</tr>
<tr>
<td>5200:300</td>
<td>Student Participation</td>
<td>1</td>
</tr>
<tr>
<td>5200:321</td>
<td>Art for the Grades</td>
<td>2</td>
</tr>
<tr>
<td>5200:333</td>
<td>Science for Elementary Grades</td>
<td>3</td>
</tr>
<tr>
<td>5200:335</td>
<td>Teaching of Language Arts</td>
<td>5</td>
</tr>
<tr>
<td>5200:338</td>
<td>Teaching of Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>5200:339</td>
<td>Principles of Diagnostic Teaching of Reading</td>
<td>3</td>
</tr>
</tbody>
</table>

*An elementary education major is responsible for completing 300 field and clinical hours in addition to student teaching. If it is the responsibility of the department to assign these hours to the appropriate professional education course.

**A time period of four years has elapsed since taking this course, or its equivalent, a basic mathematics or mathematics education course must be completed.
5200:343 Science for Elementary Grades — Laboratory 1
5200:346 Teaching of Social Studies — Laboratory 1
5200:349 Principles of Diagnostic Teaching of Reading — Laboratory 1
5200:350 Multicultural Education: Concepts, Programs, and Practices 3
5200:365 Comprehensive Musicanship for the Elementary Classroom Teacher 3
5550:334 Games and Rhythms — Elementary Grades 2
5570:101 Personal Health 2

• If additional credits are needed in the social sciences, a choice should be made from the following:

3350:100 Introduction to Geography 3
3420:201 United States History to Civil War 4
3420:202 United States History since Civil War 4
3700:100 Government and Politics in the United States 4

• If the student desires certification for teaching kindergarten, the following eight credits must be scheduled:

5200:330 Early Elementary Education I 3
5200:331 Early Elementary Education II 3
5200:340 Early Elementary Education II — Laboratory 1
5200:341 Early Elementary Education II — Laboratory 1

• 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 coursework is required to enroll.

• Completion of the above credits does not necessarily constitute qualification for the Bachelor of Science degree in elementary education at The University of Akron. To qualify for the degree, certain additional requirements must be met.

Certification for Teaching Music in the Elementary School

Any student who completes a regular four-year program qualifying him for a Four-Year Provisional Elementary Certificate* may have that certificate validated for teaching music in the elementary school by completing the following courses:

5200:497 Independent Study (Music Student Teaching) 2
7500:107 Class Voice or
7520:124 Applied Voice 2
7500:151.2 Music Theory I and II 6
7500:154.5 Music Literature I and II 4
7500:261 Keyboard Harmony I 2
7500:340 General Music 3
7500:341 Wind-Percussion Instrument Techniques 3
7500:356 Music Teaching Handicapped or
7500:358 Functional Class Guitar 2
7500:497 Independent Study 2
7500 — Music Organization 2

Dual Certification Program Elementary and Secondary

This curriculum prepares teachers for both elementary and secondary school. A student completing this curriculum will receive the Four-Year Provisional Certificate to teach in the secondary school and a certificate which will qualify the holder to teach in grades one-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 or fields of teaching at the secondary level in which certification is requested. For advisement in this area, contact the head of the department **

A combination elementary and special education program is offered; see "5610: Special Education."

5300: Secondary Education

The secondary program is for the student preparing to teach in middle, junior and senior high schools. A list of the specific requirements for the various teaching fields will be provided for the student by the college advisor or by the head of the Department of Secondary Education. For information regarding employment in non-school settings which capitalize on a teacher's skills, see the department head.

A student must have completed at least eight semester credits in the teaching fields before transferring to the upper college and must have at least a C grade in English Composition or its equivalent.

The general requirements for a major in secondary education are as follows:

• General Studies — 39 credits.
• Professional courses (courses must be taken in sequence):
  5100:150 Introduction to Professional Education 3
  5100:150 Human Development and Learning 3
  5100:309 Educational Measurement and Evaluation 2
  5100:406 Problems in Education 2
  5300:265 Introduction to Secondary Education 1
  5300:215 Exploratory Experience 1
  5300:310 Principles of Teaching in the Secondary School 3
  5300:325 Content Reading in Secondary School 3
  5300:345 Human Relations in Secondary Education 1
  5300:355 Mapping Classroom Behavior at the Secondary Level 1
  5300:375 Exploratory Experience 1
  5300:411 Instructional Techniques Secondary Education 4
  5300:445 Microcomputer Applications in Secondary Classroom or
  5300:455 Career Options in Secondary Education 1
  5300:403 Student Teaching Seminar 1
  5300:495 Student Teaching 8
• Courses in teaching field(s) and electives as determined by the department.

Teaching Fields

Each student preparing for secondary school teaching must have at least two academic teaching fields. One field shall be at least six credits more than the minimum required by the Ohio State Department of Education, except where the state requirement in the teaching field is 30 credits or more. However, if a student chooses one of the comprehensive or special teaching fields, as listed below, preparation in a second field will not be required.

Minimum Number of Credits Required for Approval in Various Teaching Fields†

<table>
<thead>
<tr>
<th>Comprehensive Subjects by Field</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Education (with shorthand)</td>
<td>57-60</td>
</tr>
<tr>
<td>Business Education (without shorthand)</td>
<td>49-52</td>
</tr>
</tbody>
</table>

*Such certificates may also be validated in the following fields: visual arts, educational media, reading, outdoor education, physical education. Consult the Department of Elementary Education for details.

**Student teaching in both fields is required

†Many fields require more than the minimum. Please see the department for specific program.
Communications 60
Consumer Homemaking and Multi-area Vocational 55
Data Processing 55
Family Life Education 60
Science 71-72
Selling and Merchandising 52-55
Social Studies 60

Special Fields K-12
Art — as determined by Department of Art 50
Health Education — as determined by Department of Health and Physical Education 50
Music — as determined by Department of Music 50
Physical Education (Men and Women) — as determined by Department of Health and Physical Education 47
Speech and Hearing Therapy — as determined by Department of Communicative Disorders.

Special Education — as determined by Department of Counseling and Special Education 31-36

Specific Subjects by Field

<table>
<thead>
<tr>
<th>First Field Credits</th>
<th>Second Field Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>52</td>
</tr>
<tr>
<td>Bookkeeping Basic Business</td>
<td>22</td>
</tr>
<tr>
<td>Chemistry</td>
<td>52</td>
</tr>
<tr>
<td>Consumer Homemaking Vocational</td>
<td>30-32</td>
</tr>
<tr>
<td>Earth Science</td>
<td>50</td>
</tr>
<tr>
<td>Economics</td>
<td>27</td>
</tr>
<tr>
<td>English</td>
<td>37</td>
</tr>
<tr>
<td>General Science</td>
<td>36</td>
</tr>
<tr>
<td>Geography</td>
<td>26</td>
</tr>
<tr>
<td>Health Education (7-12)</td>
<td>21</td>
</tr>
<tr>
<td>History</td>
<td>31</td>
</tr>
<tr>
<td>Home Economics</td>
<td>31</td>
</tr>
<tr>
<td>Home Economics — Non-Vocational</td>
<td>47</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>30</td>
</tr>
<tr>
<td>Mathematics</td>
<td>27</td>
</tr>
<tr>
<td>Physics</td>
<td>51</td>
</tr>
<tr>
<td>Political Science</td>
<td>27</td>
</tr>
<tr>
<td>Sales Communication</td>
<td>22</td>
</tr>
<tr>
<td>Social Psychology</td>
<td>20</td>
</tr>
<tr>
<td>Sociology</td>
<td>20</td>
</tr>
<tr>
<td>Speech and Theatre (K-12)</td>
<td>43</td>
</tr>
<tr>
<td>Speech and Theatre Arts</td>
<td>35</td>
</tr>
<tr>
<td>Stenography and Typing</td>
<td>29</td>
</tr>
<tr>
<td>Visual Art</td>
<td>49</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 baccalaureate program is intended to produce instructors primarily for teaching subjects within a technical specialty and is not intended to produce post-high school teachers in mathematics, physics, chemistry, English or other general education offerings. Graduates of this program would be awarded the degree of Bachelor of Science in Technical Education.

A student may elect other areas when the courses are available and the adviser approves.

The technical education program includes work in four areas: General Studies; the technical specialty; professional education; and occupational experience. Specific course requirements may be secured from the Department of Secondary Education or from the adviser in technical education.

Requirements for Graduation

In addition to the general requirements of the College of Education, a student in technical education must obtain at least a 2.00 average in all major departmental professional courses (5400), all professional education courses and a 2.50 average in all technical courses directly related to the student’s teaching field.

5550: Physical Education

5550: Physical Education*; 5560: Outdoor Education**, and 5570: Health Education*.

Physical education prepares students for careers in teaching, coaching and related recreation fields, and health education prepares students for careers in teaching and related health fields. Laboratory experiences are provided in local schools, and special programs are provided at the University. Specific experiences include: learning disabilities, movement education, outdoor education, handicapped education, elementary, secondary school education and adult leisure. In addition, the department offers students the opportunities for courses and experiences in athletic training, outdoor education and recreation. All health and physical education programs are applicable to governmental and business recreational situations, but certification is not required for these areas.

Outdoor Education

The outdoor education program is designed for students in elementary or secondary education, biology, environmental studies, health, physical education or recreation. Students may become involved with existing outdoor education programs in the public schools, metropolitan, state and national park programs or private and public agencies which conduct outdoor/environmental education programs.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830:201</td>
<td>Man and the Environment</td>
</tr>
<tr>
<td>1830:401</td>
<td>Seminar in Environmental Education</td>
</tr>
<tr>
<td>5560:450</td>
<td>Outdoor Education: Curriculum Application</td>
</tr>
<tr>
<td>5560:452</td>
<td>Outdoor Education: Methods and Materials</td>
</tr>
<tr>
<td>5560:454</td>
<td>Resident Outdoor Education</td>
</tr>
<tr>
<td>5560:456</td>
<td>Outdoor Pursuits</td>
</tr>
<tr>
<td>5560:460</td>
<td>Practicum in Outdoor Education</td>
</tr>
<tr>
<td>5560:497</td>
<td>Independent Study</td>
</tr>
</tbody>
</table>

Athletic Training

To be eligible to take the National Athletic Trainers' 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.

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.

*Certification through the state of Ohio
**Certification through department or the University
Completion of this program enables one to be certified in special education at both elementary and secondary levels for each of the areas of preparation.

**Comprehensive Programs**

Three plans for preparation in special education:

**Plan A:** Dual Certification — learning disabilities and educable retarded.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>561:201</td>
<td>Student Participation: EMR/LD</td>
<td>1</td>
</tr>
<tr>
<td>561:444</td>
<td>Developmental Characteristics of Behaviorally Disordered Individuals</td>
<td>3</td>
</tr>
<tr>
<td>561:495</td>
<td>Student Teaching</td>
<td>4-8</td>
</tr>
</tbody>
</table>

**Plan B:** Dual Certification — educable and moderately-severely-profoundly retarded.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>561:203</td>
<td>Student Participation: EMR/TMR</td>
<td>1</td>
</tr>
<tr>
<td>561:454</td>
<td>Educational Adjustment for Moderate, Severe Handicapped Individuals</td>
<td>3</td>
</tr>
<tr>
<td>561:458</td>
<td>Interdisciplinary Programming for MSPR Individuals</td>
<td>3</td>
</tr>
<tr>
<td>561:460</td>
<td>Working with Parents of MSPR Individuals</td>
<td>3</td>
</tr>
<tr>
<td>561:495</td>
<td>Student Teaching</td>
<td>4</td>
</tr>
</tbody>
</table>

**Plan C:** Dual Certification — educable retarded and orthopedically handicapped.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>561:202</td>
<td>Student Participation: EMR/OH</td>
<td>1</td>
</tr>
<tr>
<td>561:445</td>
<td>Developmental Characteristics of Orthopedically Handicapped Individuals</td>
<td>3</td>
</tr>
<tr>
<td>561:495</td>
<td>Student Teaching</td>
<td>8</td>
</tr>
</tbody>
</table>

In addition, the student must complete the following:

- **General Studies — 39 credits.**
- **Professional education:**
  - 510:150 Introduction to Professional Education | 3 |
  - 510:250 Human Development and Learning | 3 |
  - 510:360 Educational Measurements and Evaluation | 2 |
  - 510:450 Problems in Education | 2 |
  - 530:3-1 Principles of Secondary Education | 3 |
  - 561:403 Student Teaching Seminar | 1 |
  - 561:495 Student Teaching EMR | 8 |
- **Related competency studies:**
  - 375:100 Introduction to Psychology | 3 |
  - 520:335 Teaching the Language Arts | 5 |
  - 520:336 Teaching of Elementary School Mathematics | 3 |
  - 520:337 Teaching of Reading | 3 |
  - 560:410 Personal Services in Schools | 2 |
  - 770:430 Aspects of Normal Language Development | 3 |
  - Choose one of the following:
    - 555:201 First Aid | 2 |
    - 555:211 First Aid | 2 |
  - Choose two of the following:
    - 520:321 Art for the Gilded | 2 |
    - 520:356 Comprehensive Musicanship for the Elementary Classroom Musician | 3 |
    - 555:334 Games and Rhythms — Elementary Grades | 2 |
- **Special education studies:**
  - 561:440 Developmental Characteristics of Exceptional Individuals | 3 |
  - 561:441 Developmental Characteristics of Mentally Retarded Individuals | 4 |
  - 561:443 Developmental Characteristics of Learning Disabled Individuals | 3 |
  - 561:450 Educational Adjustment for Preschool and Primary Level Exceptional Individuals | 3 |
  - 561:451 Educational Adjustment for Intermediate Level Exceptional Individuals | 3 |
  - 561:452 Educational Adjustment for Secondary Level Exceptional Children | 3 |
  - 561:456 Classroom Behavior Management for Exceptional Children | 2 |
  - 561:457 Clinical Teaching Practicum: Children with Learning Problems** | 3 |

*Chosen in consultation with Special Education adviser.

**Final course before student teaching advanced permission required.

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 31-36 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 enter the program during fall semester 1983, can complete a certification program only as part of a masters degree. Specific program details can be obtained from the Department of Counseling and Special Education and/or the Department of Communicative Disorders.

**5630: Bilingual Multicultural Education**

This program provides education majors with the knowledge, skills and attitudes necessary to teach bilingual students. The program incorporates coursework 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>330:460</td>
<td>Seminar in English: Introduction to Bilingual Languages</td>
<td>3</td>
</tr>
<tr>
<td>563:462</td>
<td>Characteristics of Culturally Different Youth</td>
<td>3</td>
</tr>
<tr>
<td>563:464</td>
<td>Principles of Bilingual Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>563:485</td>
<td>Field experience of bilingual classrooms/ settings</td>
<td>3</td>
</tr>
<tr>
<td>563:486</td>
<td>Teaching Language Arts to Bilingual Students</td>
<td>4</td>
</tr>
<tr>
<td>563:487</td>
<td>Teaching Mathematics, Social Studies, and Science to Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>563:487</td>
<td>Techniques for Teaching English as a Second Language in the Bilingual Classroom</td>
<td>4</td>
</tr>
</tbody>
</table>
College of Business Administration

James W. Dunlap, Ph.D., Dean

Objectives

The College of Business Administration is a professional college of the University that is dedicated to teaching, business research and public service. The college, a member of the American Assembly of Collegiate Schools of Business, the national accrediting agency for colleges of business administration, offers undergraduate and graduate degree programs during the day and evening.

The purpose of the College of Business Administration is to further the objectives of The University of Akron by providing a quality program of collegiate education in business to prepare the student for a professional career in commerce, industry and government. This is to be secured with the following aims:

- To instill in the student competence in the basic functional areas of business enterprise.
- To develop in the student an analytical ability and balanced judgment in the solution of business problems.
- To promote in the student an understanding of human behavior and the impact of social, political and economic forces in the decision-making process.
- To cultivate in the student a facility for the use of management tools of accounting, quantitative techniques and communications.
- To encourage in the student the development of a business code of ethics.
- To foster in the student a desire to continue the pursuit of knowledge and the achievement of excellence in the area of administration.

Additional objectives of the college are: to act as a service division by offering courses in another college; to serve the business community of the state and region by sponsoring conferences, short courses and management development programs; to foster and encourage research in business; to offer graduate instruction and opportunities for research to the student at the master's level; to prepare the student for entering law school; and to prepare the student for advanced research and study in business and economics.

At The University of Akron there has been a long and eventful history of education relating to the field of commerce and industry. Beginning in 1919, courses were offered in the Department of Commerce. Eventually the department became the nucleus of the College of Business Administration, which was established in 1953.

Since its inception, the college curriculum has been designed with equal emphasis on broad basic principles as well as immediate practices. Classroom knowledge is consistently made more significant by field trips and inspection tours to witness business operations.

Similarly, the college maintains a sound balance between education in the arts, humanities and sciences and professional business courses. Half of the courses of study at the undergraduate level are in the areas of liberal arts and sciences; the remaining courses are divided between general business subjects and the student's indicated area of specialization.

College Requirements

Requirements for Admission

The college will accept the student who has completed sufficient coursework 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 30 credits at the time of acceptance.

Enrollment in upper college business courses is limited to a student who has:

- Applied for transfer to the college.
- Successfully completed at least 60 credits.
- Earned at least a 2.00 overall grade-point average 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 45 credits with at least a 2.00 overall grade-point average.
- 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.

A student may select one of two employment plans which he may secure from the office of the Dean of the College.

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

In order 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

*Exceptions to any or all of these may be granted by the dean.
suitability of courses taken elsewhere for the program of study chosen here. Subject matter reserved for junior- and senior-level courses in this college will not be transferable through courses taken in any two-year institution. All work transferred may be subject to examination to validate credits.

**Degrees**

The College of Business Administration, organized on a departmental basis, offers programs of study in accounting, finance, management, marketing and international business. Five baccalaureate degrees are offered; the Bachelor of Science in Accounting, Bachelor of Science in Business Administration, Bachelor of Science in Industrial Management, Bachelor of Science in Business Administration/Finance and the Bachelor of Science in Business Administration/Marketing.

**Requirements for Graduation**

To receive a baccalaureate degree from the College of Business Administration, a student must meet the following requirements:

- Complete a minimum of 128 semester credits with a minimum 2.00 grade-point average. Not more than one credit of physical education may be included.
- Obtain at least a 2.00 grade-point average in all courses in the major as well as in all courses in business administration and economics.
- Obtain the recommendation of the department head.
- Complete other University requirements listed in Section 3 of this Bulletin.
- General Studies — 36 credits.*
- Complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:201</td>
<td>Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3250:202</td>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>6200:20:2</td>
<td>Accounting</td>
<td>8</td>
</tr>
<tr>
<td>3450:121,2,3</td>
<td>Modern University Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>3450:138</td>
<td>Mathematics of Finance</td>
<td>3</td>
</tr>
<tr>
<td>3450:138</td>
<td>Mathematics of Finance</td>
<td>3</td>
</tr>
<tr>
<td>3450:221</td>
<td>Analytic Geometry, Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>3450:149</td>
<td>Pre-Calculus Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>3450:211</td>
<td>Calculus for Life Sciences I and II</td>
<td>6</td>
</tr>
<tr>
<td>The following core program in business administration:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6200:356</td>
<td>Accounting Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>6200:370</td>
<td>Legal Environment of Business*</td>
<td>4</td>
</tr>
<tr>
<td>6400:312</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>6400:371</td>
<td>Business Finance</td>
<td>3</td>
</tr>
<tr>
<td>6500:301</td>
<td>Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:321</td>
<td>Business Policy</td>
<td>4</td>
</tr>
<tr>
<td>6600:300</td>
<td>Marketing Principles</td>
<td>3</td>
</tr>
</tbody>
</table>

*These are pre-business administration requirements.

**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.

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</th>
<th>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>
</tr>
<tr>
<td>6200:325</td>
<td>Accounting Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>6200:420</td>
<td>Advanced Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:430</td>
<td>Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>6200:431</td>
<td>Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>6200:440</td>
<td>Auditing</td>
<td>3</td>
</tr>
<tr>
<td>6400:322</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>6400:323</td>
<td>Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>6200:324</td>
<td>Business Law II</td>
<td>3</td>
</tr>
</tbody>
</table>

Communication skills are vital, so a major is urged to take 3300:275, Specialized Writing in Business, and to participate in the Student Toastmasters organization. Because of the increasing demand for accountants with a knowledge of computer usage, additional courses in mathematics and computer science are strongly recommended. A major preparing for an industrial accounting career should take electives in management.

**6400: Finance**

Courses in the Department of Finance are designed to develop a student's ability to gather, organize, analyze and utilize finan-
itial data. This requires that the student be familiar with the institutional setting in which firms operate, and, within this framework, they must understand the present state of financial theory, its uses and limitations. When a student majors in finance, the goal is not a specific entry job but rather a state of readiness to provide flexible response to new areas of opportunities in the financial area.

Career opportunities exist in three major fields. The financial management of non-financial institutions area offers employment in profit as well as non-profit firms where the emphasis is on the uses and sources of financial funds. The area of management of financial institutions offers opportunities to those who choose careers in commercial banking and other credit-granting institutions. Those interested in investments management find opportunities with brokerage firms and specialized departments in many financial as well as non-financial organizations. In most cases it is not possible to select direct entry at a level one desires; on-the-job training is required in allied fields. It is for this reason our suggested preparation is broad in scope.

To receive a Bachelor of Science in Business Administration/Finance, the college and the following departmental requirements must be completed:

<table>
<thead>
<tr>
<th>Finance core courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6400:338 Financial Intermediaries</td>
<td>3</td>
</tr>
<tr>
<td>6400:343 Investments</td>
<td>3</td>
</tr>
<tr>
<td>6400:479 Problems in Finance</td>
<td>3</td>
</tr>
<tr>
<td>6400:320 Legal Environment of Business**</td>
<td>4</td>
</tr>
<tr>
<td>or 6400:321.2 Business Law I and II</td>
<td>6</td>
</tr>
</tbody>
</table>

Four finance electives from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:317 Intermediate Accounting I*</td>
<td>4</td>
</tr>
<tr>
<td>6200:318 Intermediate Accounting II*</td>
<td>4</td>
</tr>
<tr>
<td>6400:318 Risk Management and Insurance</td>
<td>3</td>
</tr>
<tr>
<td>6400:373 Financial Statement Analysis</td>
<td>3</td>
</tr>
<tr>
<td>6400:400 Real Estate Principles: A Value Approach</td>
<td>3</td>
</tr>
<tr>
<td>6400:419 Property and Liability Insurance</td>
<td>3</td>
</tr>
<tr>
<td>6400:424 Legal Concepts in Real Estate A Managerial Approach</td>
<td>3</td>
</tr>
<tr>
<td>6400:426 Commercial Bank Management</td>
<td>3</td>
</tr>
<tr>
<td>6400:447 Security Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

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 student must complete the college requirements and an option. The common departmental requirements are as follows:

**An accounting major must take 6200:335, 6400:321 and 322. Other majors must take 6500:323 and either 6400:320 or 321.

### 6500: Management

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

The emphasis on education for management is the result of several factors. First, managers are becoming increasingly aware that a professional approach to management requires understanding of quantitative methods and the behavioral sciences. Second, the management task is becoming much more complex in terms of the number of activities, volume of work and the broader impact of managerial decisions. Third, the practice of management in any setting requires a measure of specific preparation and qualification.

### 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 C.P.A. The courses selected are those which will furnish the student with a background in the operational management of production activities as well as in the accounting and budgeting procedures utilized in the control of these activities. The curriculum leads to the Bachelor of Science in Industrial Management degree.

The student selecting the industrial accounting emphasis must successfully complete the college requirements and the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:301 Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:355 Accounting Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>6500:323 Introduction to Computer Applications for Business</td>
<td>3</td>
</tr>
<tr>
<td>6500:460 Cost Accounting Problems</td>
<td>3</td>
</tr>
<tr>
<td>6500:331 Production and Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:352 Production and Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:341 Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:433 Business Operational Planning</td>
<td>3</td>
</tr>
<tr>
<td>6500:434 Production Planning and Control</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:317 Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>6200:318 Intermediate Accounting II</td>
<td>4</td>
</tr>
</tbody>
</table>
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 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 non-profit organizations. It is also organized to provide the student who has an interest in a specific area of marketing study with alternative approaches to marketing knowledge by means of five specific marketing tracks and one general marketing studies option. The marketing tracks are:

- Industrial Marketing
- Marketing Communication
- Retail Marketing
- Physical Distribution
- International Marketing

The general marketing studies option allows the student to tailor-make the curriculum to individual needs, to engage in an exploratory study which will provide the basis for future studies, to facilitate access to a wider range of entry-level employment opportunities or to enable the student to relate the curriculum to the needs of a small or family business.

To receive a Bachelor of Science in Business Administration/Marketing the student must successfully complete 18 credits in one of the five marketing tracks or the general marketing option as follows.

### Industrial Marketing Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6600:360</td>
<td>Industrial Marketing</td>
<td>3</td>
</tr>
<tr>
<td>6600:370</td>
<td>Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>6600:380</td>
<td>Sales Management</td>
<td>3</td>
</tr>
<tr>
<td>6600:460</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>Electives*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6600:320</td>
<td>Physical Distribution</td>
<td>3</td>
</tr>
<tr>
<td>6600:330</td>
<td>Management of Marketing Channels</td>
<td>3</td>
</tr>
<tr>
<td>6600:440</td>
<td>Product Planning</td>
<td>3</td>
</tr>
<tr>
<td>6600:465</td>
<td>Forecasting and Quantitative Methods in Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

*In addition, three credits of 6600:490 Workshop in Marketing, 6600:495 Internship in Marketing, 6600:497 Honors Project or 6600:499 Independent Study in Marketing may be substituted for any one option with the permission of the department head.

### Retail Marketing Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6600:310</td>
<td>Buyer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6600:340</td>
<td>Retail Management</td>
<td>3</td>
</tr>
<tr>
<td>6600:460</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>Electives*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6200:301</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6600:350</td>
<td>Advertising and Marketing Communications</td>
<td>3</td>
</tr>
<tr>
<td>6600:380</td>
<td>Sales Management</td>
<td>3</td>
</tr>
<tr>
<td>6600:390</td>
<td>Management of Marketing Channels</td>
<td>3</td>
</tr>
<tr>
<td>6600:465</td>
<td>Forecasting and Quantitative Methods in Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

### International Marketing Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6600:310</td>
<td>Buyer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6600:429</td>
<td>International Business Enterprise</td>
<td>3</td>
</tr>
<tr>
<td>6600:460</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>Electives*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3250:450</td>
<td>Comparative Economic Systems</td>
<td>3</td>
</tr>
<tr>
<td>3250:461</td>
<td>Principles of International Economics</td>
<td>3</td>
</tr>
<tr>
<td>6600:310</td>
<td>Buyer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6600:465</td>
<td>Forecasting and Quantitative Methods in Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

Not more than one course to be selected from this group.

### Marketing Communications Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6600:310</td>
<td>Buyer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6600:350</td>
<td>Advertising and Marketing Communications</td>
<td>3</td>
</tr>
<tr>
<td>4600:430</td>
<td>Promotional Campaigns</td>
<td>3</td>
</tr>
<tr>
<td>6600:460</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>Electives*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6600:340</td>
<td>Retail Management</td>
<td>3</td>
</tr>
<tr>
<td>6600:380</td>
<td>Sales Management</td>
<td>3</td>
</tr>
<tr>
<td>6600:440</td>
<td>Product Planning</td>
<td>3</td>
</tr>
<tr>
<td>6600:465</td>
<td>Forecasting and Quantitative Methods in Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

### Physical Distribution Track

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6600:320</td>
<td>Physical Distribution</td>
<td>3</td>
</tr>
<tr>
<td>6600:420</td>
<td>Logistics Systems Analysis</td>
<td>3</td>
</tr>
<tr>
<td>6600:460</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>Electives*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6200:301</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6600:360</td>
<td>Industrial Marketing</td>
<td>3</td>
</tr>
<tr>
<td>6600:370</td>
<td>Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>6600:390</td>
<td>Management of Marketing Channels</td>
<td>3</td>
</tr>
<tr>
<td>6600:465</td>
<td>Forecasting and Quantitative Methods in Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

### General Marketing Studies Option

Any 18 credits from the 6600 listings, including one departmental requirement of 6600:460 Marketing Research will complete the general marketing studies option.

To further guide the student, the department has available a brochure detailing the program, career opportunities and electives from other colleges and departments recommended for and tailored to each of the tracks.
Objectives

The purpose of the College of Fine and Applied Arts is to further the objectives of the University by providing a quality program of undergraduate and graduate education in the artistic, technological, clinical and studio experience in speech, the dramatic arts, music, social welfare, the visual arts and the family life arts, as well as:

- To maintain curricula for the preparation of a student majoring in these areas.
- To prepare a student for graduate study and career opportunities on a professional competence level.
- To provide instruction designed to meet specific curricular needs of all the colleges of the University.
- To serve the elective interests of the student seeking diversity: enrichment in academic programs.
- To encourage the development of technical knowledge and professional skills which underlie the communicative functions of human expression.
- To nurture and expand, through this congregation of the arts, not only a perceptual and aesthetic awareness of direct sensory experience through creation and performance.

The college recommends each student for the appropriate bachelor's or master's degree in accordance with the student's specialization.

College Requirements

Requirements for Admission

To be admitted to the College of Fine and Applied Arts, the student must have completed at least 30 credits of work with at least a 2.00 grade-point average or above and have the approval of the dean. A student transferring to the Department of Art from another institution must submit a portfolio of work for approval before admission. A student transferring from another college or institution into the Department of Music must submit to a departmental placement examination. The longer and more professionally-oriented majors should be started during the first or second year when the student is still under the guidance of the Office of Academic Advising. The shorter majors need not be declared before the student is ready for transfer to the college.

Requirements for Baccalaureate Degrees

- Compliance with University requirements. Section 3 of this Bulletin.
- Electives consisting of courses offered for credit in the University's four-year degree programs, provided that the prerequisites as set forth in this Bulletin are met and further provided that not more than two credits of physical education activities, eight credits of applied music or four credits of music organizations are included. (Credit limitations on applied music and music organizations do not apply to the Bachelor of Music degree.) While credits from another institution or college may be accepted, application toward graduation will depend upon the nature of the student's program of study.
- The recommendation of the head of the student's major department.
- Demonstrated ability to use English. One other language depending upon the degree program.

Degrees

The following baccalaureate degrees are granted in the College of Fine and Applied Arts:

Bachelor of Arts
- Bachelor of Arts in Business and Organizational Communication
- Bachelor of Arts in Communication and Rhetoric
- Bachelor of Arts in Communicative Disorders
- Bachelor of Arts in Dance
- Bachelor of Arts in Dietetics
- Bachelor of Arts in Family and Child Development
- Bachelor of Arts in Foods and Nutrition
- Bachelor of Arts in General Speech
- Bachelor of Arts in Mass Media-Communication
- Bachelor of Arts in Textiles and Clothing
- Bachelor of Arts in Theatre Arts
- Bachelor of Arts/Social Work
- Bachelor of Fine Arts
- Bachelor of Music

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.

Programs of Instruction

7100: Art

Bachelor of Arts

- General Studies and completion of a second year of a foreign language — 53 credits
- Completion of studio art or history of art option
- Electives — 23-25 credits.
Studio Art Option
- Studio art coursework including one course in each of six different areas of emphasis: i.e., printmaking, sculpture, etc. — 41 credits.
- Survey of History of Art I and II (7100:100,1) plus one additional advanced-level art history course — 11 credits.

History of Art Option
- History of art including one history of art seminar, one special problems in history of art course and one special topic in history of art course. 7100:100 Survey of History of Art (eight credits) included — 38 credits.
- Studio art coursework to include at least four different areas of emphasis: i.e., painting, photography, etc. (7100:275 recommended) — 12 credits.

Bachelor of Fine Arts
- General Studies — 39 credits.
- Foundations Curriculum in Art
  7100:100 Survey of History of Art I 4
  7100:101 Survey of History of Art II 4
  7100:121 Three-Dimensional Design 3
  7100:131 Introduction to Drawing 3
  7100:144 Two-Dimensional Design 3
  7100:286 Commercial Design Theory 3
  7100:232 Instrument Drawing 3
  7100:233 Life Drawing 3
- Electives — 13 credits.
- Two advanced level art history courses (one in graphic design, three credits).
- Major program: 50 credits for graphic design, 47 credits for all others.
- Senior exhibition.
- Portfolio review as specified for student’s area of emphasis.

Areas of Major Emphasis
- Studio art courses must include one area of major emphasis as described below, plus studio electives to total to less than 62 credits.

Ceramics
Prerequisites before first major course:
  7100:100 Survey of History of Art I 4
  7100:121 Three-Dimensional Design 3
  7100:131 Introduction to Drawing 3
- Major courses:
  7100:254 Ceramics I 3
  7100:354 Ceramics II 3
  7100:454 Advanced Ceramics (to be repeated) 15
- Additional required courses:
  7100:101 Survey of History of Art II 4
  7100:144 Two-Dimensional Design 3
  7100:222 Introduction to Sculpture 3
  7100:231 Drawing II 3
  7100:232 Instruments Drawing 3
  7100:233 Life Drawing 3

Crafts
Prerequisites before first major course:
  7100:100 Survey of History of Art I 4
  7100:131 Introduction to Drawing 3
- Additional prerequisite courses depending on which beginning craft courses are taken.

Major courses:
  7100:254 Introduction to Metalsmithing 3
  7100:268 Enameling 3
  7100:366 Metalsmithing II 3
  7100:466 Advanced Metalsmithing (to be repeated) 12
- Additional required courses:
  7100:247 Technology of Machine Tools 3
  7100:222 Introduction to Sculpture 3
  7100:232 Instrument Drawing 3
  7100:233 Life Drawing 3
  7100:280 Drawing Techniques 3

Drawing
Prerequisites before first major course:
  7100:100 Survey of History of Art I 4
  7100:131 Introduction to Drawing 3

- Major courses:
  7100:200 Printmaking 3
  7100:201 Drawing II 3
  7100:232 Instrument Drawing 3
  7100:233 Life Drawing 3
  7100:282 Architectural Presentation or
  7100:283 Drawing Techniques 3
  7100:331 Drawing III 3
  7100:333 Advanced Life Drawing* 3
  7100:411 Drawing IV* 3
- Additional required courses:
  7100:101 Survey of History of Art II 4
  7100:121 Three-Dimensional Design 3
  7100:144 Two-Dimensional Design 3

Graphic Design
Prerequisite before first major course:
  7100:131 Introduction to Drawing 3
  7100:232 Instrument Drawing 3
- Major courses:
  7100:283 Drawing Techniques 3
  7100:284 Introduction to Graphic Design 3
  7100:286 Commercial Design Theory 3
  7100:288 Letter Form and Typography 3
  7100:387 Advertising Layout Design 3
  7100:388 Advertising Production and Design 3
  7100:389 Corporate Identity and Graphic Systems 3
  7100:480 Advanced Graphic Design (may be repeated to 12 credits) 3
  7100:494 Illustration 3
  7100:485 Advanced Illustration (may be repeated to nine credits) 3
  7100:496 Packaging Design 3
  7100:498 Publication Design 3
- Additional required courses:
  2200:222 Advertising Photography 3
  7100:100 Survey of History of Art I 4
  7100:101 Survey of History of Art II 4
  7100:121 Three-Dimensional Design 3
  7100:231 Drawing II 3
  7100:232 Life Drawing 3
  7100:275 Introduction to Photography 3

NOTE: A student whose major program is graphic design may substitute 7100:284 Introduction to Graphic Design wherever 7100:144 Two-Dimensional Design is indicated as a prerequisite. Weave 7100:100 Survey of History of Art I as a prerequisite to either 7100:275 Introduction to Photography or 7100:231 Drawing II.

Metal Smithing
Prerequisite before first major course:
  7100:100 Survey of History of Art I 4
  7100:101 Survey of History of Art II 4
  7100:121 Three-Dimensional Design 3
  7100:131 Introduction to Drawing 3
  7100:144 Two-Dimensional Design 3
- Major courses:
  7100:266 Introduction to Metalsmithing 3
  7100:268 Enameling 3
  7100:366 Metalsmithing II 3
  7100:466 Advanced Metalsmithing (to be repeated) 12
- Additional required courses:
  7100:247 Technology of Machine Tools 3
  7100:222 Introduction to Sculpture 3
  7100:232 Instrument Drawing 3
  7100:233 Life Drawing 3
  7100:280 Drawing Techniques 3

Painting
Prerequisites before first major course:
  7100:100 Survey of History of Art I 4
  7100:131 Introduction to Drawing 3
  7100:144 Two-Dimensional Design 3
- Major courses:
  7100:245 Introduction to Polymer Acrylic Painting 3
  7100:246 Introduction to Watercolor Painting 3
  7100:247 Introduction to Oil Painting 3
  7100:348 Painting II (to be repeated in different media) 6
  7100:449 Advanced Painting (to be repeated) 6

* Required to be repeated twice for drawing majors only.
**Printmaking**

Additional required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:101</td>
<td>Survey of History of Art I</td>
<td>4</td>
</tr>
<tr>
<td>710:121</td>
<td>Three-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>710:231</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>710:232</td>
<td>Instrument Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:233</td>
<td>Life Drawing</td>
<td>3</td>
</tr>
</tbody>
</table>

Photography

Prerequisites before first major course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>710:100</td>
<td>Survey of History of Art I</td>
<td>4</td>
</tr>
<tr>
<td>710:131</td>
<td>Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:144</td>
<td>Two-Dimensional Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Major courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:275</td>
<td>Introduction to Photography</td>
<td>3</td>
</tr>
<tr>
<td>710:375</td>
<td>Photography II</td>
<td>3</td>
</tr>
<tr>
<td>710:475</td>
<td>Advanced Photography (to be repeated)</td>
<td>12</td>
</tr>
</tbody>
</table>

Additional required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:137</td>
<td>Light-Dark-Color Camera and Perception</td>
<td>3</td>
</tr>
<tr>
<td>710:271</td>
<td>Three-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>710:231</td>
<td>Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>710:232</td>
<td>Instrument Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:233</td>
<td>Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:300</td>
<td>Art since 1945</td>
<td>3</td>
</tr>
<tr>
<td>710:317</td>
<td>Printmaking II</td>
<td>3</td>
</tr>
</tbody>
</table>

Printmaking

Prerequisites before first major course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:100</td>
<td>Survey of History of Art I</td>
<td>4</td>
</tr>
<tr>
<td>710:131</td>
<td>Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:144</td>
<td>Two-Dimensional Design</td>
<td>3</td>
</tr>
</tbody>
</table>

A minimum of two of these four major courses:

<table>
<thead>
<tr>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:275</td>
<td>Introduction to Photography</td>
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</tr>
<tr>
<td>710:375</td>
<td>Photography II</td>
<td>3</td>
</tr>
<tr>
<td>710:475</td>
<td>Advanced Photography (to be repeated)</td>
<td>12</td>
</tr>
</tbody>
</table>

Additional major courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:232</td>
<td>Instrumental Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:317</td>
<td>Printmaking II</td>
<td>3</td>
</tr>
<tr>
<td>710:418</td>
<td>Advanced Printmaking (may be repeated)</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:121</td>
<td>Three-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>710:233</td>
<td>Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:375</td>
<td>Introduction to Photography</td>
<td>3</td>
</tr>
</tbody>
</table>

A choice of one of these painting courses is required:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:245</td>
<td>Introduction to Acrylic Painting</td>
<td>3</td>
</tr>
<tr>
<td>710:246</td>
<td>Introduction to Watercolor Painting</td>
<td>3</td>
</tr>
<tr>
<td>710:247</td>
<td>Introduction to Oil Painting</td>
<td>3</td>
</tr>
</tbody>
</table>

Sculpture

Prerequisites before first major course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:100</td>
<td>Survey of History of Art I</td>
<td>4</td>
</tr>
<tr>
<td>710:121</td>
<td>Three-Dimensional Design</td>
<td>3</td>
</tr>
</tbody>
</table>

Major courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:221</td>
<td>Three-Dimensional Design Application</td>
<td>3</td>
</tr>
<tr>
<td>710:222</td>
<td>Introduction to Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>710:322</td>
<td>Sculpture: Modelling and Casting</td>
<td>3</td>
</tr>
<tr>
<td>710:422</td>
<td>Advanced Sculpture (to be repeated)</td>
<td>9</td>
</tr>
</tbody>
</table>

Additional required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>710:131</td>
<td>Introduction to Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:144</td>
<td>Two-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>710:231</td>
<td>Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>710:232</td>
<td>Instrument Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:233</td>
<td>Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>710:254</td>
<td>Introduction to Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>710:266</td>
<td>Introduction to Metalsmithing</td>
<td>3</td>
</tr>
</tbody>
</table>

Honors Program

As a participant in the program, the student must complete a minimum of 12 credits of honors work, to be divided in such a way that not more than eight credits are received in either coursework (710:499) or research project (710:405, 9, 90). Thus, the maximum number of credits possible would be sixteen.

The student must complete a written or studio project with a grade of "B" or better.

**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/Graphic 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**
- Home Economics and Family Ecology Core:

  All students enrolled in baccalaureate programs in the Department of Home Economics and Family Ecology are required to complete the following core of requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:147</td>
<td>Home Economics Survey</td>
<td>1</td>
</tr>
<tr>
<td>7400:447</td>
<td>Critical Issues in Home Economics</td>
<td>1</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Division</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing, Textiles and interiors</td>
<td>7400:121</td>
<td>Textiles</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7400:159</td>
<td>Family Housing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7400:419</td>
<td>Clothing Communication</td>
<td>3</td>
</tr>
<tr>
<td>Food and Nutrition</td>
<td>7400:133</td>
<td>Nutrition Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7400:141</td>
<td>Food for the Family</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7400:265</td>
<td>Child Development</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7400:362</td>
<td>Home Management Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

- **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 Arts in Dietetics is 42 credits. The additional three credits come from the use of 3150:129, 130 General Chemistry (8 credits) to meet the natural science requirements, and from the use of 3850:100 Introduction to Sociology (4 credits) and 3250:100 Introduction to Economics (3 credits) to meet the Social Studies requirement. The above mentioned courses are required by the American Dietetic Association.**
Bachelor of Arts 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 (for 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

2420111 Basic Accounting I (3 credits) or 6500101 Accounting I (4 credits) 3 4
3160130 Principles of Microbiology 3
3160208 Anatomy and Physiology 3
3160207 Anatomy and Physiology 3
3150203 Nutritional Biochemistry 3
3750100 Introduction to Psychology 1
5400351 Consumer Homemaking Methods 4
6500301 Management Principles and Concepts or 6500490 Introduction to Health Care Management 3
6500241 Personnel Management 3
7400245 Basic Nutrition and Foods 5
7400313 Introduction to Food Systems Management 3
7400316 Science of Nutrition 4
7400328 Introduction to Nutrition in Medical Science 4
7400413 Food Systems Management 3
7400416 Quantity Food Preparation 3
7400420 Experimental Foods 3
7400528 Nutrition in Medical Science 5

Additional coordinated undergraduate program requirements:
7400314 Introduction to Food Systems Management - Clinical 1
7400329 Introduction to Nutrition in Medical Science - Clinical 1
7400380 Introduction to Community Nutrition 1
7400415 Food Systems Management - Clinical 3
7400490 Community Nutrition I 3
7400481 Community Nutrition I - Clinical 1
7400482 Community Nutrition II 3
7400483 Community Nutrition II - Clinical 1
7400486 Staff Relief 1

Additional traditional dietetics requirements:
2420121 Basic Accounting II (3 credits) or 6500202 Accounting II (4 credits) 3 4
7400301 Consumer Education 3

Bachelor of Arts in Family and Child Development

This degree offers the following emphases: Family development, child development and child life specialist.

Requirements for all emphases:
3750100 Introduction to Psychology 4
3750130 Developmental Psychology 4
3750201 Relational Patterns in Marriage and Family 3
7400265 Child Development 3
7400451 Family Life Patterns in Economically Depressed Home 2

Requirements for family development and child development:
5200380 Nursery School Laboratory 3
7400234 Food for the Family 3
7400204 Survey of Applied Home Economics in the Community 1
7400218 Family Health and Home Nursing 2
7400255 Fatherhood: The Parent Role 2
7400210 Consumer Education 3
7400335 Community Involvement in the Home Economics 1 2
7400452 Advanced Home Management 3
7750276 Introduction to Social Welfare 4

Additional requirements for family development — 25 credits.

Additional requirements for child development:
7400130 Early Childhood Nutrition 2
7400275 Play and Creative Expression Activities 4
7400290 Administration of Child Care Centers 3
7400460 Organization and Supervision of Child Care Centers 2

Additional requirements: 16 credits in family and child development area approved by advisor.

Requirements for child life specialist:
2200250 Observing and Recording Children’s Behavior 3
3150340 Social Psychology 4
3750350 Psychology of Small Group Behavior 3
3850342 Sociology of Health and Illness 3
5610400 Developmental Characteristics of Exceptional Individuals 3
5610453 Recreational Programs for Exceptional Individuals 1
7400275 Play and Creative Expression Activities 4
7400285 Orientation to the Hospital Setting 2
7400350 The Child in the Hospital 4
7400355 Pediatrics: Establishing and Supervising a Child Life Program 3
7400465 Seminar: Parent-Child Relationships 2
7400495 Internship: Guided Experience in a Child Life Program 6
7400496 Parenting Skills 3

Bachelor of Arts in Foods and Nutrition

2280226 Menu Planning and Cost Controls 3
2280243 Food Equipment and Plant Operations 3
2440120 Introduction to Information Processing 2
3750100 Introduction to Psychology 3
6500341 Personnel Management 3
6600340 Marketing Principles 3
6600340 Merchandising 3
7400204 Survey of Applied Home Economics in the Community 1
7400245 Basic Nutrition and Foods 9
7400301 Consumer Education 3
7400316 Science of Nutrition 5
7400340 Meal Service 2
7400415 Household Equipment 2
7400416 Quantity Food Preparation 4
7400420 Experimental Foods 3
7400422 Advanced Home Management 3
7400450 Demonstration Techniques 2
7600203 Radio and Television News Writing 2
7600281 Introduction to Radio and Television 2
7600282 Communication Media: Radio 2
7600283 Communication Media: Television 3
7600288 Communication Media: Film 3

Bachelor of Arts in Textiles and Clothing

Requirements for all options in textiles and clothing:
7400121 Textiles 3
7400123 Clothing Construction 3
7400158 Introduction to Interior Design and Furnishings 3
7400159 Family Housing 3
7400301 Consumer Education 3
7400305 Advanced Construction and Tailoring 3
7400311 Contemporary Needle Arts 3
7400317 Historic Costume 3
7400422 Advanced Home Management and/or Elective in Textiles and Clothing 5
7400415 Clothing Communication 3
7400439 Fashion 3
7400449 Design and Draping 3

Completion of one of the following options:

• Business option:
6200201 Accounting I 4
2420211 Basic Accounting I 3
6600330 Marketing Principles 4
2520101 Elements of Distribution 3
6600340 Merchandising 3
2520202 Retailing Fundamentals 4

91
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.

Certificate Program in Interior Design
A full description of the certificate program may be found in "Interdisciplinary and Certificate Programs," in this Bulletin.

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 to arrange for the examination.

Bachelor of Arts
- General Studies and the second year of a foreign language — 53 credits
- Core curriculum in music:
  - 7500:151 Theory I
  - 7500:152 Theory II
  - 7500:154 Music Literature I
  - 7500:155 Music Literature II
  - 7500:161 Aural/Oral Music Reading Skills
  - 7500:251 Theory III
  - 7500:252 Theory IV
  - 7500:261 Keyboard Harmony I
  - 7500:262 Keyboard Harmony II
  - 7500:351 Music History I
  - 7500:352 Music History II
- Performance courses:
  - 7500:157 Student Recital (four semesters)
  - 7510 — Music Organization (four semesters)
  - 7520 — Applied Music (four semesters)
- Electives — 33 credits.

The Bachelor of Arts program is intended as a cultural course or as a preparation for graduate study but not as professional preparation for a performance or teaching career.

Bachelor of Music

Accompanying for Keyboard Majors
- General Studies — 39 credits.
- Core curriculum in music:
  - 7500:151 Music Theory I
  - 7500:152 Music Theory II
  - 7500:251 Music Theory III
  - 7500:252 Music Theory IV
  - 7500:154 Music Literature I
  - 7500:155 Music Literature II
  - 7500:161 Aural/Oral Music Reading Skills
  - 7500:251 Keyboard Harmony I
  - 7500:252 Keyboard Harmony II
  - 7500:261 Beginning Piano Pedagogy
  - 7500:351 Music History I
  - 7500:352 Music History II

- Other Music Courses:
  - 7500:325 Research in Music
  - 7500:361 Conducting
  - 7500:365 Song Literature
  - 7500:371 Analytical Techniques
  - 7500:451 Introduction to Musicology
  - 7500:452 Composition
  - 7500:497 Ind Study (Chamber Music)
- Elective
- Applied Music and Performance
  - 7520 — Applied Piano
  - 7510:114 Keyboard Ensemble
- Senior recital (to include works as soloist, accompanist and in chamber ensembles)

History and Literature
- General Studies — 39 credits.
- Core curriculum in music (see B.A.) — 30 credits.
- Performance courses:
  - 7500:157 Student Recital (eight semesters)
  - 7510 — Music Organization
  - 7520 — Applied Music — primary instrument
- Additional music courses:
  - 7500:325 Research in Music
  - 7500:361 Conducting
  - 7500:371 Analytical Techniques
  - 7500:451 Introduction to Musicology
  - 7500:452 Composition
  - 7500:454 Orchestration
  - 7500:455 Advanced Conducting: Instrumental
- Electives:
  - 7500:497 Independent Study

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
- Additional music courses:
  - 7500:325 Research in Music
  - 7500:361 Conducting
  - 7500:371 Analytical Techniques
  - 7500:451 Introduction to Musicology

*Passage to the 500 level in the primary applied levels is required prior to graduation.
Theory-Composition

- General Studies — 39 credits.
- Core curriculum in music (see B.A.)
- Additional performance courses:
  - 7500.157 Student Recital (eight semesters)
  - 7520 — Applied Music — primary instrument
  - 7520 — Applied Music — composition

- Additional music courses:
  - 7500.361 Conducting
  - 7500.362 Choral Arranging
  - 7500.371 Analytical Techniques
  - 7500.372 Techniques for Analysis: Twentieth Century Music
  - 7500.451 Introduction to Musicology
  - 7500.452 Composition
  - 7500.453 Orchestration
  - 7500.455 Advanced Conducting: Instrumental
  - 7500.456 Advanced Conducting: Choral
  - 7500.471 Counterpoint
  - 7500.472 Advanced Orchestration

- Senior recital or original composition.
- Electives — 7 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

- Additional jazz courses:
  - 7500.210.1 Jazz Improvisation I and II
  - 7500.212 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 III
  - 7500.311 Jazz Improvisation IV
  - 7500.497 Jazz Arranging and Scoring
  - 7500.497 Independent Study (Practicum in Jazz Studies)

- Performance courses:
  - 7500.157 Student Recital (eight semesters)
  - 7510 — Music Organization: Major Conducted
  - 7520 — Applied Music — primary instrument
  - Saxophone major must pass flute and clarinet proficiency (passage to 200 level)

- Electives — 8 credits.
- Senior recital.

Music Education
- General Studies — 39 credits.
- Core curriculum in music (see B.A.)
- Performance courses:
  - 7500.452 Composition
  - 7500.454 Orchestration
  - 7500.455 Advanced Conducting: Instrumental
  - 7500.456 Advanced Conducting: Choral
  - 7500.471 Counterpoint
  - 7500.472 Advanced Orchestration

- Electives — 6 credits.
- Senior recital (full recital required).**

Bachelor of Arts
- General Studies and second year of a foreign language — 53 credits.
- Departmental core curriculum — 18 credits.
  - 7800.102 Survey of Mass Communication
  - 7800.115 Introduction to Communication Theory
  - 7800.201 News Writing
  - 7800.236 Feature Writing
  - 7800.245 Argumentation
  - 7800.290 Media Production Techniques
  - 7800.384 Communication Research
  - Concentration in business and organizational communication, communication and rhetoric or mass media-communication — 15-18 credits.
  - Elective mass media-communication courses — 12-15 credits.
  - Electives — 27 credits.
Area of specialization (see below) — 15-18 credits.

Elective mass media-communication courses — 12-15 credits.

Electives — 27 credits.

### Business and Organizational Communication

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>760:235</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>760:309</td>
<td>Publications Production</td>
<td>3</td>
</tr>
<tr>
<td>760:335</td>
<td>Organizational Communication</td>
<td>3</td>
</tr>
<tr>
<td>760:344</td>
<td>Public Decision Making</td>
<td>3</td>
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<td>760:345</td>
<td>Business and Professional Speaking</td>
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<td>760:403</td>
<td>Communication in Public Relations</td>
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### Communication and Rhetoric

<table>
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<tbody>
<tr>
<td>760:225</td>
<td>Module: Listening</td>
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<tr>
<td>760:226</td>
<td>Module: Interviewing</td>
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</tr>
<tr>
<td>760:227</td>
<td>Module: Nonverbal Communication</td>
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</tr>
<tr>
<td>760:235</td>
<td>Interpersonal Communication</td>
<td>3</td>
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<tr>
<td>760:252</td>
<td>Persuasion</td>
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<td>760:335</td>
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### Mass Media-Communication

#### Management

<table>
<thead>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>760:282</td>
<td>Radio Production</td>
<td>3</td>
</tr>
<tr>
<td>760:283</td>
<td>TV Production</td>
<td>3</td>
</tr>
<tr>
<td>760:388</td>
<td>History and Structure of Broadcasting</td>
<td>3</td>
</tr>
<tr>
<td>760:395</td>
<td>Radio Station Operations</td>
<td>3</td>
</tr>
<tr>
<td>760:396</td>
<td>TV Station Programming and Operations</td>
<td>3</td>
</tr>
<tr>
<td>760:484</td>
<td>Regulations</td>
<td>3</td>
</tr>
<tr>
<td>760:486</td>
<td>Broadcast Sales and Management</td>
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</table>

#### News

<table>
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<tbody>
<tr>
<td>760:201</td>
<td>News Writing</td>
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<tr>
<td>760:206</td>
<td>Feature Writing</td>
<td>3</td>
</tr>
<tr>
<td>760:204</td>
<td>Copying</td>
<td>3</td>
</tr>
<tr>
<td>760:282</td>
<td>Radio Production</td>
<td>3</td>
</tr>
<tr>
<td>760:253</td>
<td>TV Production</td>
<td>3</td>
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<tr>
<td>760:301</td>
<td>Advanced News Writing</td>
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<tr>
<td>760:484</td>
<td>Regulations</td>
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<td>760:486</td>
<td>Additional courses</td>
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#### Production

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>760:282</td>
<td>Radio Production</td>
<td>3</td>
</tr>
<tr>
<td>760:283</td>
<td>Television Production</td>
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<tr>
<td>760:288</td>
<td>Film Production</td>
<td>3</td>
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<tr>
<td>760:387</td>
<td>Radio and TV Writing</td>
<td>3</td>
</tr>
<tr>
<td>760:388</td>
<td>History and Structured Broadcasting</td>
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</tbody>
</table>

Additional production courses 9

Non-production mass media-communication courses 6

Certificate Program in Manual Communication

A full description of this program may be found in “Interdisciplinary and Certificate Programs.” Section 4 of this Bulletin.

### 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:
  - Credits
  - 7700:110 Introduction to Speech Disorders 3
  - 7700:111 Introduction to Phonetics 3
  - 7700:130 Bases and Structure of Languages 3
  - 7700:140 Introduction to Audiology 3
  - 7700:210 Applied Phonetics 3
  - 7700:211 Introduction to Speech Science 2
  - 7700:230 Speech and Language Development 3
  - 7700:240 Aural Rehabilitation 3
  - 7700:241 Principles of Audiology 3
  - 7700:250 Observation and Clinical Methods 2
  - 7700:271 Language of Signs I 3
  - 7700:321 Speech Pathology I 3
  - 7700:322 Speech Pathology II 4
  - 7700:330 Language Disorders 4
  - 7700:340 Audiologic Evaluation 2
  - 7700:350 Clinical Practicum: Articulation 1
  - 7700:351 Clinical Practicum: Language 1
  - 7700:352 Clinical Practicum: Aural Rehabilitation 1
  - 7700:450 Introduction to Speech and Hearing Diagnostics 3
  - 7700:451 Clinical Practicum: Hearing Diagnosis 1

- Electives — 22 credits.

Over forty percent of the practicing therapists in the field of Communicative Disorders are working in public school settings. A therapist must be certified by the 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 adviser about this option.

### 7750: Social Work

**Program Description**

The social work curriculum is an accredited undergraduate program preparing students for entry-level professional practice in health, mental health, mental retardation, family service, public welfare, corrections, juvenile justice, child welfare, aging and in alcohol and drug abuse.

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.

There is a direct relationship between the social work program and the two-year associate in community services technology and associate in criminal justice programs offered in the Community and Technical College.

The Bachelor of Arts degree requires completion of two years of a foreign language (Spanish is recommended). The Bachelor of Arts Social Work degree does not require a language. It requires some additional coursework in social work and the social sciences as well as an extended field placement.

Certificate programs can be designed in Afro-American Studies and Gerontology (aging) within the framework of the curriculum.

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*Courses in the Department of Biology are required to fulfill the natural sciences requirement (1/10-2645). A Bachelor of Arts in Communicative Disorders requires a core of courses in psychology and related disciplines for the foreign language (see adviser for specific courses).*
Bachelor of Arts

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

- Social Work courses: 3750:420 Abnormal Psychology** 3
  7750:270 Poverty in the United States 3
  7750:276 Introduction to Social Welfare 4
  7750:401 Social Work Practice I 3
  7750:402 Social Work Practice II 3
  7750:403 Social Work Practice III 3
  7750:410 Minority Issues in Social Work Practice 3
  7750:421 Field Experience Seminar 2
    (two semesters, one credit each)
  7750:430 Human Behavior and Social Environment 3
  7750:440 Social Work Research 3
  7750:495 Field Experience Social Agency 6
    (two semesters, three credits each)
  7750:6 Elective in Social Work 3
  7750:6 Elective in Social Work 3

- Electives should be selected in consultation with an adviser — 30 credits.

Bachelor of Arts (2+2) with C&T

- General studies: 1100:321 Western Cultural Traditions 8
  1100:22- Natural Science Triology 3
  1100:33- Eastern Civilization 4
  Mathematics 4
  Natural Science 3

- Foreign language: Complete second year 14

- Social work: 3750:420 Abnormal Psychology* 3
  7750:401 Social Work Practice I, II, III 9
  7750:410 Minority issues 3
  7750:421 Field Experience Seminar 2
  7750:425 Social Work Ethics 3
  7750:430 Human Behavior and Social Environment 3
  7750:440 Social Work Research 3
  7750:470 Law for Social Workers 3
  7750:495 Field Experience in Social Agency 8
  7750:495 Social Science Electives 8

Bachelor of Arts (2+2) with Wayne College

- General studies: 1100:320 Western Cultural Traditions 8
  1100:33- Eastern Civilizations 4
  Mathematics† 4

- Foreign language: Complete second year 14

- Social work: 3750:420 Abnormal Psychology 3
  7750:401 Social Work Practice I, II, III 9
  7750:410 Minority issues 3
  7750:421 Field Experience Seminar 2
  7750:425 Social Work Ethics 3
  7750:430 Human Behavior and Social Environment 3
  7750:495 Field Experience in Social Agency 6
  7750:495 Social Work Electives 6

*The student must complete 3850:100 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 3450:112 Algebraic Functions and Graphing, 3470:251 Descriptive Statistics and Probability and 3470:252 Distributions as the mathematics requirement. The student must complete a third social science course from among the sets of options available to fulfill the General Studies Social Science requirement.

**3750:100 Introduction to Psychology and 2780:130 Developmental Psychology should be completed as prerequisites to Abnormal Psychology.

Bachelor of Arts/Social Work

- General studies — 40 credits *

- Social work courses: 3750:420 Abnormal Psychology** 3
  7750:270 Poverty in the United States 3
  7750:276 Introduction to Social Welfare 4
  7750:401 Social Work Practice I, II, III 9
  7750:410 Minority Issues in Social Work Practice 3
  7750:425 Social Work Ethics 3
  7750:470 Law for Social Workers 3
  7750:430 Human Behavior and Social Environment 3
  7750:440 Social Work Research 3

- Field experience: 7750:421 Field Experience Seminar (two semesters required concurrent with 7750:495) 2
  7750:495 Field Experience in a Social Agency (two required) 8

- Electives: 7750:4 Elective Social Work 6
  7750:6 Elective Social Sciences 6

- Other electives — 32 credits.

Bachelor of Arts/Social Work (2+2) with C&T

- General studies: 1100:221 Natural Science Biology 3
  1100:320 Western Cultural Traditions 8
  1100:33- Eastern Civilizations 4
  Mathematics† 4
  Natural Science 3

- Social work: 3750:420 Abnormal Psychology** 3
  7750:401 Social Work Practice I, II, III 9
  7750:410 Minority Issues 3
  7750:421 Field Experience Seminar 2
  7750:425 Social Work Ethics 3
  7750:470 Law for Social Workers 3
  7750:430 Human Behavior and Social Environment 3
  7750:495 Field Experience in Social Agency 8
  7750:495 Social Science Electives 8

Bachelor of Arts/Social Work (2+2) with Wayne College

- General studies: 1100:320 Western Cultural Traditions 8
  1100:33- Eastern Civilizations 4
  Mathematics† 4

- Social work: 3750:420 Abnormal Psychology 3
  7750:401 Social Work Practice I, II, III 9
  7750:410 Minority Issues 3
  7750:421 Field Experience Seminar 2
  7750:425 Social Work Ethics 3
  7750:495 Field Experience in Social Agency 6
  7750:495 Social Work Electives 6

*The student must complete 3850:100 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 3450:112 Algebraic Functions and Graphing, 3470:251 Descriptive Statistics and Probability and 3470:252 Distributions as the mathematics requirement. The student must complete a third social science course from among the sets of options available to fulfill the General Studies Social Science requirement.

**3750:100 is a prerequisite: 3750:130 is recommended as the second course fulfilling the seven credit psychology course prerequisite for enrollment in Abnormal Psychology.

†Six credits only required of student with community services, social service or criminal justice technology degrees.

‡3450:111 is a prerequisite for 7750:440 Social Work Research.

§3750:100 is a prerequisite for Psychology and three additional credits in psychology are prerequisites.
7800: Theatre Arts and Dance

Bachelor of Arts
Bachelor of Arts in Theatre Arts
Bachelor of Arts in Dance*

- General Studies program and second year of a foreign language — 53 credits **
- Core Curriculum:
  - 7800:330 Theatre Arts/Dance Participation 4
  - 7800:367 History of Theatre I: Greek-Renaissance 4
  - 7800:368 History of Theatre II: Restoration to Present 4
- Theatre Electives — 33 credits.
- Other Electives — 30 credits.

Areas of Concentration

Theatre Arts

The concentration is designed to prepare the student for competence 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.

Acting
- General Studies — 39 credits.
- Acting:
  - 7800:272 Acting I 4
  - 7800:373 Acting II 4
  - 7800:374 Acting III 4
  - 7800:474 Acting IV 4
- Voice:
  - 7700:111 Introduction to Phonetics 2
  - 7700:211 Introduction to Speech Science 2
  - 7800:261 Voice for the Stage 3
  - 7800:350,1 Advanced Voice for the Stage I, II 6
  - 7520 Applied Voice (Music) I 8

Musical Theatre

Bachelor of Arts

Design/Technology
- General Studies — 39 credits.
- Basic preparation:
  - 7800:262 Stage Makeup 3
  - 7800:264 Introduction to Technical Theatre 3
  - 7800:265 Basic Stagecraft I 3
  - 7800:266 Advanced Stagecraft 3
- Studio courses:
  - 7800:263 Scene Painting 3
  - 7800:334 Stage Costume Construction 3
  - 7800:335 Introduction to Stage Costume Design 3
  - 7800:336 History of Stage Costume Design 3
  - 7800:465 Stage Lighting Design 3
  - 7800:119 Stage Lighting 3
- Electives (with approval of adviser) — 16-19 credits.

Music

Bachelor of Arts

- General Studies — 39 credits.
- Theatre:
  - 7800:251 Voice for the Stage 3
  - 7800:261 Studio Theatre 3
  - 7800:262 Stage Makeup 3
  - 7800:264 Introduction to Technical Theatre 3
  - 7800:265 Basic Stagecraft I 3
  - 7800:266 Advanced Stagecraft 3
  - 7800:272 Acting I 4
  - 7800:330 Theatre Arts/Dance Participation 4
  - 7800:367 History of Theatre I: Greek to Renaissance 4
  - 7800:368 History of Theatre II: Restoration to Present 4
  - 7800:373 Acting II 4
  - 7800:421 Musical Theatre Production 3
  - 7800:457 Acting for the Musical Theatre 3
- Dance:
  - 7800:111 Introduction to Contemporary Dance I 2
  - 7800:229 Contemporary Technique I 3
  - 7800:122 Ballet Technique I 5
  - 7800:222 Ballet Technique II 5
  - 7800:124 Introduction to Ballet 2
  - 7800:224 Fundamentals of Ballet Technique 3
  - 7800:323 Jazz Dance Technique I 2
  - 7800:324 Tap Technique I 2
  - 7800:329 Contemporary Technique I 3
  - 7800:377 Jazz Dance Technique II 2
  - 7800:378 Tap Technique II 2
- Musical Theatre:
  - 7500:101 Introduction to Musical Theory 2
  - 7500:161 Oral Music Reading Skills 4

*See Areas of Concentration listing below for B.A. in Dance requirements.
**The student in B.A. in Theatre Arts 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 regarding audition for placement.
The dance major is designed for the student who wishes to continue professional training in dance with 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 end of two years' study in order 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.

**Electives (with approval of adviser) — 10-12 credits.**

**Dance Courses**

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<th>Title</th>
<th>Credits</th>
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<td>7800:115</td>
<td>Dance As An Art Form</td>
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<tr>
<td>7800:116</td>
<td>Dance Analysis I, II</td>
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<td>7800:229</td>
<td>Contemporary Technique I</td>
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<tr>
<td>7800:316</td>
<td>Choreography I, II</td>
<td>4</td>
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<tr>
<td>7800:320</td>
<td>Dance Notation</td>
<td>2</td>
</tr>
<tr>
<td>7800:322</td>
<td>Ballet Technique III, IV</td>
<td>20</td>
</tr>
<tr>
<td>7800:329</td>
<td>Contemporary Dance Technique</td>
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<td>7800:423</td>
<td>History of the Dance</td>
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<td>7800:424</td>
<td>Twentieth Century Dance</td>
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<td>7800:425</td>
<td>Development of Ballet</td>
<td>2</td>
</tr>
<tr>
<td>7800:426</td>
<td>Techniques of Teaching Ballet I, II</td>
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See Department of Music regarding audition for placement.
College of Nursing

Lillian J. DeYoung, R.N., Ph.D., Dean
Phyllis A. Fitzgerald, Ph.D., Assistant Dean

Philosophy

The College of Nursing, an integral part of The University of Akron, accepts the responsibility for promoting the general mission of the University, which is the dissemination and pursuit of knowledge, the nurturing of intellectual curiosity, the search for truth and a conscious effort to serve the (nursing) student in the urban community.

The 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, valuing being constantly in the process of becoming and whose goal is self-actualization. Man is an ecological being who affects and is affected by the total environment. The individual is a part of a diverse and dynamic society which possesses structure. As such, man functions as a facilitator of thoughts, values, beliefs, attitudes and actions which affect the health care system.

Health is viewed as a purposeful adaptive response to internal and external stimuli in order to maintain stability. Diminished health is viewed as a disturbed adaptive response which results in disequilibrium and inability to utilize effectively the usual health-promoting resources. Health and the various degrees of health are viewed as a continuum. Quality health care is the right of individuals, families, groups and communities. Consumers of health care are participants in the decisions which affect their status on the health/diminished health continuum.

The goal of the professional nurse is to assist individuals, families, groups and communities to attain, maintain and/or regain an optimal level of health and to be supportive when optimal levels of health can no longer be achieved. Professional nursing practice is germane to any setting where health maintenance or support is a goal.

The professional practitioner utilizes the nursing process as a series of progressive steps which unite nursing action with critical thinking, integration of knowledge and decision making. This process is a dynamic methodology which is scientifically based and goal-directed with feedback mechanisms in the form of continuous evaluation and modification. The professional nurse utilizes theories and research from nursing and other disciplines to add to the body of nursing knowledge and to improve health care services to clients. The professional nurse is accountable to clients and colleagues in the health professions and accepts responsibility for quality nursing care in any environment.

The emerging role of the professional nurse includes the exercise of social responsibility and independence in decision-making processes which affect the delivery of nursing care within the existing and changing social system. An important dimension of the emerging role of the professional nurse is to support the client who assumes the responsibility for making those decisions necessary for optimal health.

The faculty views general education at the baccalaureate level as the base for rational thinking, which provides the student with an inquiring approach to life and self with an opportunity to become a contributing member of the community.

Baccalaureate nursing education provides opportunities for a student to apply concepts, knowledge and skills from the biologic, social, behavioral sciences and nursing science to professional practice. This education prepares a generalist who is capable of practicing in any environment and provides a foundation for research, continued study and leadership. Research is viewed as a quest for new knowledge pertinent to an identified area of interest through the application of the scientific process. Leadership is viewed as the ability to facilitate the movement of a person, group, family or community toward the establishment and attainment of a goal.

The faculty defines education as a life-long process which implies that the concept of learning is an essential part of the educational process. The student and faculty work in concert to achieve learning goals. The student is self-directed in meeting learning goals. Both faculty and students have a responsibility to collaborate in the planning, implementation and evaluation of the education program.

It is the faculty’s responsibility to facilitate an environment conducive to learning. A student has varied experiences and needs, therefore, the educational program must make provisions for the learner’s individuality which includes variable progression and opportunities to practice new behaviors. The faculty recognizes that positive reinforcement motivates learning and, therefore, endeavors to design experiences with expectations for success.

Objectives

The undergraduate program in nursing is designed to prepare the graduate to do the following:

- Utilize the nursing process to move the client toward a higher level of functioning, 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.
- Utilize research findings to promote the practice of nursing and to extend nursing research.
- Utilize leadership skills for the advancement of professional nursing and health care.
- Share in the responsibility for optimal health care of clients by collaborating, consulting and coordinating with clients and members of the health team.
- Clarify own values in relation to nursing practice.
- Utilize concepts from human ecology in the practice of nursing.

*The basic collegiate program is approved by the State of Ohio Board of Nursing Education and Nurse Registration and is accredited by the National League for Nursing.
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 must have been completed within the last 10 years at the time of admission to the College of Nursing.

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 better.
- All grades of transfer work will be combined with those earned at The University of Akron in the computation of a GPA for admission purposes.

All applicants will be considered at once and will be selected each spring. Applicants will be ranked on the basis of the highest grade-point average (GPA) to 2.50. Therefore, it cannot be assured that having a GPA of 2.50 will guarantee admission to the college. A student will be notified of provisional admission to the College of Nursing prior to fall scheduling requirements and will be given final approval at the end of spring semester.

Of students selected, one half will begin in the summer and with the other beginning fall 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 alternative 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.

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, Promotion 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 2.50 or higher on a 4.00 scale in the nursing major. A student who fails to maintain the 2.50 average will be placed on probation. Failure to raise the average to 2.50 in a period of two semesters or one semester plus 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 2.50 is not attained. The student may not apply for readmission for at least one semester.

A student may be on probation only twice in the College of Nursing, and each academic probation period is to be no longer than one semester, or one ten-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 2.50 grade-point average in the nursing major and a 2.00 grade-point average for all collegiate work attempted at The University of Akron.
- Complete all courses required in the Program of Study for Nursing Students.

Program of Studies

Generic Student

Freshman Year

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:111</td>
<td>English Composition</td>
</tr>
<tr>
<td>1100:115</td>
<td>Institutions in the United States*</td>
</tr>
<tr>
<td>3150:129</td>
<td>Introduction to General, Organic and Biochemistry</td>
</tr>
<tr>
<td>3450:111:2</td>
<td>Mathematics Modules</td>
</tr>
</tbody>
</table>

*The six-credit requirement in the social sciences area designated by 1100:115:6 Institutions in the United States can be met through several options as listed in the University College requirements. A nursing student who elects to use 3850:100 Introduction to Sociology as one part of the social sciences requirement for University College MUST complete an additional three- or four-credit sociology requirement to meet the prerequisites for the College of Nursing. This course must be completed prior to application to the college.
Semester I
1100— Physical Education 1
1100:112 English Composition 4
1100:116 Institutions in the United States* 3
3750:100 Introduction to General, Organic and Biochemistry I 4
3850:100 Introduction to Sociology* 4

Sophomore Year
Semester I
1100:106 Effective Oral Communication 3
3100:130 Principles of Microbiology 3
3100:206 Anatomy and Physiology 3
3600:101 Introduction to Philosophy or 3
3600:120 Introduction to Ethics or 3
3600:170 Introduction to Logic or 3
3750:100 Introduction to Psychology 3

Semester II
3100:105 Ecology and Biological Resources 2
3100:207 Anatomy and Physiology 2
3100:381 Human Genetics 2
3750:130 Developmental Psychology 4
3850:340 The Family or 4
7400:201 Relational Patterns in Marriage and Family 3

Summer Session
8200:200 Nursing Theories and Concepts 5

Junior Year
Semester I
1100:320 Western Cultural Traditions 4
8200:300 Nursing Health 12

Semester II
1100:321 Western Cultural Traditions 4
8200:320 Nursing: Diminished Health I 12

Senior Year
Semester I
1100— Eastern Civilizations 2
8200:400 Nursing: Diminished Health II 10
E elective 5

Semester II
1100— Eastern Civilizations 2
8200:420 Nursing: Synthesis 10
E elective 4

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.

*The six-credit requirement in the social sciences area usually designated by 1100:116, Institutions in the United States can be met through several options as listed in the University College requirements. A nursing student who elects to use 3850:100 Introduction to Sociology as one part of the social sciences requirement for University College MUST complete an additional three or four-credit sociology requirement to meet the prerequisites for the College of Nursing. This must be completed prior to application to the college.

†Bypass credit will be granted for the following courses upon successful completion of 8200:420 Nursing: Synthesis:
8200:320 Nursing: Diminished Health I 12
8200:400 Nursing: Diminished Health II 10
### Option #2

#### Summer

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100 305</td>
<td>Nursing Theories, Concepts and Research</td>
<td>6</td>
</tr>
<tr>
<td>1100 33-33-</td>
<td>Eastern Civilizations</td>
<td>2</td>
</tr>
</tbody>
</table>

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100 320</td>
<td>Western Cultural Traditions</td>
<td>4</td>
</tr>
<tr>
<td>1100 33-</td>
<td>Eastern Civilizations</td>
<td>2</td>
</tr>
<tr>
<td>8200 405</td>
<td>Health Maintenance Nursing</td>
<td>6</td>
</tr>
</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100 321</td>
<td>Western Cultural Traditions</td>
<td>4</td>
</tr>
<tr>
<td>8200 415</td>
<td>Diminished Health Nursing</td>
<td>6</td>
</tr>
</tbody>
</table>

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200 420</td>
<td>Nursing Synthesis*</td>
<td>10</td>
</tr>
</tbody>
</table>

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.

*By-pass credit will be granted for the following courses upon successful completion of 8200 420 Nursing Synthesis:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200 320</td>
<td>Nursing: Diminished Health I</td>
<td>2</td>
</tr>
<tr>
<td>8200 400</td>
<td>Nursing: Diminished Health II</td>
<td>10</td>
</tr>
</tbody>
</table>

### 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
- American Diabetes Association
- Americare Healthcare Center
- 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
- Evangel Child Development Center
- Fallsview Psychiatric Hospital
- Hattie Larlham Foundation
- Henry Center for Child Care and Learning
- Rockynol Presbyterian 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
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. Those 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 coursework 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.
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. In order to help the participant discover the inherent potential, capabilities and sense of direction this unique learning experience emphasizes a close student-faculty relationship.

Admission
The requirements for admission to the University Honors Program are:
• A high school grade-point average of 3.50 or better.
• Scores on the Scholastic Aptitude Test (SAT) or American College Test (ACT) which place the applicant in the 90th percentile or higher of freshman college norms in the field of interest.
• An interview with a member of the University Honors Council.
• Enrollment in a baccalaureate degree program.

For information on the annual deadline for applications call (216) 375-7423 or the Office of Admissions (216) 375-7100.

Program
General Studies
An honors student is not required to complete the General Studies except for physical education. Instead, each student completes an individualized distribution requirement which includes a balanced amount of diversified coursework in the humanities, the social sciences and the natural sciences. The major objective of this requirement is to expose the student to a broad spectrum of knowledge which is both reasonable and appropriate to the student's major field. The student and preceptor plan the components of this requirement which is subject to the approval of the Honors Council.

Colloquia
Beginning at the sophomore level, an honors student attends one colloquium per year, one in the humanities, another in the social sciences; the third in the natural sciences. These one-semester, two-credit lecture and discussion sessions are interdisciplinary in scope. They provide an opportunity for all honors students to meet together and to explore the breadth and the interrelations of academic studies. The intent of these colloquia is to provide significant insights, especially in areas which lie outside the student's major field and may have been excluded from 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 student who completes 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 bypass 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 they 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.
Interdisciplinary and Certificate Programs of Study

Overview

In order 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.

All programs are open to undergraduates except those so noted. Further information may be obtained from the following:

- Afro-American Studies, Mr. N. Holmes, assistant director
- Cartographic Specialization, Dr. A. Noble, Head, Department of Geography
- Computer Physics, Dr. D. Galehouse, Dr. E. VonMeerwall, codirectors
- Computer Science, Dr. W. Beyer, Head, Department of Mathematical Sciences
- Environmental Studies, Dr. J. Jackson, director
- Higher Education, Dr. W. Fiyre, director, Center for Higher Education
- Interior Design, Mrs. C. Albanese, assistant professor of home economics
- Latin American Studies, Dr. H. Lijeron, program coordinator
- Life-Span Development: Adulthood and Aging, Dr. H. Sterns, director
- Life-Span Development: Gender Identity and Roles, Dr. H. Sterns, director, Mrs. F. Dambrot, administrative assistant
- Linguistic Studies, Dr. A. Palacios, director
- Manual Communication, Dr. T. Black, coordinator
- Mid-Careers Program in Urban Studies, Dr. E. W. Hanten, coordinator
- Peace Studies, Dr. W. Kuehl, director, Center for Peace Studies
- Planning City or Regional Resource Studies, Dr. A. Noble, Head, Department of Geography
- Professional Communication, Dr. J. Ceccio, Dr. J. Ceccio, chairman, coordinating committee
- Secretarial Science, Mrs. A. West, coordinator
- Soviet Area Studies, Dr. T. Mackiw, program coordinator, Soviet Area Studies

Afro-American Studies

Requirements

To satisfy the requirements for the certificate, a student must complete at least 11 semester credits and four courses with a minimum 2.00 GPA from the list of acceptable courses or other courses identified by the director. The following are required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1810.401</td>
<td>General Seminar in Afro-American Studies (a research paper in Afro-American Studies will be written in this course)</td>
<td>3</td>
</tr>
<tr>
<td>3400.220</td>
<td>Black People of the United States</td>
<td>3</td>
</tr>
</tbody>
</table>

Acceptable Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100.335</td>
<td>Eastern Civilizations - Africa</td>
<td>2</td>
</tr>
<tr>
<td>1810.401</td>
<td>General Seminar in Afro-American Studies</td>
<td>3</td>
</tr>
<tr>
<td>2020.254</td>
<td>The Black American</td>
<td>2</td>
</tr>
<tr>
<td>3250.414</td>
<td>Ghetto Economic Development</td>
<td>3</td>
</tr>
<tr>
<td>3300.350</td>
<td>Black American Literature</td>
<td>3</td>
</tr>
<tr>
<td>3300.389</td>
<td>United States Dialects: Black and White</td>
<td>3</td>
</tr>
<tr>
<td>3350.363</td>
<td>Africa South of the Sahara</td>
<td>3</td>
</tr>
<tr>
<td>3400.220</td>
<td>Black People of the United States</td>
<td>3</td>
</tr>
<tr>
<td>3400.413</td>
<td>Black Social and Intellectual History</td>
<td>3</td>
</tr>
<tr>
<td>3700.327</td>
<td>African Politics</td>
<td>3</td>
</tr>
<tr>
<td>3850.421/521</td>
<td>Racial and Cultural Intergroup Relations</td>
<td>3</td>
</tr>
<tr>
<td>7750.270</td>
<td>Poverty in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7750.276</td>
<td>Introduction to Social Welfare</td>
<td>4</td>
</tr>
<tr>
<td>7750.100</td>
<td>Minority Issues in Social Work</td>
<td>3</td>
</tr>
</tbody>
</table>

Research Paper

The research paper will be written under the direction of a faculty member most suitable to the area of concern of the student's research interest; shall be one semester in duration; and shall be approved by that faculty member. The director of Afro-American Studies, in consultation with the faculty member, will approve the topic for the research paper.

A student undertaking the Afro-American Studies Certificate Program must have prior consultation with the director of Afro-American Studies.

Cartographic Specialization

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 in order 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.

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.
Requirements

Core Courses

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>
<td>3</td>
</tr>
<tr>
<td>3350:340 Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350:442 Thematic Cartography</td>
<td>3</td>
</tr>
<tr>
<td>3350:444 Map Compilation and Reproduction</td>
<td>3</td>
</tr>
<tr>
<td>3350:447 Introduction to Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3350:448 Automatic Computer Mapping</td>
<td>3</td>
</tr>
<tr>
<td>3350:449 Advanced Remote Sensing</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective Courses

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 in order to cope with social, economic, political, geographical, physical design and governmental problems. Selection of courses which duplicate or continue topical interests already well established in a particular student’s background will be discouraged.

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 coursework 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 coursework completed specifically for the program. One week before the scheduled examination, the student submits samples of cartographic work.

The works must be acceptable by the examination committee and reduced photographic copies will be kept for permanent record in the laboratory’s file. After passing the oral examination and the acceptance of the samples of cartography, the student is considered to have completed the program.

A minimum grade of "C" is required in all elective courses taken as part of the certificate program. In the five core courses, an average grade of "B" is required.

Computer Physics Certificate

Any student completing the 56 credits of technical courses in physics, mathematics and computer science specified below will receive a formal certificate.

Technical Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:291.2 Elementary Classical Physics I, II</td>
<td>6</td>
</tr>
<tr>
<td>3350:301 Elementary Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>3350:410 Electrons</td>
<td>3</td>
</tr>
<tr>
<td>3350:411 Intermediate Laboratory I</td>
<td>2</td>
</tr>
<tr>
<td>3350:426 Electricity and Magnetism</td>
<td>3</td>
</tr>
<tr>
<td>3350:458 Laboratory Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3650:468 Digital Data Acquisition</td>
<td>2</td>
</tr>
</tbody>
</table>

Mathematics:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:221.2 Analytic Geometry-Calculus I, II, III</td>
<td>12</td>
</tr>
<tr>
<td>3450:235 Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>3450:427 Introduction to Numerical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3450:428 Numerical Linear Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

Computer Science, Engineering Computer Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460:210 Introduction to Computer Concepts</td>
<td>3</td>
</tr>
<tr>
<td>3460:316 Introduction to Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>3460:455 Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>3460:457 Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>4450:306 Assembler Programming</td>
<td>3</td>
</tr>
<tr>
<td>4450:206 Fortran (SCI/ENGR) or equivalent</td>
<td>2</td>
</tr>
<tr>
<td>4450:410 Computer Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

The certificate has been structured so as to be accessible to students working toward both the B.S. and B.A. degrees in physics. Contact program directors for specific requirements.

This certificate may also be earned by students working toward the B.S. in natural science. The major area of concentration would be physics, with one minor area in mathematics. The other minor area(s) could be computer science, engineering or another discipline.

Computer Science

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 three credits of mathematics in the Department of Mathematical Sciences and must submit to the director of the program a written request for admission to the program. The request will outline the student’s reasons and goals for enrolling in the program. A student undertaking the program must have prior consultation with the director. The area of concentration adds a further dimension of both mathematics and computer science to the student’s major in one of the traditional academic disciplines.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460:201 Introduction to Fortran Programming</td>
<td>1</td>
</tr>
<tr>
<td>4450:206 Fortran (Science and Engineering)</td>
<td>2</td>
</tr>
</tbody>
</table>
This certificate program represents a concentration 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7100.121 Three-Dimensional Design</td>
<td>3</td>
</tr>
<tr>
<td>7100.244 Color Concepts</td>
<td>3</td>
</tr>
<tr>
<td>7100.292 Architectural Previewsations</td>
<td>3</td>
</tr>
<tr>
<td>7400.333 Applied Home Furnishings</td>
<td>3</td>
</tr>
<tr>
<td>7400.334 Interior Design II</td>
<td>3</td>
</tr>
<tr>
<td>7400.335 Fundamentals of Buying Home Furnishings</td>
<td>3</td>
</tr>
</tbody>
</table>

**Environmental Studies**

**Requirements**

To qualify for the certificate program, a student must be in good academic standing with the major department and submit to the director a written request for admission. The request will outline the student's reasons and goals for enrolling in the program.

The student will take a minimum of six courses from a list approved by the committee on environmental studies. Two of these courses will be:

- 1830.201 Man and the Environment 2
- 1830.401 Seminar in Environmental Studies 2

The student will be required to select courses from areas other than the major since the purpose of the program is to broaden the student's background. It is expected that courses from at least two disciplines will be selected.

The student's plan of study for this certificate will be developed in consultation with an environmental studies adviser, the adviser, if other than the environmental studies director, will be approved by the director.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830.201 Man and the Environment</td>
<td>2</td>
</tr>
<tr>
<td>1830.401 Seminar in Environmental Studies</td>
<td>2</td>
</tr>
<tr>
<td>3100.103 Ecology and Biological Resources</td>
<td>2</td>
</tr>
<tr>
<td>3109.217 General Ecology</td>
<td>2</td>
</tr>
<tr>
<td>3109.42/522 Conservation of Biological Resources</td>
<td>1</td>
</tr>
<tr>
<td>3109.524 Limnology</td>
<td>3</td>
</tr>
<tr>
<td>3109.416/526 Applied Aquatic Ecology</td>
<td>3</td>
</tr>
<tr>
<td>3250.385 Economics: Natural Resources and Environment</td>
<td>3</td>
</tr>
<tr>
<td>3290.31/420 Climatology</td>
<td>3</td>
</tr>
<tr>
<td>3550.335 Recreational Resource Planning</td>
<td>3</td>
</tr>
<tr>
<td>3550.436/536 Urban Land Use Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3550.447/547 Introduction to Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>3550.495/595 Soil and Water Field Studies</td>
<td>3</td>
</tr>
<tr>
<td>3550.200 Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>3570.474/574 Ground Water Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>3570.678 Urban Geology</td>
<td>3</td>
</tr>
<tr>
<td>3400.434/534 American Environmental History</td>
<td>3</td>
</tr>
<tr>
<td>3550.321 Population</td>
<td>3</td>
</tr>
<tr>
<td>3550.425/525 Sociology of Human Life</td>
<td>3</td>
</tr>
<tr>
<td>4100.201 Energy and Environment</td>
<td>2</td>
</tr>
<tr>
<td>4100.202 Atmosphere Pollution</td>
<td>2</td>
</tr>
<tr>
<td>4200.463/563 Pollution Control</td>
<td>3</td>
</tr>
<tr>
<td>4300.421 Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>4200.425 Environmental Engineering Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>5600.491/531 Workshop, Arithmetic or in Physical Science</td>
<td>3</td>
</tr>
</tbody>
</table>

**Latin American Studies**

**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:**
- 3700.415 Latin American Politics 3

**History:**
- 3400.415/515 Latin America National Origins 3
- 3400.416/516 Latin America Twentieth Century 3
- 3400.417/517 United States, Latin America and Imperialism 3
- 3400.418/518 Mexico 3

**Geography:**
- 3550.135 Latin America 3

**Sociology (Anthropology):**
- 3870.207 Indians of South America 3
- 3870.306 New World Prehistory 3

**Economics:**
- 3250.410 Economic Development and Planning for Underdeveloped Countries 3

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

**Linguistic Studies**

**Requirements**

Completion of six linguistically-oriented courses as follows: the foundation course, two core courses and at least three electives.

*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 textiles and/or graphic design.
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**

- Introduction to Linguistics (3 credits)
- Intermediate Linguistics (3 credits)
- Philosophy of Language (3 credits)
- Language and Culture (3 credits)
- Speech and Language Development (3 credits)
- Aspects of Normal Language Development (3 credits)

**Core Courses**

- Special Topics (any linguistically-oriented course offered under this number, e.g., United States Districts: Black and White) (3 credits)
- Anglo Saxon (3 credits)
- History of the English Language (3 credits)
- Artificial Intelligence and Heuristics Programming (3 credits)
- Automata, Computability and Formal Language (3 credits)
- Linguistics (Spanish) (3 credits)
- Introduction to Logic (3 credits)
- Symbolic Logic (3 credits)
- Analytic Philosophy (3 credits)
- Introduction to Metaphysics (3 credits)
- Teaching of Language Arts (5 credits)
- Multicultural Education in the United States (3 credits)
- Intercultural Communication (2 credits)
- Survey of Speech Communication (3 credits)
- Introduction to Phonetics (2 credits)
- Language of Signs I (3 credits)

**Electives**

- Sign Language, Gesture and Mime (3 credits)
- Manual Communication I (5 credits)
- Introduction to Audiology/Aural Rehabilitation (3 credits)
- Manual Communication II (4 credits)
- Manual Communication III (4 credits)
- Introduction to the Deaf Culture and Its Origins (2 credits)
- Language of Signs (3 credits)

**Psychosocial Aspects of Deafness**

**Speech and Language of the Deaf Child and Adult**

---

**Manual Communication**

**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.

**Required Courses**

- Sign Language, Gesture and Mime (3 credits)
- Manual Communication I (5 credits)
- Introduction to Audiology/Aural Rehabilitation (3 credits)
- Manual Communication II (4 credits)
- Manual Communication III (4 credits)
- Introduction to the Deaf Culture and Its Origins (2 credits)
- Language of Signs (3 credits)

**Electives**

- Psychosocial Aspects of Deafness (3 credits)
- Speech and Language of the Deaf Child and Adult (4 credits)

---

**Peace Studies**

**Requirements**

To satisfy the requirements for a certificate in peace studies, an undergraduate student at The University of Akron must complete at least 15 credits from the list of acceptable courses. These must be distributed so that work will be included from three separate departments. The student will major in one of the traditional disciplines, but the area concentration is meant to add a further dimension of depth through concentrated work focusing on peace studies. Where specialized training is relevant to a particular student's interest, alternatives to those on the list of acceptable courses may be approved by the director.

A paper or project is to be completed in conjunction with one of the 300/400-level courses chosen and in consultation with the instructor involved. The student undertaking the Peace Studies Certificate Program must have prior consultation with the director of the Center for Peace Studies.

The following two courses are required for everyone in the program:

- Value Concepts on Peace and War (3 credits)
- Peace, War and Mankind (3 credits)

**Courses**

- Special Topics in Peace Studies (1-3 credits)
- Value Concepts on Peace and War (3 credits)
- Independent Study in Peace Studies (1-3 credits)
- Human Rights Concepts (3 credits)
- Workshop on Peace Studies (1-3 credits)
- Comparative Economic Systems (3 credits)
- Economic Development and Planning for Underdeveloped Countries (3 credits)
- Principles of International Economics (3 credits)
- Seminar in Twentieth Century Literature and History (3 credits)
- Introduction to Geography (3 credits)
- Peace, War and Mankind (3 credits)
- Diplomatic History of the United States, 1776-1919 (3 credits)
- Diplomatic History of the United States, 1914-present (3 credits)
- United States-Latin American Relations (3 credits)
- War and Western Civilization (3 credits)
- American Foreign Policy Process and Problems (3 credits)
- International Politics and Institutions (4 credits)
- Comparative Foreign Policy (4 credits)
- Cultural Anthropology (4 credits)
- International Marketing (3 credits)

---

**Planning with an Emphasis on City or Regional Resource Studies**

This program is intended to enhance understanding of the planning function and to increase the research and analytical abilities of the person preparing for work in, or who is currently engaged in, city, urban, regional, environmental and resource planning. The program is open to the undergraduate, as well as a person with a baccalaureate degree, employed in local agencies doing related work, e.g., urban renewal, community redevelopment, community action, environmental protection, etc.
and private industry. The person with a degree can enroll as a postbaccalaureate or special student.

Requirements
- 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

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. These 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 in order to cope with social, geographical, physical design, economical and governmental problems. Selection of courses which duplicate or continue interests already well established in a student's background will be discouraged.

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
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.

Secrctarial Science

Administrative Secretarial

Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:396 Professional Writing I</td>
<td>3</td>
</tr>
<tr>
<td>3300:391 Professional Writing II</td>
<td>3</td>
</tr>
<tr>
<td>7600:309 Publications Production</td>
<td>3</td>
</tr>
<tr>
<td>7600:345 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.

Secretarial Science

Administrative Secretarial

Requirements
The administrative secretarial program provides intensive administrative secretarial training in two 15-week semesters. It is designed for the individual who has completed at least two years of college and who wishes to add administrative secretarial skills to enhance career opportunities. Training is provided to type at 50-65 net words-a-minute and to transcribe accurately business correspondence dictated at 70-90 net words-a-minute. The student will develop effective letter writing ability, use new office machines and correlate secretarial skills and administrative ability.

To enroll in this option, a student must have completed at least two years of college.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2420:211 Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>2540:121 Office Problems</td>
<td>3</td>
</tr>
<tr>
<td>2540:125 Business Machines</td>
<td>2</td>
</tr>
<tr>
<td>2540:151 Intermediate Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>2540:241 Information Management</td>
<td>3</td>
</tr>
<tr>
<td>2540:263 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>2540:286 Keyboarding on Word Processing Equipment</td>
<td>3</td>
</tr>
</tbody>
</table>

Administrative Secretarial Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2420:103 Role of Supervision in Management</td>
<td>3</td>
</tr>
<tr>
<td>2540:150 Beginning Typing</td>
<td>3</td>
</tr>
<tr>
<td>2540:171 Shorthand Principles</td>
<td>4</td>
</tr>
<tr>
<td>2540:173 Shorthand and Transcription</td>
<td>4</td>
</tr>
</tbody>
</table>
**Word Processing**

**Requirements**

The word processing option is designed to enable the student who has some beginning typing skills to prepare for an entry-level job in word processing. The program is a study of the applied use of word processing procedures and equipment in a simulated word processing office environment. The total work flow of office communications will be covered from input through output. Using automated typewriting equipment, the student will produce office documents from machine transcription, handwritten copy, and typewritten copy. All courses taken may be applied toward an associate degree in secretarial science.

**Courses**

<table>
<thead>
<tr>
<th>Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2420:211 Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>2440:121 Office Problems</td>
<td>3</td>
</tr>
<tr>
<td>2440:125 Business Machines</td>
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</tr>
<tr>
<td>2440:241 Information Management</td>
<td>3</td>
</tr>
<tr>
<td>2440:263 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>2440:286 Keyboarding on Word Processing Equipment</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 20

**Soviet Area Studies**

**Requirements**

The student in this program will major in the respective disciplines (economics, geography, history, philosophy, political science and Russian).

In addition to the requirements for the major, the student will take 12 credits in three or more separate disciplines with a concentration in the area of Soviet studies.

**Economics:**
3250:450 Comparative Economic Systems 3

**Geography:**
3350:358 USSR 3

**History:**
3400:458/558 Russia to 1801 3
3400:459/559 Russia since 1851 3

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

**Russian:**
Three years of study or the equivalent

**Life-Span Development: Adulthood and Aging**

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 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 curtily through the director of the institute that all requirements for the certificate have been completed.

**Admission**

To participate in the program, a student should:
- be formally admitted to The University of Akron as an associate, undergraduate, post-baccalaureate or graduate student;
- receive permission from the faculty advisor;
- have an interview with a designated graduate faculty member of the Institute for Life-Span Development and Gerontology, and;
- make formal application to the program.

**Program**

**Graduate**

**Required courses:**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1650:680 Interdisciplinary Seminar in Life-Span Development and Gerontology 1</td>
</tr>
<tr>
<td>1850:695 Practicum/Internship 3</td>
</tr>
</tbody>
</table>

**Electives**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:686 Research in the Biology of Aging 3</td>
</tr>
<tr>
<td>3750:620 Methods and Theories of Human Development 4</td>
</tr>
<tr>
<td>3750:727 Psychology of Adulthood and Aging 4</td>
</tr>
<tr>
<td>3850:676 Social Gerontology 3</td>
</tr>
<tr>
<td>3980:620 Social Services Planning 3</td>
</tr>
<tr>
<td>3980:681 Special Topics in Urban Gerontology 3</td>
</tr>
<tr>
<td>5400:541 Professional Orientation Seminar 3</td>
</tr>
<tr>
<td>5400:661 Current Issues in Higher Education: Life-Span and Community Education 2</td>
</tr>
<tr>
<td>7400:603 Family, Middle and Later Years 2</td>
</tr>
<tr>
<td>7700:583 Communication Disorders: Geriatric Population 3</td>
</tr>
<tr>
<td>7750:550 Social Needs and Services: Aging 3</td>
</tr>
<tr>
<td>8200:589 A Survey of Health Care and the Aged 3</td>
</tr>
</tbody>
</table>

**Undergraduate**

**Required courses:**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850:450 Interdisciplinary Seminar in Life-Span Development and Gerontology (to be repeated two times at one credit each) 2</td>
</tr>
<tr>
<td>1850:495 Practicum/Internship (within institute and personal department) 2</td>
</tr>
<tr>
<td>3100:195 Biology of Aging 3</td>
</tr>
<tr>
<td>5550:300 Physiology of Exercise for the Adult and Elderly 3</td>
</tr>
</tbody>
</table>

**Electives**

Two of the following:
3750:460 Special Topics: Adulthood and Aging 3

*Twelve credit minimum.

**Seventeen credit minimum.

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

To participate in the program, the student must:

- be formally admitted to The University of Akron as an undergraduate seeking a baccalaureate degree or as a postbaccalaureate student;
- make written application to the program after consulting a representative of the major department;
- receive notification of admission from the director of the institute, and;
- have an interview with a faculty member to formulate program. The faculty member thus designated will continue to act as the student's certificate program adviser until the student has completed the program.

Program

Requirements

Minimum credits: 18 credits.

Required courses:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850:300</td>
<td>Perspectives on Gender Identity and Roles</td>
<td>3</td>
</tr>
<tr>
<td>1850:493</td>
<td>Independent Study in Gender Identity and Roles</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: 12 credits

No more than four credits can come from a single department including the student's major department. Only one course of 200-level work will be permitted for elective credit toward the certificate. Only two workshops will be permitted for elective credit toward the certificate. A course not included in the suggested list may be used for elective credit if the course is appropriate and if the student obtains prior approval from the faculty adviser and the Curriculum Committee of the Institute for Life-Span Development and Gerontology.

Public Policy

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 if they have been admitted to graduate study as special, non-degree students in the department 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:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:541 The Policy Process</td>
<td>3</td>
</tr>
<tr>
<td>or 3700:670 Seminar in the Administrative Process</td>
<td>3</td>
</tr>
</tbody>
</table>

Four courses from the areas listed below (one course must be in economics and one in sociology):

**Economics:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:531 Labor and Government</td>
<td>3</td>
</tr>
<tr>
<td>3250:606 Public Finance</td>
<td>3</td>
</tr>
<tr>
<td>3250:616 Economics of Regulation</td>
<td>3</td>
</tr>
<tr>
<td>3250:617 Anti-Trust Economics</td>
<td>3</td>
</tr>
<tr>
<td>3250:630 Labor Law</td>
<td>3</td>
</tr>
<tr>
<td>3250:660 Seminar in Regional Economics Analysis and Development</td>
<td>3</td>
</tr>
<tr>
<td>3250:663 Seminar in Economic Planning</td>
<td>3</td>
</tr>
<tr>
<td>3250:683 Monetary Theory and Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Political Science:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:515 Comparative Foreign Policy</td>
<td>3</td>
</tr>
<tr>
<td>3700:561 The Supreme Court and Constitutional Law</td>
<td>4</td>
</tr>
<tr>
<td>3700:580 Urban Policy Problems</td>
<td>3</td>
</tr>
<tr>
<td>3700:610 Seminar in International Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:641 Seminar in Intergovernmental Relations</td>
<td>3</td>
</tr>
<tr>
<td>3700:660 Seminar in Civil Liberties and the Judicial Process</td>
<td>3</td>
</tr>
<tr>
<td>3700:680 Seminar in Urban and Regional Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Sociology:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3850:645 Social Organization</td>
<td>3</td>
</tr>
<tr>
<td>3850:646 Social Stratification</td>
<td>3</td>
</tr>
<tr>
<td>3850:648 Complex Organizations</td>
<td>3</td>
</tr>
<tr>
<td>3850:649 Sociology of Work</td>
<td>3</td>
</tr>
<tr>
<td>3850:679 Political Sociology</td>
<td>3</td>
</tr>
<tr>
<td>3850:686 Population</td>
<td>3</td>
</tr>
<tr>
<td>3850:687 Social Change</td>
<td>3</td>
</tr>
<tr>
<td>3850:708 Advanced Techniques in Research</td>
<td>1-3</td>
</tr>
<tr>
<td>3850:747 Urban Sociology</td>
<td>3</td>
</tr>
<tr>
<td>3850:750 Research in Community and Area Problems</td>
<td>3</td>
</tr>
</tbody>
</table>

The student must successfully complete an interdisciplinary seminar in public policy. Each student shall write and present a paper dealing with public policy during the seminar. Faculty members and other persons who have a knowledge of the policy-making process shall make appropriate presentations regarding the formulation and implementation of public policy.

All persons enrolled in the Graduate Certificate Program in Public Policy must successfully complete 3750:791 Internship in Political Science, a course which will permit a student to gain experience working with public officials, government agencies, political parties or interest groups. A student will normally enroll in this course after having completed at least 12 semester credits of work relating to public policy. A person with extensive administrative or governmental experience may be permitted, with the approval of the student's adviser, to substitute another course dealing with public policy in place of the Internship in Political Science.

At least two-thirds of the credits earned for this certificate must be in 600- or 700-level courses. No more than three courses in which the student enrolls of the seven required for the Graduate Certificate in Public Policy, may also apply toward meeting requirements for a graduate degree at The University of Akron.

The student must maintain at least a "B" (3.00) average in coursework for the certificate.

---

**Mid-Careers Program in Urban Studies**

The program will require the completion of 16 graduate credits in a single area or in several areas in the urban field. Upon the completion of the program, a certificate will be granted.

**Admission**

A student must satisfy the requirements for entrance in graduate programs or have a bachelor's degree and the equivalent of five years' experience in a professional, administrative or leadership position, in which case the student shall be admitted as a special non-degree student. A student may wish to pursue additional electives. However, a student admitted to this program will be limited to 20 credits. If the student wishes to pursue more than 20 credits, the student must be admitted to the M.A. program in urban studies.

**Program**

The Mid-Careers Certificate Program in Urban Studies will require the successful completion of a plan of study which must include a minimum of 16 credits of work in existing courses offered by the Department of Urban Studies. The core program and areas of study are listed below. Electives will be chosen in consultation with the 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>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:600 Basic Analytical Research*</td>
<td>3</td>
</tr>
<tr>
<td>or 3980:601 Advanced Research and Statistical Methods*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Options**

**Urban Public Administration**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980:611 Urban Administration</td>
<td>4</td>
</tr>
<tr>
<td>3980:640 Fiscal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3980:661 Urban Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Electives(s)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Urban Research Methods**

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

*Both required in Urban Research Methods option.
Higher Education

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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>S100.703</td>
<td>Seminar: History and Philosophy of Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>5900.700</td>
<td>Introductory Administrative Colloquium in Higher Education</td>
<td>1</td>
</tr>
<tr>
<td>5900.800</td>
<td>Advanced Administrative Colloquium in Higher Education</td>
<td>1</td>
</tr>
<tr>
<td>5900.801.2</td>
<td>Internship and Fieldwork Seminar</td>
<td>2</td>
</tr>
</tbody>
</table>

Internship and coursework to support concentration and bring 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)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5700.704</td>
<td>Administrative Organization in Education (A)</td>
<td>2</td>
</tr>
<tr>
<td>5900.715</td>
<td>Seminar in Higher Education Administration in Higher Education (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

Student Services in Higher Education (II)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600.843</td>
<td>Counseling and Personnel Services in Higher Education (A)</td>
<td>2</td>
</tr>
<tr>
<td>5600.725</td>
<td>Seminar in Higher Education: Student Services (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5600.730</td>
<td>Higher Education Curriculum and Program Planning (A)</td>
<td>3</td>
</tr>
<tr>
<td>5900.735</td>
<td>Instructional Strategies and Techniques for the College Instructor (B)</td>
<td>3</td>
</tr>
<tr>
<td>5700.710</td>
<td>Principles of Curriculum Development (B)</td>
<td>3</td>
</tr>
</tbody>
</table>
Evening College and Summer Sessions

Caesar A. Carrino, Ph.D., Dean
Elmore J. Houston, M.A., Assistant to the 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 coursework.

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 — some 7,500 strong.

Evening Student Council coordinates the extracurricular activities of the Evening College, which are similar to those of the day college and sometimes are part of the daytime activities. Organizations established for 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.

Summer Sessions

The Summer Sessions reemphasizes the urban nature and mission of The University of Akron and the total involvement with our community. Curricular patterns reflect the vibrant interaction between “Town and Gown.”

Summer study satisfies a myriad of student appetites and needs: 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 over 18,000 students, young and old, local and commuting, at all stages from noncredit vocational courses to the professional and Ph.D. levels. Faculty, students, administration and the community each contribute talents and resources to further the dynamics of the academic and cultural process.
Graduate School

Alan N. Gent, Ph.D., Dean of Graduate Studies and Research
Joseph M. Walton, Ph.D., Associate Dean of Graduate Studies and Research
John E. Muhauser, M.A., J.D., Associate Director of Research and Sponsored Programs

Objectives

The purpose of the Graduate School is to provide a quality program of education by the following means:

- Advanced courses in various fields of knowledge beyond the baccalaureate level
- Opportunities to develop and apply research techniques and to use the resources appropriate to various graduate programs
- Advancement of student’s knowledge for the benefit of mankind through the efforts of its faculty and students.

Nature of Graduate Education

The Graduate School provides a qualified student with education which may be required for the full development of scholarly and professional capacities, subject to the criteria developed by graduate departments.

Graduate education involves the extension of knowledge. However, it is by no means a mere continuation of undergraduate study. At its best, graduate education is characterized by an able and enthusiastic advanced student who joins faculty leaders to form a community of scholars dedicated to the common pursuit of truth. Critical analysis, independence of thought, originality of method, intensity of purpose, freedom from bias, thoroughness of inquiry, keenness of perception and vital creativity combine to produce in the successful student both the professional competence and the breadth of understanding essential to leadership in many areas of human endeavor.

History of the Graduate School

Graduate study began a few years after Buchtel College opened its doors, and the first earned master’s degree was conferred in 1882. The College of Education awarded its first master’s degree in 1924, the Colleges of Engineering and Business Administration in 1959, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1970. 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 1956. Professor Charles Bulger was appointed first dean of Graduate Work in 1933, and he continued in that capacity until 1955. Professor Ernest H. Cherrington, Jr. served as director of Graduate Studies from 1955 to 1960 and as dean of the Graduate Division from its establishment in 1960 to 1967. Dr. Arthur K. Brintnall was appointed dean of Graduate Studies and Research in 1967, being succeeded in 1968 by Dr. Edwin L. Lively. Dr. Claibourne E. Griffin succeeded Dr. Lively in 1974 and served in that capacity until 1977. 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 is now dean of Graduate Studies and Research.

The administrative functions of the Graduate School include establishment of suitable entrance requirements, admission of qualified students, maintenance of high-quality instruction and approval of graduation requirements for advanced degrees.

Graduate Programs

A qualified student who has completed the baccalaureate program with sufficiently high grades may continue studies through the University’s Graduate School in a program leading to the master’s degree as well as to the doctor’s 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, 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 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, 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*  

*An exclusive listing of graduate faculty and Graduate Council can be found in the "Directory" of the Graduate Bulletin.
Admission credit must be first admitted or approved by the Graduate Applications. Every person who desires to enroll in or audit any graduate credit 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 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 payable to The University of Akron.

An official transcript from each college or university attended must also be received by the Graduate School before the application will be processed. This applies to the complete academic record, both undergraduate and graduate. Transcripts should be sent from the institutions attended directly to the Graduate School. The applicant is responsible for seeing that the above conditions are met by the deadlines for filing of application.

All records, including academic records from other institutions, become part of the official file and cannot be returned for any purpose.

An offer of admission will normally be made to an applicant who meets all admission requirements. However, it must be recognized that staff, facilities and other resources are limited, so the number of students accepted will vary among departments and from term to term. An accepted applicant may begin graduate work in the fall, spring or summer semester. The offer of admission is void, however, if the applicant does not register for courses within two years from the time of admission. An individual whose offer of admission has lapsed must submit a new application to be reconsidered.

The student is admitted only if the purpose or objective stated on the application for admission. A new request for admission must be filed when the original objective has been attained or when the student wishes to change objectives. The admitted status terminates when the time limits have been exceeded or other conditions for continued admitted status have not been met.

No student will be admitted without approval and acceptance by a department within the University, but admission to a department does not necessarily imply admission to or candidacy for any graduate degree program in that department. Admission for graduate study in any program can only be granted by the dean of Graduate Studies and Research and staff.

Classification

A student is identified by the Graduate School as being in one of the following categories. Any change must be arranged through the Graduate School.

• Full Admission may be given to any applicant who desires to pursue a graduate degree and has a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.75 or better or 3.00 for the last two years (64 semester credits or equivalent), or holds an advanced degree from an accredited college or university in or appropriate to the intended field, or holds a baccalaureate or master's degree from a foreign college or university with first class standing or its equivalent, plus satisfactory evidence of competence in English. 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...
s嬗he 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; in some cases, it 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.

- **Transit 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 semester specified. A maximum of 10 semester credits is allowable, and subject to the approval of the instructor, department head and Graduate School. A transit student is subject to the same rules and regulations as a regularly enrolled student of the University.

- **Undergraduate status is for an undergraduate student at the University who may be granted permission to take one or more graduate-level courses if all the following conditions are met:**
  - Senior standing;
  - overall grade-point average of 2.75 or better through preceding term (if a student does not have a 3.00 or better in the major field, special justification will be required);
  - written approval is given by the instructor of the course and the student’s advisor.

  These courses may later be applied to a degree program if not used to satisfy baccalaureate degree requirements. The maximum number of graduate credits that may be taken by an undergraduate and applied later toward a graduate degree is 12.

- **Post-Doctoral 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 sponsoring contract for any courses the fellow may choose to take;
  - a Special is a person holding an earned doctor's degree who desires an additional graduate degree. A special may be admitted to any program upon submission of application forms, application fee (if new student) and an official transcript from the institution awarding the doctorate. This student will be treated as a regular student subject to registration fees and program degree requirements;
  - a Guest is a person holding an earned doctorate who desires to attend courses and seminars relevant to individual work or interests without registering or receiving grades. A written application should be submitted to the dean of Graduate Studies and Research for each course taken, and approval of the instructor, department head and college dean shall be obtained. A guest is welcome to any course or seminar provided space is available. Normally, space and facilities for research cannot be provided for a post-doctoral guest but special requests will be considered. Requests should be submitted in writing to the dean of Graduate Studies and Research who will review such requests with the appropriate college dean and department head.

**Standards: International Students**

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.

An entering graduate student from a country other than the United States and one in which English is not the major language in daily life is required to demonstrate high-level competence in the use of the English language, including reading, writing, speaking and listening. This competence can best be established by achieving a score of at least 550 on the TOEFL (the Test of English as a Foreign Language) and submitting by June 1 for September admission. Applicants should make arrangements to take the test as soon as study at The University of Akron is anticipated (TOEFL is administered by Educational Testing Service, Box 899, Princeton, NJ 08540, USA). If the TOEFL is not available, the applicant should contact the international student adviser, The University of Akron, for other arrangements. Personal letters certifying English competence are not acceptable as substitutes for test scores.

The completion of an English placement test after admittance will also be required. Based on the results of this test, a student may be required to take an English language course for credit.

An international student, coming to The University of Akron in good standing from an accredited American college or university, may have the English proficiency requirement waived upon written request.

**Non-Accredited American School Graduates**

A student holding a baccalaureate degree from a non-accredited American college or university, if otherwise qualified, is normally required to complete at least 10 semester credits of postbaccalaureate work at a 3.00 level before being considered for admission to the Graduate School. The accreditation status of the school at the time of the student’s graduation shall apply. A student should consult with the department head in the major field to develop a postbaccalaureate program.

**Grades**

A student admitted to graduate study under any status at The University of Akron is expected to maintain a minimum 3.00 average (4.00 = "A") at all times. A grade-point average of 3.00 or better is required for graduation. Any student whose average falls below 3.00 is no longer in good standing in the Graduate School and considered on probation. 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 reenrolled for one calendar year and then only if evidence for expecting improved performance is submitted and found acceptable.
Official academic records are maintained with a grade-point system as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>A+</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
<td>Grad Course Only</td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>D-</td>
<td>0.0</td>
<td>Grad Course Only</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td>Failure</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 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 coursework during the term because the nature of the course does not permit completion within a single term, such as work toward a thesis.
- PI — Permanent Incomplete: Indicates that the student’s instructor and the instructor’s dean have for special reason authorized the change of an incomplete ("I") to a permanent incomplete ("PI").
- W — Withdraw: Indicates that the student registered for the course but withdrew officially sometime after the second week of the term.
- NGR — No Grade Reported: Indicates that, at the time grades were processed for the present issue of the record, no grade had been reported by the instructor.
- INV — Invalid: Indicates the grade reported by the instructor for the course was improperly noted and thus unacceptable for proper processing.

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.

*If instructors wish to extend the "I" grade beyond the following sem 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 termination. It is the responsibility of the student to make arrangements to make up the incomplete work. The faculty member should submit the new grade to the Office of the Registrar in writing.

Course Load

A full load of coursework at the graduate level is normally 9-15 semester credits including audit.

Registration

The responsibility for being properly registered lies with the student, who should consult with the assigned advisor in preparing a program of courses and/or research. A schedule of courses, hours, class location and registration procedures is obtainable from the registrar.

Entrance Qualifying Examinations

The use of examinations to determine admissibility to enter a graduate program or eligibility to continue in one is the prerogative of the departments offering graduate programs. The department has the right to select the examination and minimum acceptable level of performance. Information and procedure may be obtained from the head of the appropriate department.

Fees

All fees reflect changes in 1983-84 and are subject to change without notice.

<table>
<thead>
<tr>
<th>Fee Description</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Fee</td>
<td>$25</td>
</tr>
<tr>
<td>Tuition Fees</td>
<td></td>
</tr>
<tr>
<td>Resident student per credit</td>
<td>64</td>
</tr>
<tr>
<td>Non-resident student per credit</td>
<td>111</td>
</tr>
<tr>
<td>(auditors pay same fees)</td>
<td></td>
</tr>
<tr>
<td>General Fee</td>
<td></td>
</tr>
<tr>
<td>1-14 credits per semester</td>
<td>5.00 per credit</td>
</tr>
<tr>
<td>14 credits and over per semester</td>
<td>70.00 per semester</td>
</tr>
<tr>
<td>Parking Permit Fee</td>
<td></td>
</tr>
<tr>
<td>9 or more credits per semester</td>
<td>30</td>
</tr>
<tr>
<td>8 or fewer credits per semester</td>
<td>15</td>
</tr>
<tr>
<td>Workshop participants</td>
<td>10</td>
</tr>
<tr>
<td>Graduate Fees</td>
<td></td>
</tr>
<tr>
<td>Each degree</td>
<td>25</td>
</tr>
<tr>
<td>In-absentia (additional)</td>
<td>5</td>
</tr>
<tr>
<td>Thesis and binding</td>
<td></td>
</tr>
<tr>
<td>(payable at time of application for degree)</td>
<td>9</td>
</tr>
<tr>
<td>binding per volume</td>
<td></td>
</tr>
<tr>
<td>Microfilming (Ph.D. only)</td>
<td></td>
</tr>
<tr>
<td>(payable at time of application for degree)</td>
<td>48</td>
</tr>
<tr>
<td>Course schedule change fee (for each schedule change term processed)</td>
<td>10</td>
</tr>
<tr>
<td>Transcripts (if more than one transcript of a student’s academic record is ordered by a student at one time, the fee shall be $3 for the first transcript and $1 for each additional one)</td>
<td>3</td>
</tr>
<tr>
<td>Late Registration Fee</td>
<td>25</td>
</tr>
</tbody>
</table>

Refunds

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

**Fees Subject to Refund**

- Instructional and nonresident surcharge.
- General fee.
- Parking (only if permit is returned).
- Student teaching.
- Laboratory breakage and late service deposit.

**Amount of Refund**

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

- **In full**
  - if the University cancels the course;
  - if the University does not permit the student to enroll or continue;
  - if the student dies before or during the term or is drafted into military service by the United States; or if the student enlisted in the National Guard or Reserves prior to the beginning of the term called to active duty, presents notice of induction or orders to active duty. A student who enlists voluntarily for active duty 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 designated official withdrawal from all credit courses on or before the second day of the term.
  - if the student requests in writing to the dean or designated official withdrawal after the second day of the fall or spring semesters, the following refund percentages apply:
    - 3 through 12 calendar days* - 70%
    - 13 through 24 calendar days* - 50%
    - 25 through 33 calendar days* - 30%
    - Thereafter - 0%
  - if the student requests in writing to the dean or designated official withdrawal after the second day of any summer session, the following refund percentages apply:
    - 3 through 7 calendar days* - 60%
    - 8 through 15 calendar days* - 40%
    - Thereafter - 0%

- Refunds for course sections which have not been scheduled consistent with either the standard 15-week fall/spring semester or the five-week summer term scheduling pattern will be handled on a pro rata basis according to the number of days the section (class, institute or workshop) has been attended compared to the number of days said section has been scheduled to meet.

- Refunds will be determined as of the date of formal withdrawal unless proof is submitted that circumstances beyond control of the student prevented the 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.

**Commencement**

A student earning a graduate degree is expected to participate in the Commencement exercises. A degree candidate who has

*If the 3rd, 4th, 12th, 15th, 22nd, 24th, or 33rd day falls on Friday, Saturday or a holiday, the deadline will become the next business day.

---

**Financial Assistance**

The University awards a number of graduate assistantships to qualified students. Assistantships are normally awarded for up to two years of master's study and up to four years of doctoral degree study. These assistantships provide a stipend of $4,000 — $6,150 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 $10,000. 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 advisor 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 coursework 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 advisor 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 coursework 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 400-numbered courses previously taken at the 400-number course level as an undergraduate without advance approval from the dean of Graduate Studies and Research.

Transfer

Up to one-third of the total graduate credits required may be transferred from an accredited college or university. All transfer credit must be at the "A" or "B" level in graduate courses. The credits must be relevant to the student's program and fall within the six-year time limit. A University of Akron student must receive prior approval for transfer courses taken elsewhere.

A student seeking to transfer credits must have full admission and be in good standing at The University of Akron and the school in which the credits were achieved. Transfer credit shall not be recorded until a student has completed 12 semester credits at The University of Akron with a grade-point average of 3.00 or better.

Optional Department Requirements

Each department may set special requirements with regard to entrance examinations, qualifying examinations, foreign language required courses and thesis. Details are available from the head of the major department.

Advancement to Candidacy

A student should apply for Advancement to Candidacy after completion of one-half of the credits required for the degree in the student's program, but no later than September 15 for the May Commencement. A January degree conferral process is available for those students who complete degree requirements by the end of the fall semester and do not wish to participate in the May Commencement ceremony. If January conferral is elected, the Advancement to Candidacy form must be submitted no later than May 15.

Advancement to Candidacy forms are available in the Graduate School or from the department head. Advancement to candidacy will not be granted to a student who is not in good standing.

Graduation

To be cleared for graduation, a candidate must have completed coursework with a minimum average of 3.00; have been advanced to candidacy; filed an application for graduation with the registrar; paid all applicable fees; and met any other department and University requirements applicable.

If a thesis is required, two copies, properly prepared, are due in the Graduate School at least two weeks prior to commencement. These copies must be signed by the adviser, faculty reader, department head and college dean prior to submission to the dean of Graduate Studies and Research. A manual entitled "Preparing a Thesis or Dissertation" is available in the Graduate School and all copies of the thesis must conform to these instructions.

Doctoral Degree Requirements*

A master's degree is not a prerequisite for the doctorate; however, the first year of study after the baccalaureate will be substantially the same for both the master's and doctoral student. No specific number or sequence of courses constitutes a doctoral program or assures attainment of the degree. A formal degree program consists of a combination of courses, seminars and individual study and research that meet the minimum requirements of the Graduate School and those of the committee for each individual student.

Admission

Normally, 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 ten consecutive weeks of full-time study and for a minimum of six semester credits per five-week session. Programs vary in their requirements beyond the minimum, e.g., credits or courses to be completed. Proper time to fulfill the residence requirement and acceptability of part-time employment.

Before a doctoral student begins residency, the student's adviser and the student shall prepare a statement indicating the manner in which the residence requirement will be met. Any special conditions must be detailed and will require the approval of the student's committee, the departmental faculty members approved to direct doctoral dissertations, the college dean and the dean of Graduate Studies and Research.

Time Limit

All doctoral requirements must be completed within 10 years of starting coursework at The University of Akron or elsewhere. This refers to graduate work after receipt of a master's degree.

*The doctoral program in engineering is an interdisciplinary program offered on a collegiate basis. In the descriptions of University doctoral degree requirements on the following pages, citations of department or departmental faculty should be interpreted as citations of college or collegiate faculty with specific reference to the doctoral program in engineering.
or the completion of 30 semester credits. Extensions of up to one year may be granted by the dean of Graduate Studies and Research under unusual circumstances.

Credits
A doctorate is conferred in recognition of high attainment and productive scholarship in some special field of learning as evidenced by the satisfactory completion of a prescribed program of study and research, the preparation of a dissertation based on independent research, and the successful passing of examinations covering the special field of study and the general field of which this subject is a part. Consequently, the emphasis is on mastery of the subject rather than a set number of credits. Doctoral programs generally encompass the equivalent of at least three years of full-time study at the graduate level. A minimum of 50 percent of the total credits above the baccalaureate required in each student's doctoral program must be completed at the University of Akron. A maximum of six workshop credits may be applied to a doctoral degree. Such credits must be relevant to the degree program, recommended by the student's 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, but transfer credit must be at the "A" or "B" level in graduate courses. The course must be relevant to the student's program and fall within the ten-year limit if beyond the master's level. 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. Credits transferable for a master's degree holder may be up to 30 semester credits.

A student seeking to transfer credits must have full admission and be in good standing at the University and the school in which the credits were achieved. Transfer credit shall not be recorded until a student has completed 12 semester credits at The University of Akron with a grade-point average of 3.00 or better.

Language Requirements
There is no University-wide foreign language requirement for the Ph.D. The student is required to demonstrate one of the following skills depending upon the particular program.

- Plan A: Reading knowledge, with the aid of a dictionary, of two approved foreign languages. At the discretion of the major department an average of "B" in the second year of a college-level course in a language will be accepted as evidence of proficiency in reading knowledge of that language. English may be considered as one of the approved foreign languages for a student whose first language is not English, and demonstrated competence in a research technique (e.g., statistics and/or computers) may be substituted for one of the two foreign languages. Under 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 requirements.

Optional Department Requirements
Each department may determine requirements for a doctoral student with regard to entrance examinations, qualifying examinations, preliminary or comprehensive examinations and course sequences.

Advancement to Candidacy
A student should apply for Advancement to Candidacy after completion of one-half of the credits required for the degree in the student's program, but no later than September 15 for the May Commencement. A January degree conferral process is available for those students who complete degree requirements by the end of the fall semester and do not wish to participate in the May Commencement ceremony. If January conferral is elected, the Advancement to Candidacy form must be submitted no later than May 15.

Advancement to Candidacy forms are available in the Graduate School or from the department head. Advancement to candidacy will not be granted to a student who is not in good standing.

Dissertation and Oral Defense
The ability to do independent research and demonstrate competence in scholarly exposition must be demonstrated by the preparation of a dissertation on some topic related to the major subject. It should represent a significant contribution to knowledge be presented in a scholarly manner, reveal the candidate's ability to do independent research and indicate experience in research techniques.

A doctoral dissertation committee supervises and approves the dissertation and administers an oral examination upon the dissertation and related areas of study. This examination is open to the graduate faculty. The dissertation and oral examination must be approved by the committee before the dissertation is submitted to the Graduate School. Two copies of the dissertation are due in the Graduate School at least two weeks prior to Commencement. These copies must be signed by the adviser, faculty reader, department head and college dean prior to submission to the dean of Graduate Studies and Research. A manual entitled Guidelines for Preparing a Thesis or Dissertation is available in the Graduate School and all copies of the dissertation must conform to these instructions.

Graduation
To be cleared for graduation, a candidate must have completed the academic program with a grade-point average of at least 3.00; have been advanced to candidacy; submitted an approved dissertation and passed an oral examination; filed an application for graduation with the registrar; paid all applicable fees; and met any other department and University requirements.
Doctor of Philosophy Degree

The following programs leading to the Doctor of Philosophy degrees are offered in the Buchtel College of Arts and Sciences: the Doctor of Philosophy degree in chemistry, the Doctor of Philosophy degree in history, the Doctor of Philosophy degree in psychology and Doctor of Philosophy degree in poly Science. The Doctor of Philosophy degree in sociology is offered jointly with Kent State University.

Doctor of Philosophy in Chemistry

In addition to satisfying the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in chemistry must meet the following requirements:

- Take proficiency exams in organic, inorganic, physical and analytical chemistry. Results of these exams will be used for diagnostic purposes.
- Complete a course of study designed and accepted by the student’s advisory committee. This course of study shall consist of a program deemed suitable to prepare the student in a designated area of chemistry and shall consist of a minimum of 24 credits in graduate courses. Eight credits per semester shall be considered a normal load. At least 12 credits of graduate coursework and all dissertation credits must be completed at the University.
- Earn credit for a dissertation, to be established by enrollment in 3150:899, such that course credits plus dissertation credits total at least 84 credits (exclusive of Master of Science credit).
- Pass cumulative examinations given approximately monthly. The candidate is urged to begin to take these examinations early in the graduate program and must pass seven cumulative exams: six written and one oral to meet the degree requirement.
- Pass an oral examination upon completion of the research dissertation.
- Pass the general requirements for the Doctor of Philosophy degree.

Doctor of Philosophy in History

The Doctor of Philosophy degree in history is granted primarily for high scholarly achievement in four fields of study selected by the student and for demonstrated ability to pursue independent research. Each student must:

- Fulfill admission requirements of the School.
- Admission will not usually be considered unless the applicant has a master’s degree or the equivalent, with a grade-point average of “B” from an accredited institution. Those holding master’s degrees from The University of Akron or other accredited institutions should not assume automatic permission to pursue doctoral studies. Prior to admission to the doctoral program, the applicant must present evidence of the likelihood of success in advanced study. A personal letter from the applicant and three letters of recommendation from former professors are required to support an application for admission to the doctoral program. Special admissions examinations may also be required.
- Prior to admission to doctoral study, the applicant must present evidence of a passing knowledge of one relevant foreign language, or knowledge of another research skill such as statistics or computer techniques. Those whose native tongue is not English must demonstrate proficiency in English.
- After a student has completed at least 12 credits beyond the master’s degree at the University, the student must apply to the Department of History for qualified status provided that the student’s grade-point average in all graduate work is better than “B.” If any doubt exists about the student’s ability at this time, the department may require an examination.
- After advancement to qualified status, the student, in consultation with the director of Doctoral Studies in history, will reach a final decision upon the fields the student wishes to offer for the comprehensive examinations and any additional research skills needed. At this point assignment of a major professor who shall direct the student’s dissertation shall be made. The student’s doctoral committee, to be chaired by the major professor, will also be appointed.

- Complete studies selected by the student in consultation with an advisory committee, including:
  - completion of 60 credits beyond master’s degree requirements, including dissertation credit;
  - demonstration of competency in four fields of study selected from the following areas: ancient, medieval, modern Europe to 1615, modern Europe since 1789, England and the Empire, United States to 1865, United States since 1865, Latin America, Far East, (one of the four fields may be in the cognate area outside of history);
  - satisfactory performance in written and oral comprehensive examinations;
  - classroom teaching experience;
  - defense of the dissertation in an oral examination.
- A reading knowledge of two languages will be required, normally French and German. At the discretion of the student’s doctoral committee, another language or computer technique or statistics may be substituted for either language as outlined in the Graduate School requirements. An instructor may require specific language proficiencies before permitting a graduate student to enroll in any course for which credit is to be granted. An instructor may require additional languages before permitting a candidate to write a dissertation under the instructor’s supervision.
- Complete all general requirements for the Doctor of Philosophy degree.
- Each Ph.D. candidate will have classroom teaching experience as a part of the program.

Doctor of Philosophy in Polymer Science

An interdisciplinary program leading to the Doctor of Philosophy in Polymer Science is administered by the Department of Polymer Science. Graduates from the three main disciplines (chemistry, physics and engineering) are guided into the appropriate courses of study and research in that field under the supervision of a staff member. Research facilities of the Institute of Polymer Science are available for thesis research.

In addition to satisfying the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in polymer science must meet the following requirements:

- Complete a course of study prescribed by the student’s advisory committee, based on the committee’s judgment of the student’s background and on the result of any special examinations they might impose. This course will consist of a minimum of, but usually more
Doctor of Philosophy in Psychology

The Department of Psychology offers a doctoral degree in psychology with specialization in industrial/organizational psychology, developmental psychology, 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:
  - 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 90 graduate credits including 30 graduate credits beyond the 90 minimum credit requirement;
  - completion of Ph.D. core courses in industrial/organizational, developmental, industrial gerontological psychology. Core courses are specified in the Department of Psychology Graduate Student Handbook. The student is required to maintain at least a 3.00 GPA in core courses;
  - completion of additional required and elective courses to be planned in conjunction with the student's faculty adviser and subject to approval by the department's graduate committee.

- Written comprehensive examinations
  - satisfactory performance on doctoral written and oral comprehensive examinations in the major area of industrial/organizational psychology, developmental psychology, industrial gerontological psychology (refer to the department's Graduate Student Handbook).

- Dissertation research
  - completion of 3750:899 Dissertation Research;
  - satisfactory performance on final oral examination and defense of dissertation research.

- Other requirements
  - refer to the department's Graduate Student Handbook for other requirements or guidelines;
  - complete and fulfill general doctoral degree requirements of Graduate School.

Doctoral language requirements or appropriate alternative research skills and techniques may be prescribed by the student's advisor, 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 for all intents and purposes involved in a single graduate program. Coursework is offered at both campuses and faculty and students interchange freely.

The general objective of the Akron-Kent Ph.D. program is to train sociologists whose specialty also includes emphasis on urban processes.

Admission to the Program

A student may apply with a completed master's degree or equivalent, or apply to the doctoral program after at least one year of full-time coursework or equivalent (18 credits) in the sociology Master of Arts program at Akron. The coursework must include the Master of Arts core sequence. This type of admission is limited to students whose records clearly indicate both scholarly and research potential.

Degree Requirements (for a student admitted with the master's degree or equivalent)

In addition to meeting the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in sociology must meet the following requirements:

- Take 3850:747 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 coursework.
- 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 of four sequences as detailed in the department's Graduate Student Handbook:
  - foreign language;
  - computer science;
  - statistics;
  - philosophy.
- Register for a minimum of 30 credits of dissertation credit, complete a dissertation and successfully defend it in an oral examination.

Degree Requirements (for a student admitted without the master's degree)

In addition to meeting the requirements for a student admitted with the master's degree, the student must meet the following requirements:

- Completion of the Master of Arts core coursework.
- Completion of a research practicum (3 credits). This may be waived for the student who already has sufficient research experience.
Master's Degree

Programs of advanced study leading to the master's degree are offered by the Departments of Biology, Chemistry, Economics, English, Geography, Geology (Earth Science), History, 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.

- Coursework 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 6 credits.
- Participation in seminars — 2 credits.
- The student’s advisory committee may require the demonstration of reading proficiency in a foreign language appropriate to the field of study.

A minor may be taken in approved graduate courses including education. Summer study at a biological station is available.

Non-thesis Option

The curriculum is oriented to the needs of the student for whom the Master of Science 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 coursework (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 coursework — with the approval of the adviser, up to 12 credits may be taken in related areas — 24 credits.
- Research and thesis — 6 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 of the 30 is required. If elected, a thesis must be written in an area of specialization in which the individual has taken at least two courses. Students who elect the thesis option will not have to take departmental comprehensive examinations, provided they have completed all core courses with grades of "B" or better.

Non-thesis Option

A minimum of 30 credits of 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:622</td>
<td>Macroeconomic Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>3250:611</td>
<td>Microeconomic Theory I</td>
<td>3</td>
</tr>
<tr>
<td>3250:620</td>
<td>Applications of Mathematical Models to Economics*</td>
<td>3</td>
</tr>
<tr>
<td>3250:626</td>
<td>Statistics for Econometrics*</td>
<td>3</td>
</tr>
</tbody>
</table>

Exceptional departures from these requirements may be approved with the permission of the graduate faculty and department head. A comprehensive examination is intended to test the candidate's knowledge of economic theory and the chosen field of specialization.

Labor and Industrial Relations Option**

- Core requirements:
  - 3250:650 Human Resource Policy 3
  - 3250:610 Framework of Economics Analysis 3
  - 3250:626 Statistics for Econometrics 3
  - 3250:633 Theory of Wages and Employment 3
  - 3250:634 Collective Bargaining I 3
  - 3250:635 Labor Law I 3

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

- 3250:650 Collective Bargaining II 3
- 3250:657 Labor Law II 3

- Electives:
  - 3250:606 Public Finance 3
  - 3250:615 Industrial Organization 3
  - 3250:616 Antitrust Policy 3
  - 3250:617 Economics of Regulation 3
  - 3250:639 Public Employee Bargaining 3
  - 3750:610 Industrial Psychology 4
  - 3650:649 Sociology of Work 3

- A total of 30 credits is required for the degree.

* These courses may be waived for the student who can demonstrate an adequate preparation in mathematics and statistics.

** The student should have a B.A./B.S. degree from an accredited college or university and some background in labor and industrial relations. An interested student who has no background may take the following courses:

- 3250:201 Principles of Macroeconomics 3
- 3250:202 Principles of Microeconomics 3
- 3250:330 Labor Problems 3
- 3470:251-7 Introductory Statistics 7
Master of Arts

A minimum of 32 credits is required of which 17 (exclusive of thesis) must be at the 600 level. Of these 17 credits, 12 must be in literature or literary theory.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:506 Chaucer*</td>
<td>3</td>
</tr>
<tr>
<td>3300:570 History of the English Language*</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
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<tr>
<td>3300:572 Modern Linguistics</td>
<td>3</td>
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<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>3300:615 Shakespearean Drama*</td>
<td>3</td>
</tr>
<tr>
<td>3300:691 Bibliography and Literary Research</td>
<td>2</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>3310:699 Thesis</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Before enrolling in the final semester, a student must demonstrate reading proficiency in a foreign language appropriate to English studies. However, the completion of one junior- or senior-level course in a foreign language will exempt the student from examination, provided that course was taken no more than five years before the student began graduate work.

French

Master of Arts

- Thirty-two credits of graduate work, which may include a thesis amounting to four credits.
- Core requirements:
  - literature — 16 credits;
  - culture — 8 credits;
  - linguistics — 8 credits.
- Admission requirement: proficiency in listening comprehension, speaking, reading and writing French.
- Second language requirement: the candidate will be required to demonstrate a reading knowledge of a modern foreign language other than French. Choice of the second language will be left to the student in consultation with an adviser.
- Final comprehensive examinations: the candidate will be required to pass both a written and oral final examination covering all areas of study included in the candidate's program.

Geography

Master of Arts

Master of Science

- Complete a minimum of 30 credits* (exclusive of research) of which 16 must be in geography courses. A minimum of 12 credits (exclusive of thesis) must be at the 600 level. The 30 credits must include the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:561 Geographic Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>3350:583 Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3350:687 History of Geographic Thought</td>
<td>3</td>
</tr>
</tbody>
</table>
- Thesis (Master of Arts only) — 4-6 credits
- Statistics (Master of Science only) — 8 credits
- Successful completion of a comprehensive examination administered by the departmental committee

*Unless the student has passed a comparable course at the undergraduate level with a grade of "B" or better.

**In Master of Arts degree, at least 24 credits must be in coursework.

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.

Geology

Master of Science

- Complete a minimum of 30 credits of which at least 10 credits shall be at the 600 level and no more than two in research problems and six in thesis research.
- Proficiency examination at the beginning of program to determine weaknesses in undergraduate preparation. The student who demonstrates a lack of basic knowledge will be required to take appropriate undergraduate courses. Field camp can be taken for graduate credit, however, it will not count toward the 30 credits for the Master of Science in the geology or geophysics options.

Core requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3370:689 Seminar in Geology</td>
<td>2</td>
</tr>
<tr>
<td>3370:699 Thesis Research</td>
<td>6</td>
</tr>
</tbody>
</table>
- Pass comprehensive examination after completion of 18 credits. Examination may be attempted twice.
- Oral presentation and defense of thesis.
- General areas of courses:
  - Solid Earth: 510, 532, 533, 537, 550, 570, 631, 632, 633, 634
  - Earth History: 511, 525, 563, 623, 638, 669
  - Applied Geology: 535, 574, 610, 636, 674, 675, 678
  - Geophysics: 541, 543, 648, 649, 657, 663

Degree Specialization

Earth Science

Equivalents of the geology, cognate science and mathematics requirements for the University's B.S. degree in geology are required. At least one course must be selected from each of the four general areas.

Earth Science

Equivalents of the geology courses for the University's B.A. degree in geology are required. At least one course must be selected from each of the four areas. Those who will be teachers must take 5300:780 Seminar in Secondary Education: Earth Science or equivalent.

Geophysics

Equivalents of the geology, cognate science and mathematics requirements for the University's B.S. degree in geophysics are required. At least two courses must be selected from the general area of applied geology and two from the general area of geophysics.

Engineering Geology

This program is for the graduate engineer and geologist who wishes to broaden expertise in the other field. The entering student who has some deficiencies in either engineering or geology may have to satisfy one or more of the following requirements while proceeding with graduate studies.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3370:101 Introductory Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370:210 Geomorphology</td>
<td>3</td>
</tr>
<tr>
<td>3370:350 Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>3450:270 Analytical Geometry Calculus I, II, III</td>
<td>12</td>
</tr>
<tr>
<td>4300:201 Statics</td>
<td>3</td>
</tr>
<tr>
<td>4300:222 Introduction to Mechanics of Solids</td>
<td>3</td>
</tr>
</tbody>
</table>
Environmental Geology

Equivalents of the science and mathematics requirements for The University of Akron Bachelor of Science degree in geology are required. A minimum of one course must be selected from the general area of applied geology and one from the general area of geophysics. (Strongly recommended: 3370:541, 570, 574, 678). As many as eight credits may be selected from engineering, biology and/or geography with the approval of a geology advisor.

- Student programs beyond the stated requirements will be designed in consultation and with the approval of an adviser.

**History**

**Master of Arts**

- Admission to the program requires completion of at least 15 semester or 22 quarter credits in history as an undergraduate. *Historical Methods* or an equivalent should be part of the entering student's preparation. If it is not, this course must be taken at the earliest opportunity but will not be counted toward fulfillment of the graduate credit requirement.

- Satisfactory completion of a minimum of 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
  - United States since 1865
  - Europe: Renaissance to 1815
  - Latin America
  - Europe: 1815 to the Present
  - Far East
  - England and the Empire
  - 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 reexamine 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 such 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.**

**Mathematical Sciences**

**Master of Science — Mathematics**

- Core requirements:  
  - 3450:611 Algebraic Theories I  3
  - 3450:612 Algebraic Theories II  3
  - 3450:621 Functions of a Real Variable I  3
  - 3450:622 Functions of a Real Variable II  3
  - 3450:692 Mathematics and Statistics Seminar  2

In addition, six credits in a single approved area of concentration in mathematics or statistics must be completed.

**Thesis Option (30 credits)**

- In addition to the core requirements, six to eight credits of 500/600 level mathematical sciences courses and two to four credits in 3450:698 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.

**Master of Science — Statistics**

- Core requirements:  
  - 3470:689 Advanced Topics in Statistics  3
  - 3470:665 Regression and Correlation  3
  - 3470:655 Linear Models  3
  - 3470:691 Mathematical Statistics I and II  6
  - 3470:654 Experimental Design II  2
  - 3450:692 Mathematics and Statistics Seminar  2

In addition to the core requirements, seven to nine 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 in the thesis or non-thesis option.

- A comprehensive examination, taking the form suggested by the department, must be completed in the thesis or non-thesis option.

*Where disagreement occurs between readers in Option I, II or III, the director of Master's Studies will choose a faculty member to arbitrate the disagreement.

127
Master of Science — Applied Mathematics

- Core requirements:
  - Math 3450.610 Matrix Algebra
  - Math 3450.621 Functions of a Real Variable I
  - Math 3450.627 Advanced Numerical Analysis
  - Math 3450.692 Mathematics and Statistics Seminar
  - Math 3470.651 Mathematical Statistics I
  - Math 3450.625 Analytic Function Theory
  - Math 3450.653.4 Continuous Systems I and II
  - Math 3450.635 Optimization
  - Math 3450.636 Advanced Combinatorics and Graph Theory
  - Math 3470.650 Advanced Probability and Stochastic Processes

Non-thesis Option (33 credits)

In addition to the core requirements, 14 credits in 500/600 level mathematical sciences courses must be completed.

Master of Science

- Complete 30 credits with a 3.00 cumulative grade-point average.
- Courses normally include:
  - Math 3650.600-2 Atomic and Nuclear Physics I and II
  - Math 3650.611-2 Theoretical Classical Physics I and II
  - Math 3650.681 Quantum Mechanics I
- A comprehensive examination, taking the form suggested by the department must be passed; the fields covered will include classical mechanics, quantum mechanics, electricity and magnetism, atomic and nuclear physics, thermodynamics and optics.
- Graduate research participation is strongly encouraged. Up to five credits may be earned in 3650.697 Graduate Research, upon the satisfactory completion of a graduate research project. One additional credit may be earned 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.
- A student preparing for further graduate work in a physical science or for academic or industrial employment, should ordinarily include the following courses in the graduate programs:
  - Math 3650.681 Quantum Mechanics I, II
  - Math 3650.500 History of Physics
  - Math 3650.510 Electronics
  - Math 3650.511.2 Intermediate Laboratory I, II
  - Math 3650.590 Workshops (maximum credit)
Note: the 3650.590 courses are intended for secondary school science teachers, being specifically designed for in-depth analysis of general physics.

Political Science

Master of Arts

- Pass a comprehensive examination covering one field to be determined in conjunction with a departmental adviser.
- Complete 3700.640 Seminar in Political Behavior and at least one graduate seminar in each of the following areas:
  - American Government and Politics:
    - 3700.630 Seminar in National Politics
    - 3700.641 Seminar in Intergovernmental Relations
    - 3700.660 Seminar in Civil Liberties and the Judicial Process
    - 3700.670 Seminar in the Administrative Process
    - 3700.680 Seminar in Urban and Regional Politics
  - Comparative Politics:
    - 3700.620 Seminar in Comparative Politics
    - 3700.626 Seminar in Politics of Developing Nations
  - International Politics:
    - 3700.610 Seminar in International Politics
    - Political Theory:
      - 3700.600 Seminar in Political Theory
In exceptional cases, with the approval of the graduate adviser, and the head of the department, the student may be permitted to omit a graduate seminar in one of these areas and to substitute another graduate-level course in its place.

Thesis Option

Thirty credits of graduate work, at least 18 credits of which
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 - 6 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.
  - Miller Analogies Test.
  - Two letters of recommendation.
- Course requirements:
  - Completion of a minimum of 30 credits of graduate psychology courses including the Master of Arts core courses or equivalents. Master of Arts required courses and electives as specified in the department's Graduate Student Manual.
  - 30 credits of graduate work in area.
  - Master of Arts examination (first year):
    - An exam completion 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 or developmental psychology.

Non-thesis Option

Completion of a minimum of 30 credits of graduate work with no thesis required. Completion of coursework, 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3850:603</td>
<td>Sociological Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>3850:604</td>
<td>Social Research Design</td>
<td>3</td>
</tr>
<tr>
<td>3850:617</td>
<td>Sociological Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

Thesis Option

This degree option is intended for the student who either plans on eventually pursuing a Ph.D. degree, or whose work will require the ability to conduct evaluation/research.

Completion of 32 credits of which at least 21 must be at the 600 level in sociology or anthropology (excluding 3850:699 Thesis and 3850:697 Readings in Contemporary Sociological Literature).

Complete at least six credits in 3850:699 Thesis. No more than six credits will count toward the degree.

Completion of master's thesis and oral defense.

Non-thesis Option I

This option 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.

Completion of at least 15 credits in a contracted specialty area. This area must be defined in consultation with the student's adviser and approved by the graduate studies committee. Courses from other departments may be taken to meet the specialty requirement.

Pass an oral examination on the specialty area.

Non-thesis Option II

This option is intended for the student who needs exceptional concentration in the methodology of social research.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3850:603</td>
<td>Sociological Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>3850:604</td>
<td>Social Research Design</td>
<td>3</td>
</tr>
<tr>
<td>3850:607</td>
<td>Computer Applications in the Social Sciences</td>
<td>3</td>
</tr>
<tr>
<td>3850:631</td>
<td>Social Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3850:645</td>
<td>Social Organization</td>
<td>3</td>
</tr>
<tr>
<td>3850:649</td>
<td>Directed Research</td>
<td>3</td>
</tr>
<tr>
<td>3850:706</td>
<td>Multivariate Techniques in Sociology</td>
<td>3</td>
</tr>
<tr>
<td>3850:707</td>
<td>Measurement in Sociology</td>
<td>3</td>
</tr>
<tr>
<td>3850:711</td>
<td>Survey Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>3850:750</td>
<td>Research in Community and Area Problems</td>
<td>3</td>
</tr>
</tbody>
</table>

One additional course as specified in the Department of Sociology Graduate Handbook.

Complete a research paper which demonstrates mastery of social research techniques. Details may be found in the handbook.
Anthropology

There is no graduate degree in anthropology. However, there are many graduate courses available. A student interested in taking such courses for graduate credit must be admitted to the Graduate School through an existing graduate program, or they may apply for Special Non-Degree status through the Department of Sociology. The student should enroll in graduate courses only for specific professional preparation or enhancement and with the permission of the instructor. Inquiries should be directed to the graduate director in the Department of Sociology.

Spanish

Master of Arts

- Core requirements:
  - Thirty-two semester credits of graduate work, which may include a thesis amounting to four credits:
    - Literature — 16 credits.
    - Culture — 8 credits.
    - Linguistics — 8 credits.
  - Requirement: proficiency level in listening comprehension, speaking, reading, and writing Spanish.
  - Second language requirement: the candidate will be required to demonstrate a reading knowledge of a modern foreign language other than Spanish. Choice of the second language will be left to the student in consultation with an adviser.
  - Final comprehensive examinations: the candidate will be required to pass both a written and oral final examination covering all areas of study included in the candidate’s program.

Urban Studies

Master of Arts

Courses may be taken outside the Department of Urban Studies for the purpose of fulfilling any of the requirements listed below but must be approved by the department prior to registration.

Each student will, upon entering the program and in consultation with a faculty adviser, plan a complete course of study.

- Core requirements:
  - 3980.600 Basic Analytical Research — 3 credits
  - 3980.601 Advanced Research and Statistical Methods — 3 credits
  - 3980.602 American Urban Development — 3 credits
  - 3980.690 Urban Studies Seminar — 3 credits

Basic Program

Complete 34 credits of coursework as follows:

- Core requirements — 12 credits.
- Selection of recommended courses — 6 credits.
- Urban related courses — 16 credits.

Options

Public Administration

Forty credits of coursework (plus internship where applicable) as follows:

- Core requirements — 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 — 1-3 credits.

Urban Planning

Forty-eight credits of coursework (plus internship where applicable) as follows:

- Core requirements — 12 credits.
- Urban studies required courses in urban planning — 17 credits.
- Selection of recommended courses — 19 credits.
- Internship for the student without professional planning experience — 1-3 credits.
Doctor of Philosophy in Engineering

Interdisciplinary programs in environmental engineering, materials science, mechanics, systems engineering and transport processes are offered through the College of Engineering. In addition to the general requirements of the Graduate School, a student must hold a bachelor's degree in a curriculum accredited by the Accreditation Board for Engineering and Technology at the time of graduation, or provide evidence of an equivalent academic background* to the satisfaction of the dean of the College of Engineering and the department head. An applicant must have completed the equivalent of Differential Equations, Elementary Classical Physics, Principles of Chemistry and demonstrate proficiency at the undergraduate level in courses related to the area of intended study. The student must also:

- Successfully complete a qualifying examination before completing either 10 credits of coursework after admission in the program or within two semesters after admission into the program. The examination shall cover graduate courses that the student has completed and basic undergraduate topics.
- Complete courses in the plan of study developed by the student advisory committee on the basis of the qualifying examination. A minimum of 90 credits of graduate work, generally 60 for coursework and 30 for dissertation, must be earned.
- Pass a candidacy examination which may be taken after 90 percent of the coursework specified in the plan of study has been completed.
- Register for dissertation credits according to the schedule available from the dean of engineering.
- Pass an oral examination in defense of the dissertation.

The student advisory committee shall specify the student's language requirements. The appropriate language is selected on the basis of the student's area of specialization and intended research. A foreign language is not required for all students.

A copy of the Ph.D. in Engineering Program Procedures is available from the dean of engineering.

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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:600</td>
<td>3</td>
</tr>
<tr>
<td>4200:605</td>
<td>3</td>
</tr>
<tr>
<td>4200:610</td>
<td>3</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.

Non-thesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:600</td>
<td>3</td>
</tr>
<tr>
<td>4200:605</td>
<td>3</td>
</tr>
<tr>
<td>4200:610</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives**</td>
<td>6</td>
</tr>
<tr>
<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.

Polymer Engineering Specialization

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4600:622</td>
<td>3</td>
</tr>
<tr>
<td>4700:611</td>
<td>2</td>
</tr>
</tbody>
</table>

* A student without a Bachelor of Science degree in Engineering but with a baccalaureate degree in a related field may be accepted for graduate study but the student will be required to make up the undergraduate deficiencies for which the student will not receive graduate credit.

** The elective chemical engineering courses may not include more than three credits of 500-level courses.

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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering Coursework</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
</tbody>
</table>

131
The thesis must be satisfactorily defended in an oral examination.

**Non-thesis Option**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering Coursework</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>12</td>
</tr>
<tr>
<td>Special Problem</td>
<td>2</td>
</tr>
</tbody>
</table>

The thesis must be defended in an oral examination.

### Master of Science in Electrical Engineering

After one semester of coursework, a student is required to take a comprehensive proficiency examination on six undergraduate topics: circuit theory, circuit applications, electronics, electromagnetic fields, machines and power and controls. A student who demonstrates a lack of knowledge in one or more of these areas will be required to successfully complete appropriate undergraduate courses. Topic outlines are available from the departmental office.

**Thesis Option**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:581.2 Methods of Mathematical Physics I and II</td>
<td>6</td>
</tr>
<tr>
<td>4400:641 Random Signal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>4400:651 Electromagnetic Fields</td>
<td>3</td>
</tr>
<tr>
<td>Electrical Engineering Electives*</td>
<td>9</td>
</tr>
<tr>
<td>Approved Engineering Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<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 Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:581.2 Methods of Mathematical Physics I and II</td>
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</tr>
<tr>
<td>4400:641 Random Signal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>4400:651 Electromagnetic Fields</td>
<td>3</td>
</tr>
<tr>
<td>Electrical Engineering Electives*</td>
<td>9</td>
</tr>
<tr>
<td>Approved Engineering Mathematics or Science</td>
<td>3</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 Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering Coursework**</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives**</td>
<td>6</td>
</tr>
<tr>
<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 Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering Coursework**</td>
<td>15</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives**</td>
<td>12</td>
</tr>
<tr>
<td>Special Problems</td>
<td>2</td>
</tr>
</tbody>
</table>

### Master of Science in Engineering

This program is intended for the student whose educational objectives cannot be met by one of the four departmental programs.

**Thesis Option**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Engineering Coursework</td>
<td>12</td>
</tr>
<tr>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Approved Electives</td>
<td>9</td>
</tr>
<tr>
<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 Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Coursework</td>
<td>18</td>
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<tr>
<td>Approved Mathematics</td>
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<tr>
<td>Approved Electives</td>
<td>3</td>
</tr>
<tr>
<td>Special Problems</td>
<td>2</td>
</tr>
</tbody>
</table>

The overall program is administered by the dean. A student should declare to the dean the intention to study toward the Master of Science in Engineering degree before the completion of 10 graduate credits. Later admission to the program may be granted upon petition to the dean.

Upon admission, the dean will appoint an advisory committee consisting of at least two faculty members selected from the interdisciplinary divisions of the college. The committee members will be from at least two departments. The special problem section and final report must receive the approval of the advisory committee.

Polymer engineering specialization — see Doctor of Philosophy in engineering.

**The program is limited to not more than three 500-level courses in engineering. Not more than two of the five 500-level courses can be applied to the fifteen credits of mechanical engineering coursework. For a student specializing in systems and controls, and electing 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 fifteen 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.
Doctor of Philosophy Degree

Programs leading to the Doctor of Philosophy degree in elementary education, secondary education and guidance and counseling are offered through the College of Education. The degree will be awarded to 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.
  - For a student in the Department of Counseling and Special Education, an elect to develop appropriate research skills as prescribed by the adviser in lieu of the foreign language requirements;
  - For a student in the Department of Elementary Education, elect to develop appropriate research skills as 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;
  - For a student in the Department of Secondary Education, elect to develop appropriate research skills as 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 final written and oral examinations in the student's major field of concentration.
- Completion of a dissertation comprising not more than 20 credits. The oral examining committee must be constituted of at least five full-time staff members, one of whom must be from outside the College.
- Pass the general requirements for the Doctor of Philosophy degree.

The doctoral program in counseling has been approved by the Ohio State Board of Psychology "as being a doctoral program equivalent to one in psychology." Candidates completing the program, as approved by the Board of Psychology, meet the academic requirement for admission to the examination for a psychologist license.

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 this is designed for persons who wish to pursue a career in college, university or other post-secondary administrative positions. The program addresses such major institutional functions as: administration, academic, student services, finance, planning, development and public relations. A student will have the opportunity to direct studies toward a particular career goal.

Foundation Studies Education — Doctoral Program Requirements

<table>
<thead>
<tr>
<th>Behavioral Studies</th>
<th>5100.620</th>
<th>Behavioral Bases of Education</th>
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<tbody>
<tr>
<td></td>
<td>5100.624</td>
<td>Seminar in Educational Psychology</td>
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</tr>
<tr>
<td></td>
<td>5100.721</td>
<td>Learning Processes</td>
<td>3</td>
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<tr>
<td></td>
<td>5100.723</td>
<td>Teaching Behavior and Instruction</td>
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<table>
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<tr>
<th>Humanistic Studies</th>
<th>5100.701</th>
<th>History of Education in American Society</th>
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<tbody>
<tr>
<td></td>
<td>5100.703</td>
<td>Seminar in History and Philosophy of Higher Education</td>
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<table>
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<tr>
<th>Social and Philosophical</th>
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<th>Philosophies of Education</th>
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<tbody>
<tr>
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<td>5100.602</td>
<td>Comparative and International Education</td>
<td>3</td>
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<tr>
<td></td>
<td>5100.604</td>
<td>Seminar in Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5100.705</td>
<td>Seminar in Social-Philosophical Foundations</td>
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<table>
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<tr>
<th>Research</th>
<th>5100.640</th>
<th>Techniques of Research</th>
<th>3</th>
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<tbody>
<tr>
<td></td>
<td>5100.741</td>
<td>Statistics in Education</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Dissertation</td>
<td>10-20</td>
</tr>
</tbody>
</table>

Certificate Program in Higher Education

A certificate program is offered. A full description of this program may be found in "Interdisciplinary and Certificate Programs," Section 4 of this Bulletin.

Master's Degree

Programs leading to the degree of Master of Arts in education, Master of Science in education and Master of Science 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 a 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:

- 5100:600 Philosophy of Education
- 5100:632 Comparative and International Education
- 5100:604 Seminar in Cultural Foundations of Education
- 5100:620 Behavioral Bases of Education
- 5100:624 Seminar in Educational Psychology
- 5100:640 Techniques of Research

Nine credits.

Programs

Elementary Education

Objectives
- Knowledge:
  - the nature of the elementary school;
  - the organization of the school and its curriculum;
  - the application of theory.
- Skills:
  - ability to assess curricular needs;
  - ability to select appropriate materials;
  - ability to develop appropriate learning activities.
- Attitudes and values:
  - belief in the humanistic approach to education;
  - awareness and concern for the welfare of all;
  - ability to accept those that are different.

Program

Those students seeking a master's degree in elementary education can follow a 30 semester credit program which includes a master's problem (two credits) or follow another program which calls for the completion of 36 credits with a field experience but no master's problem. The student in a graduate program with another area of concentration may elect any specialized course in reading provided the student meets the prerequisites. For additional information contact the department head.

The student seeking a master's degree in secondary education and certification should contact a secondary education adviser for program information.

Secondary Education

Objectives

This program is intended to prepare the teacher of grades seven through 12 for: master teacher, department head, supervisor and resource teacher. The student planning to major in

Electives may be any combination of courses to meet the minimum of 30 credits which may include up to 12 credits in pertinent course offerings outside the College of Education. Elective courses should be planned with the graduate adviser.

This program is primarily for the student who expects to progress as a teacher in elementary schools.

Certification as a Reading Supervisor

Objectives

To qualify as a reading supervisor, the student must have a minimum of three years of successful teaching experience under a standard teaching certificate.

The student seeking a master's degree in elementary education and certification can follow a 30 credit program which includes a master's problem (two credits) or follow another program which calls for the completion of 36 credits with a field experience but no master's problem. The student in a graduate program with another area of concentration may elect any specialized course in reading provided the student meets the prerequisites. For additional information contact the department head.

The student seeking a master's degree in secondary education and certification should contact a secondary education adviser for program information.

Program

- Foundation Studies — 9 credits
  - 5200:540 Developmental Reading in the Content Areas
  - 5200:581 Diagnosis and Correction of Reading Problems**
  - 5200:682 Clinical Practices in Reading
  - 5200:682 Advanced Study and Research in Reading
  - 5200:693 Supervision and Curriculum Development in Reading
  - 5200:695 Field Experience
  - 5200:696 Master's Problem**
  - 5200:780 Elementary Education Seminar: Children's Literature: Readings
  - 5300:780 Secondary Education Seminar: Teaching Literacy in Secondary Schools
  - 5300:625 Research Programs in Secondary Schools

- Two credits from the following list of electives:
  - 5200:780 Elementary Education Seminar: Reading
  - 5200:511 Materials and Organizations for Reading Instruction
  - 5200:680 Trends in Reading Instruction
  - 5200:590 Workshop in Reading

**A student must complete at least one graduate-level reading course prior to entering in 5250:681. Courses 681 and 682 must be taken in sequential order.

*For elementary education students only.
†For secondary education students only.
physical education should consult an adviser for alternate course requirements. This program may also serve as preliminary preparation for the student who wishes to apply for the Doctor of Philosophy degree in secondary education.

Program
- Foundation Studies courses — 9 credits.
- Secondary education course:
  - 5300:780 Seminar in Secondary Education: Improvement of instruction in the area of concentration 2
- Ten credits from the following:
  - 5300:625 Reading Programs in Secondary Education 2
  - 5300:619 Secondary Curriculum and Instruction 2
  - 5300:695 Field Experience 1-6
  - 5300:698 Master's Problem 2-4 or
  - 5300:699 Thesis Research 4-6
  - 5300:721 Supervision of Instruction 2
  - 5300:780 Seminar Secondary Education* 2
  - Topics: Senior High Junior High Computer Based Education Individualized Instruction
  - 5400:505 Vocational Education for Youth and Adults 2
- 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, etc.)
- Middle school education
- Reading specialist (certification program)
- Economic education
- Mini-computer applications
- Business education supervisor (certification program)
- Electives — 2-4 credits.

## Middle School Education

For elementary and secondary certified teachers, these courses comprise a major area of study within the master's programs in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum and programs. The student should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

Program
- Required courses:
  - 5300:780 Philosophy and Organization of Middle School 2
  - 5100:624 Psychology of Early Adolescence 3
  - 5200:780 Curriculum Development in Middle School 2
  - 5600:526 Career Education/Guidance in Middle School 2
  - 5100:604 Cultural Foundations of Education 3
  - 5300:625 Reading Programs in Secondary School 3

## 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.

*Only two seminars for this option may be counted towards the degree.

## 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 coursework.

The program incorporates coursework 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:
- 5630:584 Principles of Bilingual Multicultural Education 3
- 5630:597 Techniques for Teaching English as a Second Language in the Bilingual Classroom 4
- 3300:589 Seminar in English: Introduction to Bilingual Linguistics 3
- 5630:592 Characteristics of Culturally Different Youth 3
- 3 Field experience in bilingual classrooms/settings 3

Select one of the following:
- 5630:585 Teaching Reading and Language Arts to Bilingual Students 4
- 5630:586 Teaching Mathematics, Social Studies and Science to Bilingual Students 3

## 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 courses — 9 credits.
- Professional technical education courses:
  - 5400:510 The Two-Year College 3
  - 5400:521 Instructional Techniques in Technical Education 4
**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 courses — 9 credits.
- Administration courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200:630</td>
<td>Elementary School Curriculum and Instruction</td>
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<tr>
<td>5200:732</td>
<td>Supervision of Instruction in the Elementary School</td>
<td>2</td>
</tr>
<tr>
<td>5600:602</td>
<td>Introduction to Counseling</td>
<td>2</td>
</tr>
<tr>
<td>5700:601</td>
<td>Principles of Educational Administration</td>
<td>2</td>
</tr>
<tr>
<td>5700:610</td>
<td>Principles of Educational Supervision</td>
<td>2</td>
</tr>
<tr>
<td>5700:631</td>
<td>Elementary School Administration</td>
<td>2</td>
</tr>
<tr>
<td>5700:694</td>
<td>Field Experience for the Elementary Administrator</td>
<td>2</td>
</tr>
<tr>
<td>5700:698</td>
<td>Master’s Problem</td>
<td>2</td>
</tr>
</tbody>
</table>

or

- 5700:709 Field Experience for the Elementary Administrator 2

- Elective courses should be planned with an adviser. This program is primarily for the student who expects to progress as a principal or administrator in the elementary schools — 3 credits.

**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 — 9 credits.
- Administration courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5300:619</td>
<td>Secondary School Curriculum and Instruction</td>
<td>2</td>
</tr>
<tr>
<td>5300:721</td>
<td>Supervision of Instruction in the Secondary School</td>
<td>2</td>
</tr>
<tr>
<td>5300:760</td>
<td>Seminar. Secondary Education: The Junior High School</td>
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<tr>
<td>5400:505</td>
<td>Vocational Education for Youth and Adults</td>
<td>3</td>
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<tr>
<td>5700:710</td>
<td>Principles of Curriculum Development</td>
<td>3</td>
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<tr>
<td>5600:602</td>
<td>Introduction to Counseling</td>
<td>2</td>
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<td>5700:601</td>
<td>Principles of Educational Administration</td>
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<tr>
<td>5700:607</td>
<td>Legal Basis of Education</td>
<td>3</td>
</tr>
<tr>
<td>5700:610</td>
<td>Principles of Educational Supervision</td>
<td>3</td>
</tr>
<tr>
<td>5700:620</td>
<td>Secondary School Administration</td>
<td>3</td>
</tr>
<tr>
<td>5700:694</td>
<td>Field Experience for the Secondary School Administrator</td>
<td>3</td>
</tr>
</tbody>
</table>
Supervisor

Program

- Foundation Studies courses — 9 credits.
- Major field:
  5200:630 Elementary School Curriculum and Instruction* 2
  5200:732 Supervision of Instruction Elementary School** 2
  5300:619 Secondary School Curriculum and Instruction** 2
  5300:731 Supervision of Instruction Secondary School** 2
  5610:601 Seminar: Special Education Curriculum Planning 3
  5610:602 Supervision of Instruction: Special Education 3
  5700:610 Principles of Educational Supervision 3
  5700:695 Field Experience of Supervisors 2
  5700:710 Principles of Curriculum Development 3

- With the approval of the advisior, the student will select at least one of the following courses and others which may include up to six pertinent electives from course offerings outside the College of Education:
  5100:701 History of Education in American Society 3
  5300:741 Statistics in Education 3
  5700:608 Master’s Problem 2
  5700:740 Theories of Supervision 3

Local School Superintendent

Objectives

The elements of the local superintendent program will enable the student to:
- Communicate effectively.
- Organize and operate a curricular program.
- Supervise and evaluate a teaching and support staff.
- Prepare, coordinate and carry out a budget and appropriation plan.
- Analyze, evaluate and articulate legalities of education.
- Design and coordinate a school facilities plan.

Program

- Foundation Studies courses — 9 credits.
- Major field:
  5700:601 Principles of Educational Administration 3
  5700:604 School and Community Relations 2
  5700:605 Decision-Making Theory and Practice in Educational Administration 3
  5700:606 Evaluation of Educational Institutions 3
  5700:607 Legal Basis of Education 2
  5700:608 Principles of School Finance 2
  5700:610 Principles of Educational Supervision 3
  5700:698 Master’s Problem 2
  5700:710 Principles of Curriculum Development 3
  5700:895 Field Experience for the Superintendent 2

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, special education and visiting teacher. 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.

Elementary School Counseling Certification Program

Program

- Foundation Studies courses — 9 credits.
- Major field:
  5600:600 Seminar in Counseling 1
  5600:631 Elementary School Guidance 3
  5600:643 Counseling: Theory and Philosophy 3
  5600:645 Group Testing in Counseling 3
  5600:647 Career Counseling: Theory and Practice 3
  5600:651 Techniques in Counseling 3
  5600:653 Group Counseling 3
  5600:657 Consultant Counseling 3
  5600:659 Organization and Administration of Guidance Services 3
  5600:661 Seminar in Elementary School Counseling 2
  5600:675 Practicum in Counseling 4
  5610:540 Developmental Characteristics of Exceptional Individuals 3

Secondary School Counseling Certification Program

Program

- Foundation Studies courses — 9 credits.
- Major field:
  5600:600 Seminar in Counseling 1
  5800:633 Secondary School Guidance 3
  5800:643 Counseling: Theory and Philosophy 3
  5800:645 Group Testing in Counseling 3
  5800:647 Career Counseling: Theory and Practice 3
  5800:651 Techniques in Counseling 3
  5800:653 Group Counseling 3
  5800:659 Organization and Administration of Guidance Services 3
  5800:663 Seminar in Secondary School Counseling 2
  5800:675 Practicum in Counseling 4
  5810:540 Developmental Characteristics of Exceptional Individuals 3

- Electives — 2 credits.

Community and College Counseling

Program

- Foundation Studies courses — 9 credits
- Counseling courses:
  5600:600 Seminar in Counseling 1
  5600:635 Community and College Counseling 3
  5600:643 Counseling: Theory and Philosophy 3
  5600:645 Group Testing in Counseling 3
  5600:647 Career Counseling: Theory and Practice 3
  5600:651 Techniques in Counseling 3
  5600:653 Group Counseling 3
  5600:665 Seminar in Community and College Counseling 3
  5600:675 Practicum in Counseling 4

- Electives — 6 credits.
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, development disabilities, school educational consultant or some other focus to meet an individual's education 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.

Program

- Foundation Studies courses — 9 credits
- Departmental core (required of all candidates):
  - 5600:651 Techniques of Counseling
  - 5610:540 Developmental Characteristics of Exceptional Individuals
  - 5610:543 Developmental Characteristics of Learning Disabled Individuals
  - 5610:556 Classroom Behavior Management: Exceptional Individuals
  - 5610:603 Assessment and Educational Programs for Special Education
  - 5610:604 Educational and Management Strategies for Parents of Exceptional Individuals
- Master's paper (candidate required to choose one):
  - 5610:600 Seminar in Special Education
  - 5610:698 Master's Problem
  - 5610:699 Thesis Research
- Other programs can be developed to meet needs.
- Electives: Select from the following areas after consultation with an adviser:
  - Psychology: General Psychology, Educational Psychology
  - Sociology: Social Problems, Social Research
  - Educational Foundations: Early Childhood Education
  - Secondary Education: Special Education
  - Counseling: Special Education
  - Multicultural Education: Special Education
  - Family Ecology: Educational Administration
  - Educational adjustment: Learning Disabled Individual

Options

The student elects one of the following:

Supervision — Certification Program

Requires completion of the following: 27 months of classroom teaching with the identified handicapped child and a master's degree.

- 5100:600 Philosophies of Education
- 5100:620 Behavioral Bases of Education
- 5100:520 "Techniques of Research"
- 5610:601 Seminar: Special Education Curriculum Planning
- 5610:602 Supervision of Instruction: Special Education
- 5700:610 Principles of Educational Supervision
- 5700:695 Field Experience: Supervisors
- 5700:710 Curriculum Development

Clinical Practice — Special Education

- 5610:557 Clinical Teaching Practicum: Children with Learning Problems
- 5610:695 Field Experience: Master's Electives to complete program

Early Childhood — Special Education

- 5610:450 Educational Adjustment: Preschool and Primary Level Exceptional Children
- 5610:695 Field Experience: Master's Electives to complete program

Developmental Disabilities

- 5610:554 Educational Adjustment: Moderately-SEVERely
- 5610:695 Field Experience: Master's Electives to complete program

School Educational Consultant — Special Education

- 5610:605 Program Development and Service Delivery
- 5610:695 Field Experience: Master's Electives to complete program

Visiting Teacher or School Social Worker Certification Program

Inquiry related to program requirements and admission standards should be addressed to the Department of Counseling and Special Education.

Physical Education

Program

- Foundation Studies courses — 9 credits.
- Required courses:
  - 5550:536 Adapted Physical Education for the Learning Disabled Child
  - 5550:601 Administration of Health, Physical Education, Recreation and Athletics
  - 5550:603 Curriculum Planning in Health and Physical Education
  - 5550:605 Physiology of Muscular Activity and Exercise
  - 5550:606 Measurement and Evaluation in Physical Education
  - 5550:608 Supervision of Physical Education
  - 5550:695 Field Experience: Masters
- 5550:698 Master's Problem
- 5550:699 Thesis Research
- Electives agreed on by the adviser to meet special student needs.

Outdoor Education

This program 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 courses — 9 credits.
• Required courses:  
<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5560:556</td>
<td>Outdoor Pursuits</td>
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<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5560:605</td>
<td>Outdoor Education: Special Topics</td>
<td>2-4</td>
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<tr>
<td>5560:550</td>
<td>Application of Outdoor Education to the School Curriculum</td>
<td>4</td>
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<tr>
<td>5560:552</td>
<td>Methods, Materials and Resources for Teaching</td>
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<tr>
<td>5560:60</td>
<td>Outdoor Education: Rural Influences</td>
<td>3</td>
</tr>
<tr>
<td>5560:690</td>
<td>Practicum in Outdoor Education</td>
<td>2-4</td>
</tr>
<tr>
<td>5560:695</td>
<td>Field Experience</td>
<td>2-6</td>
</tr>
<tr>
<td>5560:698</td>
<td>Masters Problem</td>
<td>2-4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5560:699</td>
<td>Thesis Research</td>
<td>4-6</td>
</tr>
</tbody>
</table>

With the approval of the adviser, the student will select additional courses and/or workshops related to the graduate program.

School Psychologist*  

• College requirements:  
<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>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>5100:721</td>
<td>Learning Processes</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3750:550</td>
<td>Learning and Cognition</td>
<td>4</td>
</tr>
<tr>
<td>5620:694</td>
<td>Research Project</td>
<td>2</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5620:696</td>
<td>Master's Problem</td>
<td>2-4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5620:699</td>
<td>Thesis Research</td>
<td>4-6</td>
</tr>
</tbody>
</table>

• Departmental requirements:  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5610:540</td>
<td>Developmental Characteristics of Exceptional Individuals</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5610:543</td>
<td>Developmental Characteristics of Learning Disabled Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5660:643</td>
<td>Counseling: Theory and Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3750:703</td>
<td>Theories of Psychotherapy</td>
<td>3</td>
</tr>
</tbody>
</table>

• Program requirements:  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3750:500</td>
<td>Personality</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3750:704</td>
<td>Theories of Personality</td>
<td>3</td>
</tr>
<tr>
<td>3750:620</td>
<td>Methods and Theories of Human Development</td>
<td>4</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5620:601</td>
<td>Cognitive Function Models for Prescriptive Educational Planning</td>
<td>3</td>
</tr>
<tr>
<td>3750:700</td>
<td>Survey of Projective Techniques</td>
<td>2</td>
</tr>
<tr>
<td>3750:702</td>
<td>Principles and Practice of Individual Intelligence Testing</td>
<td>4</td>
</tr>
<tr>
<td>5100:741</td>
<td>Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5660:645</td>
<td>Group Testing in Counseling</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3753:510</td>
<td>Psychological Tests and Measurements</td>
<td>4</td>
</tr>
<tr>
<td>5620:600</td>
<td>Seminar: Role and Function of School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5620:610</td>
<td>Educational Diagnosis for the School Psychologist</td>
<td>4</td>
</tr>
</tbody>
</table>

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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3750:520</td>
<td>Abnormal Psychology**</td>
<td>3</td>
</tr>
<tr>
<td>5250:685</td>
<td>Reading Diagnosis for School Psychologists and Support Personnel</td>
<td>3</td>
</tr>
<tr>
<td>5600:659</td>
<td>Organization and Administration of Guidance Services</td>
<td>3</td>
</tr>
<tr>
<td>5620:602</td>
<td>Behavioral Assessment</td>
<td>3</td>
</tr>
<tr>
<td>5620:603</td>
<td>Consultation Strategies in School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5620:611</td>
<td>Practicum in School Psychology</td>
<td>4</td>
</tr>
<tr>
<td>5620:685.6</td>
<td>Field Experience</td>
<td>2-3</td>
</tr>
</tbody>
</table>

The nine months full-time internship and the associated seminars entail the following registrations:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5620:630</td>
<td>Internship: School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5620:631</td>
<td>Internship: School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5620:640</td>
<td>Field Seminar I: Issues and Assessment</td>
<td>2</td>
</tr>
<tr>
<td>5620:641</td>
<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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:600</td>
<td>Philosophies of Education I</td>
<td>3</td>
</tr>
<tr>
<td>5250:630</td>
<td>Elementary School Curriculum and Instruction</td>
<td>2</td>
</tr>
<tr>
<td>5250:683</td>
<td>Reading Diagnosis: School Psychologist and Personnel</td>
<td>3</td>
</tr>
<tr>
<td>5620:685.6</td>
<td>Field Experience: Master's</td>
<td>3</td>
</tr>
<tr>
<td>5700:631</td>
<td>Elementary School Administration</td>
<td>2</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 excluding the six credits for the internship.

Certification as Administrative Specialist: School and Community Relations  

Program  

• Foundation Studies courses — 9 credits.

• Required courses:  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5700:601</td>
<td>Principles of Educational Administration</td>
<td>3</td>
</tr>
<tr>
<td>5700:604</td>
<td>School and Community Relations</td>
<td>2</td>
</tr>
<tr>
<td>5700:605</td>
<td>Decision-Making Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>5700:606</td>
<td>Evaluation of Educational Institutions</td>
<td>3</td>
</tr>
<tr>
<td>5700:607</td>
<td>Legal Basis of Education</td>
<td>2</td>
</tr>
<tr>
<td>5700:608</td>
<td>Principles of School Finance</td>
<td>2</td>
</tr>
<tr>
<td>5700:610</td>
<td>Principles of Educational Supervision</td>
<td>3</td>
</tr>
<tr>
<td>5700:698</td>
<td>Master's Problem</td>
<td>2</td>
</tr>
<tr>
<td>5700:710</td>
<td>Principles of Curriculum Development</td>
<td>3</td>
</tr>
<tr>
<td>5700:732</td>
<td>Organizational Communications and the School Adminstrator</td>
<td>3</td>
</tr>
<tr>
<td>5700:895</td>
<td>Field Experience: Superintendent</td>
<td>2</td>
</tr>
<tr>
<td>7600:886</td>
<td>Studies in Communication Media: Radio</td>
<td>3</td>
</tr>
<tr>
<td>7600:887</td>
<td>Studies in Communication Media: Television</td>
<td>3</td>
</tr>
<tr>
<td>7600:888</td>
<td>Studies in Communication Media: Film</td>
<td>3</td>
</tr>
</tbody>
</table>

Sixth-Year Program: City School Superintendent  

This program requires 60 credits.  

Program  

• Required courses:  
<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>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5100:604</td>
<td>Topical Seminar in Cultural Foundations of Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**May be taken at undergraduate level.
† Requirement dependent upon experience and related coursework completion.
††This course previously listed as a master's degree requirement. A student must complete at least one graduate-level reading course prior to enrolling in 5250:661. Courses 681 and 682 must be taken in sequential order.

139
Educational Foundations

This program area is designed for either the student interested in improving present educational skills or the student interested in educational or instructional positions in business, industry and social services.

A student's program of study will be determined jointly by the student and an academic adviser. Emphasis can range from advanced instructional technology to traditional studies in educational psychology or the social/philosophical aspects of education. A thesis is required.

Program

- **Foundation Studies courses** — 9 credits

  - Departmental requirements:*  
    - The student will earn a minimum of 15 credits, excluding thesis, within the Department of Educational Foundations. These credits will be distributed between humanistic studies and behavioral studies with a minimum of nine credits from one of these areas and six credits from the other (college requirements may be included).  
    - Thesis  
      - 5100.699 Thesis Research  
        - 4-6
    - **Inter-departmental electives:**  
      - A minimum of six credits will be taken outside the Department of Educational Foundations  
      - 6

*After accumulating 20 credits, the student will take a written qualifying examination. The student and program committee will then determine the remainder of the program.

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.

- Elective courses — 13-15 credits**

*Required of those completing the master's degree.

**Electives should be selected with adviser's approval.
Master’s Degree

The College of Business Administration (CBA) offers graduate programs which lead to the degrees of Master of Business Administration, Master of Science in Accounting, Master of Science in Management, and Master of Taxation in Accounting. The University has offered programs of study in business since 1919, initially through the Department of Commerce and since 1953 through the College of Business Administration. In 1958, graduate studies in business were begun. Both the undergraduate and master’s programs are accredited by the American Assembly of Collegiate Schools of Business (AACSB).

During its long tradition, the college has sought to fulfill the educational and professional needs of its 450 graduate students, the community and regional business organizations. To meet its urban objectives, the college offers graduate courses only between 5:00 p.m. and 10:30 p.m. The master’s programs are designed to service those who work full-time and wish to pursue a master’s program on a part-time basis.

Admission

Policy

The applicant must meet one (1) of the following eligibility requirements which are in conformity with the Graduate School and the college’s accrediting agency (AACSB):

• Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,000 or more points based upon the overall undergraduate grade-point average (GPA) (A=4.0) times 200 plus the Graduate Management Admissions Test (GMAT) score.

• Hold a domestic baccalaureate degree from a regionally accredited college or university and have a total index score of 1,050 or more points based upon the junior-senior (i.e., last 64 semester or 96 quarter credits) GPA (A=4.0) times 200 plus the GMAT score.

• Hold a degree from outside the United States and have an academic standing of first or high second class, satisfactory evidence of competence in English (i.e., TOEFL score of 550 or above) and a score of at least 450 on the GMAT.

• Take the GMAT and have the results sent to the director of Graduate Programs in Business, College of Business Administration, The University of Akron, Akron, OH 44325 (institution code 1393). 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 bulletin can be obtained from the Graduate Programs in Business Office or the Educational Testing Service, Box 966-R, Princeton, NJ 08540. Those who have taken the GMAT (formerly called the ATGSB) more than five years ago are required to retake it.

Procedure

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.

Under the regulations of the Graduate School, eligible applicants who have been extended an offer of admission by the CBA Graduate Admissions Committee are recommended to the dean of the Graduate School for either “full” or “special” graduate status. Those admitted with the classification “special graduate status” who have not attained an overall 3.00 GPA upon the completion of 12 graduate credits will be dismissed from the program.

In rare instances, the applicant who has taken the GMAT but does not meet requirements may be considered for admission. Also, those who have previously been denied admission may, upon presentation of new information, be reconsidered. In either case, the applicant must petition, in writing, the CBA Graduate Admissions Committee giving those reasons relevant to the situation which demonstrate the likelihood of success — the burden of proof is on the applicant.

All applications and accompanying documentation are evaluated simultaneously by the Graduate Admissions Committee (GAC). The GAC meets only four times approximately four weeks after each GMAT date. The applicant will be informed in writing of the GAC’s decision after approximately one week.

Requirements

In order to be awarded any master’s degree from the College of Business Administration, a student must:

• Meet the time and grade-point requirements of the Graduate School.
• Complete the minimum credits in each of the degree descriptions.
• Complete all course requirements of applicable master’s program.

In all programs, some or all of the requirements of Phase I may be waived, and the student may be awarded advanced standing depending upon the academic background of the individual. Phase I and II courses can be taken concurrently provided that all prerequisites have been met.

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 coursework 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 Foundation Courses**

All are required with the exception of those who have had equivalent coursework in their undergraduate program can be awarded advanced standing, in which case some or all of the Phase I course(s) can be waived at the time of admission.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:660 Foundation of Economic Analysis*</td>
<td>3</td>
</tr>
<tr>
<td>6200:901 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:602 Managerial Finance**</td>
<td>3</td>
</tr>
<tr>
<td>6400:655 Government and Business</td>
<td>3</td>
</tr>
<tr>
<td>6500:660 Management and Production Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:601 Quantitative Decision-Making</td>
<td>3</td>
</tr>
<tr>
<td>6500:602 Computer Techniques for Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:600 Marketing Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

The following courses are required only for those selecting accounting as their area of concentration.

<table>
<thead>
<tr>
<th>Phase II Core Courses — Accounting Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breadth Courses:</strong></td>
</tr>
<tr>
<td>6500:660 Organizational Behavior</td>
</tr>
<tr>
<td>6500:650 Administrative Costs and Prices</td>
</tr>
<tr>
<td>Choose two:</td>
</tr>
<tr>
<td>6000:650                  Financial Management and Policy</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>6600:620                  Strategic Marketing Management</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>Any three nonfoundation graduate credits offered by the college in the area of accounting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:657 Advanced Accounting Theory</td>
</tr>
<tr>
<td>6200:655 Information Systems</td>
</tr>
<tr>
<td>6200:670 Cost Concepts and Control</td>
</tr>
<tr>
<td>Elective</td>
</tr>
<tr>
<td>One accounting course above 610</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrative Course:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:605 Business Strategy and Policy Domestic and International</td>
</tr>
<tr>
<td>(restricted to students graduating within two semesters)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Free Electives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>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)</td>
</tr>
</tbody>
</table>

**Phase II Core Courses — Finance Concentration**

<table>
<thead>
<tr>
<th>Breadth Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:610 Accounting and Control</td>
</tr>
<tr>
<td>6500:660 Organizational Behavior</td>
</tr>
<tr>
<td>6500:662 Quantitative Methods in Operations Mgmt</td>
</tr>
<tr>
<td>6400:650 Administering Costs and Prices</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>6600:620 Strategic Marketing Management</td>
</tr>
</tbody>
</table>

*If waived, student must select 6400:650 Administering Costs and Prices from the MBA Core (Breadth) courses.

**If waived, student must select 6400:674 Financial Management and Policy from the MBA Core (Breadth) courses.

**If waived, the student must select 6000:620 Strategic Marketing Management from the MBA Core (Breadth) courses.

**If waived, student must select 6400:660 Organizational Behavior from the MBA Core (Breadth) courses.

**If waived, student must select 6400:650 Administering Costs and Prices from the MBA Core (Breadth) courses.

**If waived, student must select 6400:674 Financial Management and Policy from the MBA Core (Breadth) courses.

**If waived, student must select 6500:620 Strategic Marketing Management from the MBA Core (Breadth) courses.

**If waived, student must select 6400:660 Organizational Behavior from the MBA Core (Breadth) courses.

**If waived, student must select 6400:650 Administering Costs and Prices from the MBA Core (Breadth) courses.

**If waived, student must select 6400:674 Financial Management and Policy from the MBA Core (Breadth) courses.

**If waived, student must select 6500:620 Strategic Marketing Management from the MBA Core (Breadth) courses.

<table>
<thead>
<tr>
<th>Elective</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any three nonfoundation graduate credits offered by the CBA in the area of finance</td>
<td>3</td>
</tr>
</tbody>
</table>

**Phase II Core Courses — Management Concentration**

<table>
<thead>
<tr>
<th>Breadth Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:610 Accounting and Control</td>
</tr>
<tr>
<td>6000:662 Quantitative Methods in Operations Management</td>
</tr>
<tr>
<td>Choose two:</td>
</tr>
<tr>
<td>6400:650 Administering Costs and Prices</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>6400:674 Financial Management and Policy</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>6600:620 Strategic Marketing Management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000:650 Information Systems</td>
</tr>
<tr>
<td>6500:605 Organizational Behavior</td>
</tr>
<tr>
<td>Elective</td>
</tr>
<tr>
<td>Any six nonfoundation graduate credits offered by the CBA in the area of management</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrative Course:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:605 Business Strategy and Policy Domestic and International</td>
</tr>
<tr>
<td>(restricted to students graduating within two semesters)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Free Electives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>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)</td>
</tr>
</tbody>
</table>

**Phase II Core Courses — Marketing Concentration**

<table>
<thead>
<tr>
<th>Breadth Courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:610 Accounting and Control</td>
</tr>
<tr>
<td>6000:662 Quantitative Methods in Operations Management</td>
</tr>
<tr>
<td>or</td>
</tr>
<tr>
<td>6400:650 Administering Costs and Prices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elective</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any three nonfoundation graduate credits offered by the CBA in the area of finance</td>
<td>3</td>
</tr>
</tbody>
</table>
• Concentration Courses:  
  6600:620 Strategic Marketing Management 3  
  6600:640 Marketing Information Systems and Research 3  
  Elective Any six nonfoundation graduate credits in marketing 6  

• Integrative Courses:  
  6500:695 Business Strategy and Policy: Domestic and International (restricted to students graduating within two semesters) 3  

• Free Electives:  
  Any six credits of CBA electives (any six credits of foundation courses may be used to satisfy one, three-credit elective up to six credits of free electives. Electives outside the CBA must be approved by the graduate director) 6  

Phase II Core Courses — International Business Concentration  

• Breadth Courses:  
  6200:610 Accounting Management and Control 3  
  6400:650 Administering Costs and Prices or  
  6400:674 Financial Management and Policy 3  
  6500:652 Organizational Behavior 3  
  6500:654 Quantitative Methods in Operations Management 3  
  6600:620 Strategic Marketing Management 3  

• Concentration Courses:  
  6400:681 International Business Finance 3  
  6600:659 International Business Enterprise 3  
  6600:655 International Marketing Policies 3  
  Elective (must be approved by graduate director) 3  

• Integrative Course:  
  6500:695 Business Strategy and Policy: Domestic and International (restricted to students graduating within two semesters) 3  

• Free Electives:  
  Any six credits of CBA electives (any six credits of foundation courses may be used to satisfy one, three-credit elective up to six credits of free electives. Electives outside the CBA must be approved by the graduate director) 6  

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 coursework are required. Phase I consists of specialized graduate and postbaccalaureate foundation courses. Phase II consists of the accounting core courses and are all required. Phase I courses may be waived for those who have had previous study in the areas.  

Phase I  

• Graduate Foundation:  
  3250:600 Foundation of Economic Analysis 3  
  6200:601 Financial Accounting 3  
  6200:610 Accounting Management and Control 3  
  6400:602 Managerial Finance 3  
  6500:606 Management and Production Concepts 3  
  6500:601 Quantitative Decision Making 3  
  6500:602 Computer Techniques for Management 3  
  6500:695 Business Strategy and Policy: Domestic and International 3  
  6600:600 Marketing Concepts 3  

• Post-Baccalaureate Foundation:  
  6200:301 Cost Accounting 3  
  6200:317 Intermediate Accounting I 4  
  6200:318 Intermediate Accounting II 4  
  6200:430 Taxation I 3  
  6200:431 Taxation II 3  
  6200:440 Auditing 3  
  6400:321 Business Law I 3  
  6400:322 Business Law II 3  

Phase II  

• Required:  
  6200:630 Tax Planning and Research 3  
  6200:637 Advanced Accounting Theory 3  
  6200:640 Advanced Auditing 3  
  6200:655 Information Systems 3  
  6200:670 Cost Concepts and Control 3  
  6400:674 Financial Management and Policy 3  
  Elective (any CBA elective) 3  

• Electives:  
  Any nine credits of the following:  
  6200:520 Advanced Accounting 3  
  6200:570 Governmental and Institutional Accounting 3  
  6200:631-54 (any taxation course) 3  
  6200:660 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 coursework: Phase I, foundation courses; and Phase II, required courses. A minimum of 30 semester credits is required for the degree.  

• Graduate Foundation:  
  3250:600 Foundation of Economics Analysis 3  
  6200:601 Financial Accounting 3  
  6400:602 Managerial Finance 3  
  6400:655 Government and Business 3  
  6500:600 Management and Production Concepts 3  
  6500:601 Quantitative Decision Making 3  
  6500:603 Marketing Concepts 3  

• Post-Baccalaureate Foundation:  
  6200:430 Taxation I 3  
  6200:431 Taxation II 3  
  6500:409 Business Policy 4  

Phase II  

• Required:  
  6200:630 Tax Research and Planning 3  
  6200:631 Corporate Taxation I 3  
  6200:633 Taxation of Transactions in Property 3  
  6200:633 Estates and Gift Taxation 3  

• Electives:  
  Eighteen credits of which at least 12 must be in tax law (6200-641-54)  
  Taxation courses 12  
  Any CBA courses 6  

143
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 coursework 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 
  - 6200 601 Financial Accounting 
  - 6400 602 Managerial Finance 
  - 6400 655 Government and Business 
  - 6500 600 Management and Production Concepts 
  - 6500 601 Quantitative Decision Making 
  - 6500 602 Computer Techniques for Management 
  - 6600 600 Marketing Concepts

- **Required Courses**
  - 6550 640 Information Systems and Management 
  - 6500 653 Organizational Theory 
  - 6500 667 Quantitative Methods in Operations Mgmt 
  - 6500 666 Applied Industrial Statistics I 
  - 6500 667 Advanced Operations Research 
  - 6500 695 Business Strategy and Policy: Domestic and International 
  - 6500 699 Graduate Seminar in Management

  **Credits**
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3
  - 3

**Phase II**

- **Selected Electives (two required)**
  - 6200 610 Accounting Management and Control 
  - 6400 674 Financial Management and Policy 
  - 6600 620 Strategic Marketing Management

- **Required Courses**
  - 6500 640 Information Systems and Management 
  - 6500 653 Organizational Theory 
  - 6500 666 Quantitative Methods in Operations Mgmt 
  - 6500 663 Applied Industrial Statistics I 
  - 6500 666 Advanced Operations Research 
  - 6500 695 Business Strategy and Policy: Domestic and International 
  - 6500 699 Graduate Seminar in Management

**Degree Requirements**

A student is required to fulfill the requirements of the School of Law (74 credits plus 10 credits transferred from the CBA. The requirements of the CBA may be met by fulfilling the requirements previously listed which include the common body of knowledge (Phase I) courses (18-27 credits unless waived because of prior undergraduate credits earned) and 24 credits for M.Tax, or 30 credits for M.B.A. of advanced courses in the CBA plus six credits transferred from the School of Law. 

The reciprocal acceptance of course credits by each school is the essence of the joint programs. All law courses used to fulfill CBA requirements must be approved by the director of Graduate Business Programs prior to completion. To earn both degrees, a total of 98 (J.D./M.Tax.) or 104 (J.D./M.B.A.) credits is required, depending on the master's program pursued. More credits may be required for the master's degree if courses (Phase I) are required.

Upon the approval of the director of Graduate Programs in Business, 10 credits of School of Law courses may be applied toward the Masters of Taxation degree. No more than six credits from the School of Law may be in non-tax courses. The other four credits taken in the School of Law must be in tax courses which substitute for equivalent tax courses in the CBA.
Gerard L. Knieter, Ed.D., and Kelvie Comer, Ed.D., accept admission to the program, the student must meet the following requirements:

- The general requirements for admission to the Graduate School.
- Entrance requirements for each program.
- The standard requirements for an undergraduate major in the proposed area of graduate study or preparation which has been accepted as equivalent by the department head and the department graduate faculty.

In addition to the above, the student will be expected to comply with the following requirements:

- Complete the course of study in one of the two options: child development or family development with a minimum of 40 credits. These credits will include:
  - foundation courses to prepare the student for research in home economics and family ecology as a discipline;
  - core courses in the area of specialty;
  - electives selected from within the department or from another discipline to strengthen student's professional goals. These courses will be selected in consultation with and approval from the student's graduate faculty advisor.

- Complete a thesis or an internship. The thesis option involves the design and evaluation of original research in an appropriately related area commensurate with the student's background and area of pursuit. The research may involve a creative, historical or experimental design. The internship option involves the design, development, implementation and evaluation of original and creative programs and/or resource materials pertaining to family and/or child development. Part of the internship experience may take place in a community-based agency which serves families and/or children. A written proposal for the thesis or internship option must be submitted at the completion of approximately 20 credits of graduate study.

- Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.

- Apply for Advancement to Candidacy upon successful completion of 25 credits of graduate study, the written comprehensive examination and an approval prospectus for a thesis or internship.

- Pass an oral examination covering the thesis or internship report.

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### Home Economics and Family Ecology

A program of study is offered leading to the Master of Arts in Home Economics and Family Ecology degree with an emphasis in either family development or child development. Prior to acceptance in the program, the student must meet the following conditions:

- The general requirements for admission to the Graduate School.
- The standard requirements for an undergraduate major in the proposed area of graduate study or preparation which has been accepted as equivalent by the department head and the department graduate faculty.

In addition to the above, the student will be expected to comply with the following requirements:

- Complete the course of study in one of the two options: child development or family development with a minimum of 40 credits. These credits will include:
  - foundation courses to prepare the student for research in home economics and family ecology as a discipline;
  - core courses in the area of specialty;
  - electives selected from within the department or from another discipline to strengthen student's professional goals. These courses will be selected in consultation with and approval from the student's graduate faculty advisor.

- Complete a thesis or an internship. The thesis option involves the design and evaluation of original research in an appropriately related area commensurate with the student's background and area of pursuit. The research may involve a creative, historical or experimental design. The internship option involves the design, development, implementation and evaluation of original and creative programs and/or resource materials pertaining to family and/or child development. Part of the internship experience may take place in a community-based agency which serves families and/or children. A written proposal for the thesis or internship option must be submitted at the completion of approximately 20 credits of graduate study.

- Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.

- Apply for Advancement to Candidacy upon successful completion of 25 credits of graduate study, the written comprehensive examination and an approval prospectus for a thesis or internship.

- Pass an oral examination covering the thesis or internship report.

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### 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 student's professional goals. These courses will be selected in consultation with and approval from the student's graduate faculty advisor.

- Complete a thesis or an internship. The thesis option involves the design and evaluation of original research in an appropriately related area commensurate with the student's background and area of pursuit. The research may involve a creative, historical or experimental design. The internship option involves the design, development, implementation and evaluation of original and creative programs and/or resource materials pertaining to family and/or child development. Part of the internship experience may take place in a community-based agency which serves families and/or children. A written proposal for the thesis or internship option must be submitted at the completion of approximately 20 credits of graduate study.

- Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.

- Apply for Advancement to Candidacy upon successful completion of 25 credits of graduate study, the written comprehensive examination and an approval prospectus for a thesis or internship.

- Pass an oral examination covering the thesis or internship report.

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### 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>

- One graduate-level research course to be approved by the adviser.

---

### Child Development Option

- **Core courses:**
  - Select 16 credits from the following courses:
    - 7400:550 Adolescence in the Family Context
    - 7400:560 Organization and Supervision of Child Care Centers
    - 7400:596 Parenting Skills
    - 7400:605 Developmental Parent-Child Interactions
    - 7400:616 Infant and Child Nutrition
    - 7400:660 Programming for Child Care Centers
    - 7400:665 Development in Infancy and Early Childhood

- **Electives** — 10 credits

---

### Family Development Option

- **Core courses:**
  - Select 16 credits from the following courses:
    - 7400:602 Family Life-Span Perspective
    - 7400:605 Developmental Parent-Child Relations
    - 7400:607 Family Dynamics
    - 7400:651 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:

- 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 performance option in voice, Italian and German are required. If the student lacks background in any of these language requirements, auditing of undergraduate courses is required.

- For the composition option, compositions representing the applicant's techniques are required.

- The options in 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.

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.

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*The student who has completed some of these courses as an undergraduate should consult an adviser for substitutions.*

**Select from courses within the Department of Home Economics and Family Ecology or from a cognate area outside the department or a combination of the above approved by the student's adviser.
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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis</td>
<td>4-6</td>
</tr>
</tbody>
</table>

- 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-thesis</td>
<td>34</td>
</tr>
</tbody>
</table>

Composition Option

- Core courses — 16 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:555 Advanced Conducting</td>
<td>2</td>
</tr>
<tr>
<td>750:611 Musical Styles and Analysis I (Chant through Palenese) 2</td>
<td></td>
</tr>
<tr>
<td>750:616 Musical Styles and Analysis II (Baroque through early Beethoven</td>
<td>2</td>
</tr>
<tr>
<td>750:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)</td>
<td>2</td>
</tr>
<tr>
<td>750:618 Theory Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>750:542 Applied Composition</td>
<td>8</td>
</tr>
</tbody>
</table>

- Required courses — 9 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:601 Choral Literature</td>
<td>2</td>
</tr>
<tr>
<td>750:618 Musical Styles and Analysis IV (Twentieth Century)</td>
<td>2</td>
</tr>
<tr>
<td>750:624 Historical Survey Music of the Twentieth Century</td>
<td>2</td>
</tr>
<tr>
<td>750:637 Master’s Chamber Recital</td>
<td>2</td>
</tr>
<tr>
<td>750:698 Graduate Recital</td>
<td>2</td>
</tr>
<tr>
<td>750:699 Thesis Research/Recital Document</td>
<td>4-6</td>
</tr>
</tbody>
</table>

- Electives — 7 credits*

Performance Option

- Core courses — 16 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:555 Advanced Conducting</td>
<td>2</td>
</tr>
<tr>
<td>750:615 Musical Styles and Analysis I (Chant through Palenese)</td>
<td>2</td>
</tr>
<tr>
<td>750:616 Musical Styles and Analysis II (Baroque through early Beethoven)</td>
<td>2</td>
</tr>
<tr>
<td>750:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)</td>
<td>2</td>
</tr>
<tr>
<td>750:619 Theory Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>750:921 Historical Survey Music of the Middle Ages and Renaissance</td>
<td>2</td>
</tr>
<tr>
<td>750:622 Historical Survey Music of the Baroque</td>
<td>2</td>
</tr>
<tr>
<td>750:623 Historical Survey Music of the Classic and Romantic Eras</td>
<td>2</td>
</tr>
<tr>
<td>700:624 Historical Survey Music of the Twentieth Century</td>
<td>2</td>
</tr>
<tr>
<td>750:698 Graduate Recital</td>
<td>2</td>
</tr>
<tr>
<td>750:699 Thesis Research/Recital Document</td>
<td>4-6</td>
</tr>
</tbody>
</table>

- Electives — 10 credits*

Theory Option

- Core courses — 16 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:615 Musical Styles and Analysis I (Chant through Palenese)</td>
<td>2</td>
</tr>
<tr>
<td>750:616 Musical Styles and Analysis II (Baroque through early Beethoven)</td>
<td>2</td>
</tr>
<tr>
<td>750:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)</td>
<td>2</td>
</tr>
<tr>
<td>750:618 Musical Styles and Analysis IV (Twentieth Century)</td>
<td>2</td>
</tr>
</tbody>
</table>

  *It is recommended that each student’s graduate committee recommend the appropriate elective credits

Music History and Literature Option

- Core courses — 16 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:555 Advanced Conducting</td>
<td>2</td>
</tr>
<tr>
<td>750:615 Musical Styles and Analysis I (Chant through Palenese)</td>
<td>2</td>
</tr>
<tr>
<td>750:616 Musical Styles and Analysis II (Baroque through early Beethoven)</td>
<td>2</td>
</tr>
<tr>
<td>750:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)</td>
<td>2</td>
</tr>
<tr>
<td>750:619 Theory Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>750:621 Historical Survey Music of the Middle Ages and Renaissance</td>
<td>2</td>
</tr>
<tr>
<td>750:622 Historical Survey Music of the Baroque</td>
<td>2</td>
</tr>
<tr>
<td>750:623 Historical Survey Music of the Classic and Romantic Eras</td>
<td>2</td>
</tr>
<tr>
<td>750:624 Historical Survey Music of the Twentieth Century</td>
<td>2</td>
</tr>
<tr>
<td>750:698 Graduate Recital</td>
<td>2</td>
</tr>
<tr>
<td>750:699 Thesis Research/Recital Document</td>
<td>4-6</td>
</tr>
</tbody>
</table>

- Electives — 4 credits**

Accompanying Option

- Core courses — 16 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:555 Advanced Conducting</td>
<td>2</td>
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<tr>
<td>750:615 Musical Styles and Analysis I (Chant through Palenese)</td>
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<td>750:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)</td>
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</tr>
<tr>
<td>750:619 Theory Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>750:621 Historical Survey Music of the Middle Ages and Renaissance</td>
<td>2</td>
</tr>
<tr>
<td>750:622 Historical Survey Music of the Baroque</td>
<td>2</td>
</tr>
<tr>
<td>750:623 Historical Survey Music of the Classic and Romantic Eras</td>
<td>2</td>
</tr>
<tr>
<td>750:624 Historical Survey Music of the Twentieth Century</td>
<td>2</td>
</tr>
<tr>
<td>752:5 Applied Music (Piano, Organ and/or Harpsichord)</td>
<td>8</td>
</tr>
</tbody>
</table>

- Required courses — 9 to 12 credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:561 Repertoire and Pedagogy (Piano and Harpsichord)</td>
<td>3</td>
</tr>
<tr>
<td>750:382 Repertoire and Pedagogy (Organ)</td>
<td>3</td>
</tr>
<tr>
<td>750:697 Advanced Problems in Music</td>
<td>4</td>
</tr>
<tr>
<td>(10 select topics in Song Literature and Chamber Music in consultation with advisor) Accompaniment of a minimum of three solo/ensemble recitals (instrumental and vocal)</td>
<td>12</td>
</tr>
<tr>
<td>750:698 Graduate Recital</td>
<td>2</td>
</tr>
<tr>
<td>750:699 Thesis Research/Recital Document</td>
<td>4-6</td>
</tr>
</tbody>
</table>

- Electives — 4-9 credits**

  *It is recommended that each student’s graduate committee recommend the appropriate elective credits

  **It is recommended that each student’s graduate committee recommend the appropriate elective credits

146
Communication

The Department of Communication offers the Master of Arts degree in a coordinated program of communication arts. The program is as follows:

- **Core**
  - 7800.600 Introduction to Graduate Study in Mass Media Communication
  - 7800.603 Empirical Research in Mass Media Communication
  - 7800.624 Survey of Communication Theory
  - 7800.625 Theories of Mass Communication
  - 7800.670 Communication Criticism

- **Electives/Project/Production**
  - Each student after passing comprehensive examinations, must register for four credits of Thesis/Project/Production. The requirement is designed to be the culmination of the student’s academic program and involves the conception, design, and execution of a problem in a manner which requires a high level of substantive, methodological and writing skills. These skills may be demonstrated in any of the following types of activity, depending on the student's background and orientation:
    - Departmental electives — 10 credits.
    - Electives — 6 credits.

- **Degree Requirements**
  - Complete an undergraduate major in the area of proposed graduate study or equivalent work as approved by the head of the department.
  - Complete a minimum of 36 credits, including 7800.600 and 7800.699, from the following courses or approved courses in the cognate field:
    - 7800.562 Playwriting
    - 7800.567 Contemporary Theatre Styles
    - 7800.568 History of Technical Production
    - 7800.660 Technical Theatre
    - 7800.661 Seminar in Stage Costume Design
    - 7800.662 Seminar in Scene Design
    - 7800.663 Seminar in American Theatre
    - 7800.665 Seminar in Theatre Audience
    - 7800.666 Introduction to Art Management
    - 7800.668 Studies in Dramatic Practice I, II, III
    - 7800.669 Research and Thesis (required) — 1-6
  - Complete an oral defense of the thesis.

Theatre Arts and Dance

The following will qualify the student in the field of theatre arts. There is no graduate program in dance.

- Complete the general requirements for admission to the Graduate School.
- Complete an undergraduate major in the arts of proposed graduate study or equivalent work, as approved by the head of the department.
- Complete a minimum of 36 credits, including 7800.600 and 7800.699, from the following courses or approved courses in the cognate field:
  - 7800.562 Playwriting
  - 7800.567 Contemporary Theatre Styles
  - 7800.568 History of Technical Production
  - 7800.660 Technical Theatre
  - 7800.661 Seminar in Stage Costume Design
  - 7800.662 Seminar in Scene Design
  - 7800.663 Seminar in American Theatre
  - 7800.665 Seminar in Theatre Audience
  - 7800.666 Introduction to Art Management
  - 7800.668 Studies in Dramatic Practice I, II, III
  - 7800.669 Research and Thesis (required) — 1-6
- Complete an oral defense of the thesis.

Arts Management

- **Required courses**:
  - 7800.600 Introduction to Graduate Studies
  - 7800.603 Empirical Research in Mass Media Communication
  - 7800.624 Survey of Communication Theory
  - 7800.625 Theories of Mass Communication
  - 7800.670 Communication Criticism

- **Electives in Business**
  - 6200.601 Financial Accounting
  - 6400.602 Managerial Finance
  - 6500.606 Management Concepts, Practices and Theory

- **Electives in Urban Studies**
  - 3980.610 Urban Politics
  - 3980.611 Urban Administration
  - 3980.640 Fiscal Analysis
  - 3980.651 Topics (such areas as cultural policy and personal management)
  - 3980.655 Internship

- **Related fields**
  - Options here include work in computer science, grantsmanship and advertising/promotion.

See the director of Graduate Studies of the Department of Theatre Arts and Dance regarding this program.

Communicative Disorders

This program, leading to the Master of Arts 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 requirements for admission to the Graduate School.
- Hold an undergraduate major in the area of proposed graduate study 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 offered 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 36 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 nonthesis option. Academic requirements within the department include:
  - 7700.611 Research Methods in Communicative Disorders I — 3 credits
  - 7700.612 Research Methods in Communicative Disorders II — 2 credits
  - 7700.659 Research and Thesis — 4-6 credits
  - 7700.660 Advanced Clinical Practicum: Differentiated Diagnosis — 1 credit

Two credits must be taken from the following:

- 7700.651 Advanced Clinical Practicum: Voice — 1 credit
- 7700.652 Advanced Clinical Practicum: Fluency — 1 credit
- 7700.654 Advanced Clinical Practicum: Diagnostic Audiology — 1 credit
- 7700.655 Advanced Clinical Practicum: Articulation — 1 credit
- 7700.656 Advanced Clinical Practicum: Language — 1 credit
- 7700.657 Advanced Clinical Practicum: Rehabilitative Audiology — 1 credit

The student must take four credits of 7700.695 Internship: 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 7700.639 Advanced Clinical Testing as the first of the audiology courses.

The following limitations on work toward the degree may be exceeded only with approval of two-thirds of the department's graduate faculty:
— no more than four credits of workshop courses;
— no more than six credits of directed study coursework (including 7700:697); 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 of 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.

Social Work

There is no graduate degree in social work. A student interested in coursework may enroll if admitted to Graduate School through other programs or may apply for "Special Non-Degree" status through the Department of Social Work. A student should enroll in graduate courses only for specific professional preparation, and with the permission of the instructor. Courses presume a background in social welfare institutions, social work practice, social welfare policy and history. Inquiries should be directed to the head of the department.
College of Nursing

Lillian L. DeYoung, R.N., Ph.D., Dean
Phyllis Fitzgerald, Ph.D., Assistant Dean

Master of Science in Nursing

Philosophy

The philosophy of graduate education in nursing evolves from the undergraduate philosophy. Undergraduate education has as its primary focus man, the individual within the family. The undergraduate program prepares a nurse generalist who provides health care to individuals, families and groups in any setting. The focus of graduate education is the family unit comprised of individuals viewed as enfamilied selves. In graduate education, health is viewed on a continuum of health/diminished health and as a purposeful interaction with ecological variables which seeks to maintain a state of well-being. In graduate education, health is viewed as an evolving process which occurs throughout the lifespan of enfamilied selves in interrelationship with the ecosystem. Family health is perceived as expansion of consciousness of enfamilied selves.

Undergraduate education prepares a generalist who is capable of practicing in any environment and provides a foundation for research, continued study and leadership. Graduate education prepares a family health nurse specialist who implements the role of family health nurse by assisting families to experience health in any environment and who generates family health nursing knowledge through research. This educational process provides the foundation for doctoral study in nursing. Graduate education prepares this specialist for leadership in administration, education and/or direct care with families. 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 macro-ecosystem, a meta-ecosystem and a micro-ecosystem, and perceives the phenomena of the family ecosystem in terms of the intentionality of consciousness of enfamilied selves as reported by family members.

The faculty believes that family health nurses, using an ecological-phenomenological perspective, evolve a dialectical process of family health. Using an ecological-phenomenological perspective the faculty perceives family health as an expansion of consciousness. Consciousness is viewed as five domains of living: valuing, thinking, feeling, acting and 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 enfamilied selves encounter a world that is meaningfully structured. Forms of intentionality include the "we" relationship, a reciprocity of perspectives, and a dynamic of time, space and motion. The faculty believes the family unit is a single entity regarded as a whole and is comprised of kinship ties which act as support system for one or more enfamilied selves. The enfamilied self is viewed as an individual family member who is given personal identity and validation within the family ecosystem. The family unit is perceived as a finite province of meaning.

The faculty believes that family health nursing is a process whereby the nurse and the family co-create a climate for experiencing a dialectical process of health. Family health nurses, using an ecological-phenomenological perspective and evolving a dialectical process of health, view families as a unit and components of families as enfamilied selves. Family health nurses, with families and enfamilied selves, experience the dialectical process of health, through health appraisal, anticipatory dynamics, stress management, health learning and enfamilied self-care. Leadership in education and direct care with families is a process whereby the family health nurse in interrelationship with others co-constitutes an ecosystem to enable others to sustain a sense of self.

Purposes and Characteristics

The purpose of the Graduate Program in Family Health Nursing is to prepare career-oriented family health nurse specialists for leadership roles in administration, education and direct care with families and to provide a foundation for doctoral study. Within this framework, graduates of the program shall be able to:

- Value the ecological-phenomenological perspective, the dialectical process and the concepts of health, family, family health, enfamilied self and leadership.
- Evaluate health with families and enfamilied selves through health appraisal, anticipatory dynamics, stress management, health learning and enfamilied self-care.
- Actualize the leadership role in administration, education and/or direct care with families.
- Generate family health nursing knowledge through research.
- Pursue doctoral study.

Admission

General Admission Policies

The applicant 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.
- Hold a grade point average of 3.00 on a 4.00 scale from the undergraduate program.
- Have satisfactorily completed an undergraduate statistics course, an elementary course in research methodology or equivalent and a basic physical assessment course.
- Have three letters of reference from:
  - a recent employer;
  - a member of the nursing profession who can attest to the applicant's scholarly abilities,
from the 150, cations and make recommendations to the director regarding the status accorded the student.

An admissions committee of four 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 of four will meet and review all applications and make recommendations to the director regarding the status accorded the student.

The director will send recommendations first to the dean of the college, then to the dean of the Graduate School who will notify the student.

Second, 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.

Procedures

First, 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 of four will meet and review all applications and make recommendations to the director regarding the status accorded the student.

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.

Second, 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.

Grade-Point Average

• An applicant with a grade-point average of 3.00 or better from the 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.
• An applicant with an undergraduate grade-point average of 2.50-2.74 will be assigned to Deferred Status and will be advised by the College of Nursing to take postbacalaureate courses. The number of course credits to be taken is dependent on the applicant’s undergraduate grade-point average and will be determined by the use of a “sliding scale.” A grade of “B” or better for each course must be attained. Once such work is completed, the student may reapply for a change in status.

Electives

Nine electives are provided in the curriculum. Students will choose a minimum of three credits free elective, three credits elective in nursing and three credits elective in leadership. Additional credits will provide the opportunity to individualize and strengthen the major.

The following courses are required of all students:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200.600</td>
<td>Theoretical Basis for Family Health Nursing I</td>
<td>3</td>
</tr>
<tr>
<td>8200.601</td>
<td>Theoretical Basis for Family Health Nursing II</td>
<td>3</td>
</tr>
<tr>
<td>8200.612</td>
<td>Nursing Inquiry</td>
<td>4</td>
</tr>
<tr>
<td>8200.618</td>
<td>Family Health Appraisal</td>
<td>5</td>
</tr>
<tr>
<td>8200.620</td>
<td>Family Health Nursing I</td>
<td>6</td>
</tr>
<tr>
<td>8200.621</td>
<td>Family Health Nursing II</td>
<td>6</td>
</tr>
<tr>
<td>8200.689</td>
<td>Colloquium</td>
<td>1</td>
</tr>
<tr>
<td>8200.699</td>
<td>Thesis Research</td>
<td>4</td>
</tr>
<tr>
<td>3470.661</td>
<td>Advanced Behavioral Statistics</td>
<td>3</td>
</tr>
<tr>
<td>3470.697</td>
<td>Individual Reading Advanced Behavioral Statistics</td>
<td>1</td>
</tr>
<tr>
<td>8200.680</td>
<td>Family Health Nursing Leadership Seminar: Direct Care with Families</td>
<td>3</td>
</tr>
<tr>
<td>8200.681</td>
<td>Family Health Nursing Leadership Practicum: Direct Care with Families</td>
<td>3</td>
</tr>
<tr>
<td>8200.687</td>
<td>Family Health Nursing Leadership Seminar: Administration</td>
<td>3</td>
</tr>
<tr>
<td>8200.688</td>
<td>Family Health Nursing Leadership Practicum: Administration</td>
<td>3</td>
</tr>
<tr>
<td>8200.685</td>
<td>Family Health Nursing Leadership Seminar: Education</td>
<td>3</td>
</tr>
<tr>
<td>8200.686</td>
<td>Family Health Nursing Leadership Practicum: Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives:

Nursing: 3
Leadership: 3
Free credits: 3

Cooperative Statement

This program is in cooperation with Kent State University. School of Nursing, where a student has the option to take cognate or nursing electives and utilize library facilities.
School of Law

Donald M. Jenkins, B.A., J.D., Dean
Albert S. Rakas, J.D., Associate Dean
Robert C. Sullivan, M.Ed., Assistant Dean for Placement and Internal Functions

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 countless resources through its proximity to state and federal courts, local law enforcement agencies and corporate headquarters. An integral part of a distinguished University founded in 1870, the School of Law benefits from the nine major divisions of the University, the Graduate School and the more than 24,000 students.

Enrollment in the School of Law is approximately 640. Thus, the opportunity for active student participation in the classroom, consultation with faculty members and extracurricular participation is facilitated.

In addition to being a member of the Association of American Law Schools, The University of Akron School of Law is fully accredited by the American Bar Association, the State of New York Court of Appeals, the Council of the North Carolina State Bar and holds a charter membership in the League of Ohio Law Schools.

The School of Law offers a day program for the study of law with classes scheduled during the hours of 8:30 a.m. and 4:30 p.m.; an evening plan of the study of law for the working student with classes scheduled primarily between 6:30 p.m. and 9:30 p.m.

The schedule of courses for the day division is designed so that the degree of Juris Doctor may be earned in three academic years consisting of six semesters. Attendance at Summer Sessions is optional.

The schedule of courses for the evening division is designed so that the degree of Juris Doctor may be earned in four academic years consisting of eight semesters and three summer sessions.

Each student is recommended for the degree of Juris Doctor upon satisfactory completion of the requirements.

Objectives

The purpose of the School of Law is to further the goals of The University of Akron by providing a quality program of university education for law and to pursue the following aims:

- To prepare the student for a career in the profession of law by imparting information concerning legal institutions, basic principles of the substantive and procedural law and jurisprudential thought concerning the role of law in society.
- To help to develop in the student an active and critical attitude rather than a passive approach toward the rules of law and their social implications.
- To develop in the student a high sense of professional responsibility in terms of technical competency, appreciation of professional standards and the responsibility of the lawyer to achieve a more nearly perfect system of civil and criminal justice.

The primary purpose of the student enrolling in the School of Law is to obtain a fundamental knowledge of law and the role of law in society, integrated with a grasp of the public responsibilities of the lawyer. This course of study will enable him 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 located 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 concern 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, your college record and Law School Admission Test score must demonstrate that you are highly qualified for law study.

A student entering law school must have completed a course of study encompassing a broad cultural background also including intensive work in a selected field of study. The pre-law student must demonstrate the ability to communicate easily, to
understand people and institutions; to gather and weigh facts; and to solve problems and think creatively. A mastery of the
English language is essential and the entering student should be able to read with comprehension and be able to express
clearly and concisely in both oral and written fashion.

Requirements

An applicant for admission desiring to become a candidate for the
degree of Juris Doctor must be of good moral character. A
baccalaureate degree from a regionally accredited college or
university in a field of study deemed appropriate by the faculty
of the School of Law, with an academic average substantially
better than the minimum average required for such a degree,
must have been earned prior to the time the applicant begins
work in the law school.

The school, through an Admissions Committee, is seeking law
students of demonstrated academic ability as evidenced in part
by LSAT scores and the undergraduate grade-point average
(GPA). The school will be looking beyond the LSAT and GPA for
special qualities in its applicants for 100 day-division openings
and 100 evening-division openings.

The law school seeks law students with diverse backgrounds.
In this regard, consideration is given to ethnic and economic
factors, advanced degrees, significant work experience and
extracurricular and community activities during and after the
college years. The growth and maturity of the applicants and
their commitment to law study are significant concerns.

Procedures

Applicants for both day and evening should apply and complete
applications as soon as possible after October 1 in the year
preceding the start of fall classes. Review of completed files will
begin in January and students will be admitted until the classes
are filled. After that time, acceptable applicants will be placed
on a waiting list. The school estimates the day classes will be filled
by April 1; the evening class by June 1. Because the school
considers each application soon after it is completed, there is
no way of knowing whether the classes will be closed before or
after the above dates. The best policy is to complete one's
application as early as possible. Admission from the waiting
list will begin in late July; should vacancies occur.

In cases where specific questions on an application arise, a
personal interview with the associate dean may be necessary
or may be requested by the applicant.

Letters of recommendation are not necessary. However, if
points relevant to academic or personal background are not
addressed in the application material, they may be added to the
applicant's file for review.

Application Procedures

Submit to the School of Law:
• Application for Admission form (available upon request from
the Law School).
• A non-refundable application fee of $25 if never previously enrolled
for credit courses at The University of Akron (check or money order
payable to The University of Akron).
• A Law School Application Matching form obtained with LSAT/
LSDAS material.
• 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, Decem-
ber 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.

The official transcript, or, in cases where applicable, the certif-
icate, should be received by the School of Law at least one
week prior to the official registration period published in the
University calendar.

A student admitted to the Juris Doctor degree program is
requested to file the official transcript only after receiving written
notice of admission to Juris Doctor degree candidacy of the
School of Law.

The unofficial copy of transcript forwarded to the School of Law
by the LSDAS does not constitute filing of transcript with the
School of Law.

All inquiries and correspondence pertaining to admission
should be sent to:
Associate Dean
School of Law
The University of Akron
Akron, OH 44325
Phone: (216) 375-7331

Reapplication

Applicants who have previously applied for law school and
have not attended must comply with all the above procedures.
The LSAT does not need to be repeated but depending on the
test results, you may want to retake the test. In addition to the
application and the $25 non-refundable fee, a current LSDAS
report must be sent to the School of Law.

Advanced Standing

A law student who has completed part of the law course at a
school on the approved list of the Section of Legal Education
and Admissions to the Bar of the American Bar Association,
and who is eligible for readmission to the former law school,
may be admitted to advanced standing. A student desiring admission to advanced standing shall (1) obtain from the dean of the former law school a letter setting forth the fact that the student is eligible for further instruction, and consent to the transfer; (2) submit evidence of meeting the admission requirements (including LSAT/LSDB) of The University of Akron School of Law, (3) present an official transcript of all work completed at the previous law school, (4) submit a non-refundable fee if never previously enrolled for credit courses at The University of Akron. Credit to be given for the prior law school work shall be determined by the dean of the School of Law.

Auditing

Members of the bar and graduates of law schools who are not yet members of the bar may, with the permission of the dean of the School of Law, enroll for a course without credit. The auditor is required to do all the work prescribed for the regular student enrolled for credit except taking examinations. The fee for the auditor is the same as for a regular student.

Transient Students

A law student who is currently enrolled at a School of Law on the approved list of the Section of Legal Education and Admissions to the Bar, American Bar Association, may enroll for specified courses in the School of Law upon receipt of a completed Transient Application form (which requires written permission of the applicant’s dean) and application fee (if applicable) subject to availability of space in specified classes.

Joint Degree Programs

In order 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.

Degree Requirements

The degree of Juris Doctor is conferred upon a student of good moral character who has been recommended by the dean and faculty of the School of Law and who has:

- Completed satisfactorily all required courses, seminars and electives to earn at least 84 credits.
- Completion of a program involving extensive research and legal writing.
- Met the residency requirement of 96 weeks for the day division or 144 weeks for the evening division.
- Attained at least a 2.00 average for all courses taken and additionally, at least a 2.00 average for the senior year.
- Spent their last year at the University unless excused by a dean.

Library

The primary tool of the attorney is the written word. Thus, books take on an added importance when one undertakes a study of the law. The incoming student will soon discover that an essential portion of time and energy will be expended within the law school library.

The library has a fine collection of over 142,000 volumes in an attractive and pleasant reading room. The library has all the basic legal materials for conducting legal research in all fifty states and in federal practice. Extensive materials are available for research in many subject areas of the law. The library subscribes to the series of records and briefs of the Ohio Supreme Court and the United States Supreme Court. Audio tapes, video tapes and microforms are also available for use in many related areas of study.
The library is a federal government depository giving the student access to law-related publications of the federal government. The latter addition to the library is an online computer terminal for accessing legal data bases. This tool of the law office of the future is available now.

Five professional librarians (two with both a law degree and a master's degree in library science) five staff and a dozen assistants are available.

To supplement the collection are the University libraries with over one million volumes freely available to all students and a computer terminal linking the law library to 2,300 other libraries with more than seven million titles which may be borrowed

Curriculum

The curriculum* includes foundation courses of common law origin, public law and those of a procedural nature, as well as perspective and planning courses. Law is studied by the case, problem, seminar and clinical methods. Clinical training is achieved through basic and advanced seminars which involve student participation in the work of the various legal aid, public defender, prosecutor's offices, as well as other agencies. The aim of this program of study, in addition to developing social awareness, is to train the student for technical competency, professional responsibility and for the practice of law in any common law jurisdiction.

The Law School faculty, to assist the student in planning a course selection that may be used to meet individual professional objectives while attending Law School here, adopted a suggested track system. In addition, the primary purpose of the suggested tracks is to identify when courses will be offered in the future. Tracks have been developed for the following: required and bar courses, business, litigation and tax.

Day Program

First Year, Required
Fall Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Civil Procedure I</td>
<td>3</td>
</tr>
<tr>
<td>Contracts I</td>
<td>3</td>
</tr>
<tr>
<td>Property I</td>
<td>3</td>
</tr>
<tr>
<td>Torts I</td>
<td>3</td>
</tr>
<tr>
<td>Legal Research</td>
<td>1</td>
</tr>
<tr>
<td>Basic Legal Communications</td>
<td>1</td>
</tr>
<tr>
<td>Intermediate Legal Commun</td>
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Spring Semester

<table>
<thead>
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<th>Course</th>
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</thead>
<tbody>
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<td>Civil Procedure II</td>
<td>3</td>
</tr>
<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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<tr>
<td>Torts II</td>
<td>3</td>
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Evening Program

First Year, Required
Fall Semester

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>Contracts I</td>
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<td>Torts I</td>
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<td>Legal Research</td>
<td>1</td>
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<tr>
<td>Basic Legal Communications</td>
<td>1</td>
</tr>
<tr>
<td>Intermediate Legal Commun</td>
<td>1</td>
</tr>
</tbody>
</table>

*The coursework for the first year is prescribed and provides essential framework for subsequent study.

Writing Program

The tools of the practicing lawyer are oral and writing skills. As an incoming law student, experience will be gained in using and improving these skills. All first-year students take a course in legal research and advocacy. During the year the student learns to use the specialized research materials 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 course. 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 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>Grade Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A+</td>
<td>4.30</td>
</tr>
<tr>
<td>B+</td>
<td>3.70</td>
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<td>B-</td>
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<tr>
<td>C+</td>
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<tr>
<td>D+</td>
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</tr>
<tr>
<td>D</td>
<td>1.30</td>
</tr>
<tr>
<td>D-</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>0.70</td>
</tr>
<tr>
<td>Failed</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.

A student may withdraw from a course without the permission of the dean or is dropped from any course by the dean, the student is given a failing grade in the course and it is counted as work attempted.

Graduation with Honors
The School of Law awards Juris Doctor degrees with distinction in conformity with the present grade point average standards for the University. The following standards are applicable to students who entered the School of Law prior to January 1, 1982.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Overall Grade-Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3.75 or higher</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>3.50 through 3.74</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>3.25 through 3.49</td>
</tr>
</tbody>
</table>

By University Council action of December 3, 1981, new criteria were established for graduation with honors. The new criteria are applicable to students entering the University (School of Law) January 1982 and thereafter. The criteria are:

<table>
<thead>
<tr>
<th>Designation</th>
<th>Overall Grade-Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3.60 or higher</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>3.40 through 3.59</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>3.20 through 3.39</td>
</tr>
</tbody>
</table>

Withdrawal From A Course
A student may withdraw from a course for any reason up to the mid-point of a semester or summer session with the signature of a dean.

After the mid-point of a semester or 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 adequately prepare 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 nine to eight student staff members. The student becomes eligible to work in the office after completion of the first year and receives either an hourly wage or academic credit.

As the office name implies, most of the work done involves postconviction representation. The office staff has perfected appeals in the State Courts of Appeal, the Supreme Court of Ohio, all of the Ohio Federal Courts and the United States Supreme Court.

One unique characteristic of the office is the substantial responsibility each student has for assigned cases. The student is responsible for doing the research, preparing drafts,
compiling the final briefs and corresponding with the courts and other attorneys. The school has established this program with the goal of giving the conscientious student the opportunity to experience the practice of law in a supervised environment.

In addition to the Appellate Review Office, there are other associated activities where a student may experience the full gamut of legal problems.

**Domestic Relations**

Under supervision of a staff attorney, the law student with a legal internship certificate represents indigent persons with domestic relation problems (e.g., dissolutions, divorces, child custody and support). The student has primary responsibility for the gathering of information, drafting of pleadings and court representation of the client.

**Landlord-Tenant**

Many people are becoming enlightened about their rights as tenants, and the need for quick and effective legal representation in this field affords the student the opportunity to represent clients at the inception of the case. The student has primary responsibility for fact gathering, which may entail on-site investigation, counseling and strategy planning.

**Inmate Assistant Project**

This is a unique student-run program in the state of Ohio; participants travel to and conduct interviews with prison inmates attempting to resolve their criminal and civil law problems. The student is encouraged to participate in this program from the very beginning of law school. Participation involves travel to either the reformatory for men or women, interviewing inmates and follow-up on legal problems.

**Clinical Seminar**

The student interested in experiencing the operations of public agencies may sign up to work in outside agencies, for credit. The student is assigned to various agencies, such as the County and City Prosecutor’s Offices, County Public Defender’s Office and the County Legal Aid Office. At placement, the student is able to see the inner workings of these offices while gaining a rich variety of knowledge. In coordination with this clinic, a course is taught which emphasizes the learning of interviewing and client-counseling techniques.

**Moot Court Programs**

To develop the dual skills of advocacy, oral prowess and brief writing, the student is encouraged to participate in the several moot court programs within and without the school. These programs enable the student to learn and polish the skills of legal writing and oral advocacy through the vehicle of "moot" or academic problems. The student is encouraged to participate in any of the following programs.

**National Moot Court**

During the first year of studies, the student is given bids to try out for the law school’s National Moot Court Team, based on that person’s performance in the legal writing and research courses. A student is selected to represent the school in the national and regional competitions during the second and third academic year on the basis of a presentation in an intramural competition.

**Voluntary Moot Court**

For the student who does not participate in the National Moot Court Program, Voluntary Moot Court is available in the spring of each year. In this activity the student is given a "moot" problem, asked to prepare briefs and present oral argument against fellow students. The highlight comes in the final round when the competitors are evaluated by judges from the State Court of Appeals.

**Jessup International Law Moot Court Competition**

The student interested in exploring international law on an appellate level competes on a national scale in this competition. Problems are always relevant and timely.

**Bar Admission**

Each student entering the School of Law is encouraged to read the rules for bar admission for the state in which the student intends to practice law. This information is available from the various state supreme courts. In addition, the information is on file in the library.

For the student interested in practicing in the state of Ohio, the Supreme Court of Ohio requires that each student entering a law school who intends to practice law in Ohio file within 120 days from the beginning day of the fall term after initiating studies:

- An application for registration as a law student.
- Evidence of his 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 facilitate visits by individuals who may have particular insight into issues facing the local 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 BF Goodrich Company Chair of Law

The BF Goodrich 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 DeSausserre is the holder of the BF Goodrich 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 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 Wills Clauses.

The Banks-Baldwin Law Publishing Company awards annually a two-volume book 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 twenty-four courses a specially bound copy of the equivalent title from their multi-volume publication, as determined by the instructor(s) in charge.

The Judge W. E. Pardee Memorial Award of $300 (established 1963-64) is presented annually to a participant (or team of participants) in Bracton's Inn (the Case Club of the School of Law) who best displays (display) advocacy skill and professional decorum, as determined by intramural competition.

The Phi Alpha Delta Law Fraternity, International, Grant Chapter, awards annually the Judge Florence E. Allen Memorial Award of a $50 United States Savings Bond to a graduating law student predicated upon meritorious achievements in scholarship, community service and PAD, as determined by a committee chaired by the dean, School of Law.

Prentice-Hall, Inc. provides annually a complimentary subscription to its Federal Tax Guide, edition "A," to the graduate who has excelled in the study of taxation, as determined by the dean, School of Law.

The West Publishing Company annually awards four titles of Corpus Juris Secundum to students of all classes who have made the most significant contribution to overall legal scholarship, and four titles from the Hornbook Series to students with the highest academic average in each of the classes, as determined by the dean, School of Law.

Scholarships

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

The Professor Hollis P. Allen Memorial Book Fund was established in 1960 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 Rekas University of Akron School of Law Taxation Scholarship, established in 1978, is awarded annually in the amount of $1,000 to an entering student in the full-time program of law study, on the basis of merit, who was the outstanding graduate of The University of Akron College of Business Administration from the finance or accounting department, as determined by the dean, School of Law, upon recommendations submitted by the dean, College of Business Administration. The scholarship is not renewable to the recipient.

The Goodyear Tire & Rubber Company Fund is a fund established in 1969 by the Goodyear Tire & Rubber Company Fund, of which the principal and income will be used for scholarships and emergency expenses of students admitted to the School of Law under the Legal Education Opportunity Program, on the recommendation of the Dean, School of Law. The fund is administered by the University Development Foundation.

The Howland Memorial Fund provides Frank C. Howland Scholarships to deserving law students of demonstrated scholastic attainment, as nominated by the dean, School of Law.

The Judge and Mrs. W. E. Pardee Memorial Scholarship 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 Ferstenbier Scholarship Fund established by the Akron Education Association (AEA) in 1979 as a tribute to Lee Ferstenbier, for more than 30 years AEA legal counsel and a former member of the University's Board of Directors. The scholarship covers tuition, books, fees, room and board, all or in part, for a student enrolled in the School of Law, with primary interest in the field of labor law. The student should be a resident of Akron, Ohio, and a third-year law student; otherwise there are no restrictions as to race, creed, color, sex or national origin. Selection of the recipient is determined by the dean of the School of Law, with assistance by the University Relations Committee of the AEA.

The Herman Muehlstein Foundation of New York established a fund to provide scholarships to qualified students from the New York City area, as nominated by the dean, School of Law.

The Matthew 25:31-46 Scholarship Fund is an endowed scholarship fund established in 1981 to provide tuition assistance for nuns enrolled in the School of Law preparing for service as poverty lawyers. Selection of the recipient and the amount of financial assistance is determined by the School of Law.

The Ohio Law Opportunity Fund is provided by members of the Bench and Bar in Ohio to assist Ohio residents from disadvantaged backgrounds as nominated by the dean, School of Law.

The Phi Alpha Delta Law Fraternity, International, annually makes available nationally twenty-one $50 awards and loans up to $1,000, to senior students who are members of the fraternity. Application should be made through the faculty adviser of the Grant Chapter, School of Law.

The Judge and Mrs. Charles Sacks Scholarship is a fund established in 1969-70, the Centennial Year of the University, in honor of Judge and Mrs. Charles Sacks by their children, Robert and Naomi Christman, Sr. and Laurel Fischer and Harvey and Shirley Friedman, of which the income will be used to provide scholarships to deserving students in the School of Law, on the recommendation of the dean, School of Law.

The Fully R. Spain, Jr., Memorial Fund was established in 1980 by family and friends in loving memory of Fully R. Spain, Jr., a 1973 School of Law graduate. This scholarship provides $1,000 annually for a student enrolled in the School of Law, as determined by the dean.

The Joseph Thomas Memorial Law Scholarship Fund is a fund established in 1976 by the Firestone Foundation in memory of Joseph Thomas, Esquire, the income from which is used to assist a financially deserving student or students of high academic potential and achievement residing in Summit County, on the recommendation of the dean, School of Law. The award may be renewed.

The University Board of Trustees Tuition Remission Scholarships are available for entering and continuing law students on the basis of scholarship and/or need as determined by the dean, School of Law.

For additional information and application forms for the above scholarships, contact the associate dean at the School of Law (216) 375-7331.

Activities and Organizations

ARETE, a student-managed publication, publishes a monthly newsletter intended to serve as a forum for law students, faculty and outside opinions on a wide range of contemporary issues related to law and the School of Law. ARETE is open to students after the first year.

The Black American Law Student Association (BALS) was accredited as a law student organization in 1974 and is an affiliate of National BALS, Inc. Dedicated to the twin objectives of increasing minority enrollment and retention, BALS sponsors seminars on subjects such as legal rights of blacks, poor and oppressed people.

Bracon's Inn, styled after the Old English inns at Court, is a student-run group having primary responsibility for developing student brief writing and oral advocacy programs. A student may become a member of the inn by engaging in any of the various oral advocacy programs offered during the school year. Among the activities sponsored by the inn are: client counseling competition, high school mock trial, voluntary mock trial, and Order of Barristers.

The Delta Theta Phi Law Fraternity, Seiberling Senate, was chartered in 1973, in honor of Congressman John F. Seiberling, who was the outstanding graduate of The University of Akron School of Law in 1928. 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 towards 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 men and women 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 actively direct 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.
Research Centers and Institutes; Continuing Education and Public Services
Research Centers and Institutes

Alan N. Gent, Ph.D., Dean of Graduate Studies and Research
Joseph M. Walton, Ph.D., Associate Dean of Graduate Studies and Research
John E. Mulhouser, M.A., J.D., Associate Director of Research and Sponsored Programs

In the past, colleges and universities have been thought of as ivy-covered storehouses of knowledge where neatly packed information was dispensed to eager students. But this has never been true, for it is here that much of the new knowledge developed. And with the accelerating tempo of our times, there is an increased call for the universities to provide more new knowledge to enable society to cope.

The University of Akron is alive to this challenge and has sought to develop its research program with an eye to the needs of the society it serves. Here the emphasis is on work that is relevant, not on mere knowledge for knowledge's sake. One consequence of the University's concern with relevant research has been the number of interdisciplinary teams that have been put together to tackle specific problems. For instance, problems in connection with water pollution have used the services of chemists, biologists and chemical, mechanical and civil engineers. While the planning and organization of a research project is usually carried out by or with the assistance of a faculty member, both the graduate and undergraduate student have the opportunity to participate, depending on the nature of the project and the skills and knowledge required.

Sponsored research activities on campus are coordinated by the Research Council founded in 1962; it also serves as the policy-making body for research. The council consists of the dean of graduate studies and research, the coordinator of research and the directors of the various research institutes.

Institute for Biomedical Engineering Research

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 "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. A director appointed by the president of the University coordinates the activities of the institute through the senior vice president and provost.

Institute of Civic and Educational Research

H. Kenneth Barker, Ph.D., Director

Concerned with the increasingly complex human problems facing our society today, this institute is carrying out a number of studies designed to assist government and industry to meet the challenges of the times. In addition to studies whose concern is to improve the educational process, there are a number of programs which aim to improve governmental service, both by devising new solutions to problems and by bringing together experts in various fields to share their expertise with others.

Center for Economic Education

Fred M. Carr, Ph.D., Director

The center exists to improve the economic literacy of individuals in order 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, 1976; the World Food Forum, 1978; and the Application of Geologic and Soils Information, 1979. Teacher workshops on energy, natural history and environmental studies in England also emphasize the interdisciplinary approach to the resolution of issues.

The center is currently working with the National Park Service to provide a program 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. Located in the CVNRA, the center encourages research and educational opportunities in the park. Oak Hill activities are supported by grants from foundations, the National Park Service, The University of Akron and fees from program participants.

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 of the various colleges, the Center for International Programs attempts to find ways of committing the University to programs that produce a student who will be more knowledgeable about the total world. Hopefully, this can be done by increasing the international content of our various courses and finding ways to expose students and faculty to the various cultures of the world.

Institute for Life-Span Development and Gerontology
Harvey L. Sterns, Ph.D., Director
The Institute for Life-Span Development and Gerontology was formally established at The University of Akron in February 1976. The statement of purpose of the Institute is to bring together disciplines and activities of the University — in training, in research and in public service — so that, in the broad application, we may improve the quality of life for the young, the middle aged and the elderly of our community. Thus, through interdisciplinary involvement, the Institute is concerned with research and training in the areas of child and adult development as well as with response to the needs and wants of older adults.

Among the objectives of the Institute are: to coordinate a multi-disciplinary program in life-span development and gerontology with undergraduate and graduate certificate programs to be received with associate, baccalaureate or graduate degrees in existing academic programs; to provide student placement experience which involves children and older adults in other community agencies and facilities.

Center for Organizational Development
Joseph C. Latona, Ph.D., Director
The Center for Organizational Development in the College of Business Administration is an outgrowth of the Institute of Business and Economic Research which was one of the four facets of the Research Council established in September 1962 by the University Board of Trustees. The Institute was renamed in 1975 as its functions had been expanding to fill a community need. The general goal of the center is to update the organizational skills of area managers in all types of organizations and at all levels. The center cooperates with business, government, professional and service groups in evaluating and analyzing their specific needs, designing programs and coordinating programs to meet the particular needs of these groups.

Center for Peace Studies
Warren F. Kuehl, Ph.D., Director
The Center for Peace Studies has been established to study the subject of international peace within the threefold framework of the University's goal of education, research and public service. A peace studies certificate program is available for the student who wishes to pursue this course of study, and the center sponsors special campus programs, a film series and an international newsletter. It is engaged in research projects and cooperates with organizations in the community interested in peace and with institutes and peace centers on other campuses.

Center for Polymer Engineering
James L. White, Ph.D., Director
The Center for Polymer Engineering cooperates closely with the Institute of Polymer Science. The center provides an identifiable entity for submission of research proposals and the handling of applied research projects.

Institute of Polymer Science
Frank N. Kelley, Ph.D., Director
The Institute of Polymer Science carries out basic and applied research in polymer science and the graduate training of polymer scientists and engineers.

Because of its location in the heart of the world's largest concentration of rubber industries, The University of Akron has always maintained a special interest in the science of rubber, dating back to the establishment in 1908 of the world's first course in rubber chemistry by the late Dr. C. M. Knight. During World War II, the research activities were expanded under the impetus of the United States Government Synthetic Rubber Program. After the war, it soon became apparent that the phenomenal rise of the synthetic rubber industry had brought the whole science and technology of rubber into the broader field of polymer science, and the need for polymer scientists was fast outstripping the meager supply. Hence, the establishment of the Institute of Rubber Research in 1956 was accompanied by the inauguration of the University's first Ph.D. program—polymer chemistry.
Because polymer science and technology seek ultimately to relate the molecular structure of macromolecules to their physical behavior, it requires the combined efforts of chemists, physicists and engineers. Hence the best trained polymer scientist or engineer is one who has a broad understanding, including areas outside a specialty. To fill this need, the University, in 1964, broadened its original program into an interdisciplinary program in polymer science, available to chemists, physicists and engineers, and leading to M.S. and Ph.D. degrees in polymer science. This program is administered by the Department of Polymer Science, the academic arm of the institute.

The institute and department occupy the north tower of the Auburn Science and Engineering Center and the adjacent Whitby Hall. It includes both chemical and physical laboratories, the latter devoted to physical measurements on polymers and elastomers. These facilities enable a wide scope of research to be carried out, including organic reactions, polymerization studies, characterization of macromolecules and physical behavior and testing of polymers and elastomers. The well-equipped laboratories, together with the large interdisciplinary group of faculty, staff and graduate students, make the institute a unique facility in this field. It is now comprised of 13 full-time faculty members in various disciplines, a combined technical and non-technical staff of 10 and 65 full-time graduate students, mainly pursuing doctoral degrees. Thus, the institute is the largest academic facility of its kind in the United States.

The basic research work at the institute is performed by graduate degree candidates under the supervision of faculty. The character of this research makes it suitable for use in the graduate thesis or dissertation. The institute also operates an applied research section which undertakes projects as a service for government and industry, performed by a special staff.

**Institute for Technological Assistance**

Andrew L. Simon, Ph.D., Executive Director

This institute provides technical assistance, nationally and internationally, to those seeking to advance their academic status. It assists individual faculty members in their research and educational efforts and carries out various functions as defined by protocols and contracts in this country and with foreign nations.

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**Center for Urban Studies**

Frank J. Costa, Ph.D., Director
Edward H. Hanten, Ph.D., Associate 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 solutions. The center seeks to organize and develop programs and research areas which use and stimulate faculty participation in urban area analysis. The center's objectives are to apply new methods and to experiment with new approaches in solving urban problems. Thus, it strives to stimulate, within the University, creative solutions to urban problems by coordinating the urban perspectives of the various disciplines and professions.

The center provides advisory and research expertise in a wide range of areas to both public and private agencies on all levels. Research covers such areas as urban and regional planning, administrative organization, cost-benefit analysis, community development, housing, intergovernmental relations, urban employment, criminal justice planning, recreation, social services planning and urban education.

The center represents a multidisciplinary approach to the analysis of the urban region. It augments its research capabilities by drawing upon the expertise of the faculties in the various colleges within the University. Through its programs in research, data accumulation and extension, the center provides the setting and facilities through which interested faculty and graduate students can become involved in urban research or public service activities.
Continuing Education and Public Services

William A. Rogers, Ed.D., Executive Dean
Kathryn Vegso, M.S.Ed., Associate Dean

Background

Since 1956, the University has offered special institutes, workshops, and courses to professional groups. The University, through its academic departments, Institute for Civic Education, Department of Special Programs and its various institutes and centers will continue to provide "outreach" programs.

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

Urban Commitment

The mission of most universities includes teaching, research and public service. Time and location dictates the varying manner by which institutions of higher education carry out their mission.

The rate of man's knowledge has accelerated at a staggering pace in the past three decades. The University's traditional mission to educate 18- to 22-year-olds and reproduce its own replacements in the doctoral format is too limiting a role for an urban institution. A society that supports urban public higher education expects the University to play a wider role and to intersect with almost all segments of its population. There now exists a greater need for continued education.

Some have observed that for the first time in history, Americans are members of a learning society in addition to the working one. If an urban institution of higher learning is to fulfill its non-traditional role, different administrative structures within the institution are necessary to provide a proper balance among teaching, research and service. At The University of Akron, a variety of such units are dedicated to the support of the urban commitment.

Objectives

The primary objective is to provide University-level continuing education; programs for those beyond college age; and, other educational programs for adults interested in non-degree oriented activities. In addition, the establishment and maintenance of an effective liaison with all Akron area agencies responsible for formal and informal post-secondary education is part of the University's urban mission.

Other objectives include the following:

- To offer meaningful learning opportunities to those engaged in the various professions.
- To offer assistance to industry, business, labor, public officials and community leaders in developing staff personnel and programs that will help them function more effectively.
- To offer joint University and community assistance to local, specialized organizations, agencies and their community groups to help them achieve their educational goals.
- To offer a variety of opportunities to adults who wish to increase their personal awareness and insights as individual members of a larger society.
- To serve as a coordinating body for post-secondary activity for the Akron areas.
- To support and conduct research directed toward the identification of innovative approaches to continuing education and public service.
- To provide training programs for off-campus clients that will upgrade skills and help organizations improve the quality of their services.
- To motivate continuing education personnel to become sensitive to individual and group, implicit and explicit, needs within the community.

Therefore, Continuing Education and Public Services will cooperate with faculty and all campus offices to develop proposals for outside funds to help the University better serve its many audiences.

Institute for Civic Education

Marvin E. Phillips, M.A., Director
Mary Elizabeth Chesrown, B.A., Assistant Director

The Institute for Civic Education is the conference and seminar programming center for the University. Many informal programs are designed for the community, utilizing the resources of the entire University and community. These programs are conducted both on and off the University campus; they vary in length and frequency; many are free.

Universities cannot completely rely on the traditional academic classroom approach to fulfill the requirements of education for public responsibility because learning is a life-long process distilled from varied educational and practical experiences. The institute sees its role as the catalyst for bringing together the skills and expertise of University personnel and community leaders to focus on the issues and problems of the urban society.

The continuing educational services provided by the institute include:

- Conference and seminar planning for organizations both on and off campus.
- Organizing the College Ambassador program.
- Publishing the monthly Civic Educalendar, listing events and programs.
- Initiating the weekly Current Issues Forum.
- Coordinating University and community groups in the weekly Akron Area Film Society.

Programs are described in special announcements that are distributed through specialized and general mailing lists. The institute also represents the University in many community, state, and national organizations including the Ohio Association for Adult Educators, United Community Council Conference of Executives and Foreign Policy Association.
Department of Special Programs

Richard R. Teaff, Ph.D., Director
Sandra B. Edwards, M.A., Assistant Director

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 1937, The University of Akron, through the Department of Special Programs' year-round sessions, has offered courses, in both categories, for adults who do not require academic credit.

More than 175 classes, based upon the educational needs of the community, are offered each term. There are no requirements for admission to informal courses and any educational background is acceptable. Interest in learning in a relaxed and non-competitive environment is the only consideration.

Permanent student records are kept for all persons enrolled. Homework and examinations may be given, however, certificates of satisfactory completion are awarded based solely on attendance.

Following is a representative though partial listing of types of subjects taught in classes:

- Business and Industry — Accounting, bookkeeping for small business, building trades blueprint reading, diesetting, estimating for construction, federal income taxation, human relations, investing, psychology in business and industry, production and inventory control, quality control, selling, small business management, steam plant operation, supervision, technical drawing.
- Communications Skills (verbal and written) — Creative writing, effective oral communication, English as a second language — verbal, English grammar, English review for the college bound, practical journalism, reading improvement, skills in listening, speed reading, vocabulary improvement.
- Data Processing — Assembler language, business data processing and computer programming, cobol workshop, fortran, key punching.
- Electronics — Basic electronics, fundamentals of AC-DC circuitry.
- Humanities and Fine Arts — Antiques, glass blowing, interior decorating, Judaism, motion picture production, photography.
- Mathematics — Algebra, math for everyday use, plane geometry, trigonometry.
- Metallurgy — Metal casting.
- Modern Languages and Culture — Arabic, Chinese, French, German, Greek, Italian, Polish, Romanian, Russian, Serbo-Croatian, Spanish, Swahili.
- Physical Education and Recreation — Korean karate, physical fitness for men and women, scuba and skin diving, swimming for women, self-defense for women, yoga.
- Real Estate — Appraising, commercial property, communications, finance, fundamentals I and II, house construction, legal aspects, management and investment, marketing understanding real estate.
- Science — Air pollution, engineering refresher, German, Russian for polymer scientists.
- Secretarial Skills — Business machines, certified professional secretaries review seminar, Gregg shorthand, office receptionist, typing.

Courses can be developed to meet special needs of business and industry and may be offered on-site for the convenience of employees.

Adult Resource Center

Kathryn Vegso, M.S.Ed., Director

The Adult Resource Center is a brokerage service which provides educational information, guidance and referral, and reflects a collaboration among the educational, business, governmental and social service units of this community. This community education center provides career/life planning for persons and organizations in the greater Akron area. It also serves as a catalyst for community and University organizations which want to publicize and/or develop information and programming to meet the needs of a broader segment of the population. This brokerage service represents a new network of the community's educational services; a new approach to adults making role changes; a new focus on the adults of this community as perspective learners with unique needs.

To identify the interrelationships between education and work at various stages of life, the Adult Resource Center schedules seminars and workshops to focus on helping persons plan ways to make greater use of their human potential.

For the person who has experienced career/life changes and recognizes the value of continuing to learn over the lifespan, learning consultants, at both campus and community sites, help the individual identify and gain access to learning opportunities.

"Within each of us there is what we have not yet become.”
Course Numbering System*

Index

Department of Developmental Programs
1020 Developmental Programs

English Language Institute
1030 English Language Institute

University College
1100 General Studies

Air Force ROTC
1500 Aerospace Studies

Army ROTC
1600 Military Science

Interdisciplinary Programs
1810 Afro-American Studies
1820 Institute for Future Studies and Research
1830 Environmental Studies
1850 Institute for Life-Span Development and Gerontology
1860 Peace Studies
1870 Honors Program
1880 Medical Studies

Community and Technical College
2000 Cooperative Education
2020 Associate Studies
2100 Individualized Study
2200 Educational Technology
2210 Handicapped Services
2220 Criminal Justice Technology
2230 Fire Science Technology
2240 Commercial Art
2250 Public Service Technology
2260 Community Services Technology
2270 Labor Studies
2280 Hospitality Management
2420 Business Management Technology
2430 Real Estate
2440 Data Processing
2520 Marketing and Sales Technology
2540 Secretarial Science
2560 Transportation
2730 Histotechnology
2740 Medical Assisting
2760 Radiologic Technology
2770 Surgical Assisting
2780 Allied Health
2790 Respiratory Therapy
2840 Chemical Technology
2860 Electronic Technology
2880 Manufacturing Technology
2900 Instrumentation Technology
2920 Mechanical Technology
2940 Drafting Technology
2960 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 Cytochemistry
3150 Chemistry
3200 Classics
3210 Greek
3220 Latin
3250 Economics
3300 English
3350 Geography
3370 Geology
3400 History
3450 Mathematics
3460 Computer Science

College of Engineering
4100 General Engineering
4200 Chemical Engineering
4300 Civil Engineering
4400 Electrical Engineering

College of Education
5000 Cooperative Education
5100 Educational Foundations
5200 Elementary Education
5250 Reading
5300 Secondary Education
5400 Technical and Vocational Education
5550 Physical Education
5560 Outdoor Education
5570 Health Education
5600 Educational Guidance and Counseling
5610 Special Education
5620 School Psychology
5630 Multicultural Education
5700 Educational Administration
5800 Special Educational Programs
5850 Educational Technology
5900 Higher Education Administration

College of Business Administration
6000 Cooperative Education
6200 Accounting
6400 Finance
6500 Management
6600 Marketing

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 Arts and Dance

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.
Department of Developmental Programs

1020: Developmental Programs

1020:040 BASIC WRITING I 4 credits
Provides basic instruction in composition skills: grammar, sentence structure, sentence combining and punctuation. Develops skills necessary to write expository paragraphs.

1020:042 BASIC WRITING II
Reviews essential areas of sentence structure, sentence combining and punctuation necessary for composition writing, but concentrates on writing expository paragraphs.

1020:050 BASIC MATHEMATICS I 4 credits
Introduces the basic concepts of elementary algebra and provides an extensive review of arithmetic operations.

1020:052 BASIC MATHEMATICS II
Designed to review and strengthen skills needed for credit mathematics courses.

1020:060 COLLEGE READING 4 credits
Designed to improve general reading ability and develop effective study strategies with emphasis on vocabulary development, basic comprehension, textbook reading, study and test-taking techniques.

1020:071,2 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 first- and second-semester.

1020:079 SPECIAL TOPICS: DEVELOPMENTAL PROGRAMS
Selected topics and subjects areas of interest in developmental education.

1030: 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.

1030:092 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.

1030:093 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.

1030:094 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.

1030:095 ENGLISH LANGUAGE INSTITUTE: COMPREHENSIVE
Provides intensive instruction in English writing, reading, listening and speaking for speakers of languages other than English who are planning to seek admission to a United States university. Offered only during the summer.

University College

1100: General Studies

1100:105 INTRODUCTION TO PUBLIC SPEAKING 3 credits
Introduction to principles and practice of speaking by reading, analyzing and appraising a variety of speaking situations.

1100:106 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.

1100:111,2 ENGLISH COMPOSITION 4 credits each
Sequential. Proficiency in reading and writing of English is obtained. Reading materials used are literary works of the Western tradition.

1100:115,9 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.

1100:120-81 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 life. One-half credit courses are offered one half-semester. Permission of coach necessary for enrollment in varsity sports (1100:170-181).*

1100:120 ARCHERY
1100:148 SWIMMING (beginning)
1100:149 TEAM HANDBALL
1100:150 TENNIS (beginning)
1100:153 LIFE SAVING**
1100:154 WRESTLING
1100:156 WATER POLO
1100:157 VARSITY FOOTBALL
1100:158 SWIMMING (intermediate)
1100:159 MODERN DANCE
1100:160 VARSITY BASEBALL
1100:161 VOLLEYBALL
1100:162 GOLF
1100:163 KARATE**
1100:164 SCUBA 1100:174 VARSITY VOLLEYBALL
1100:165 HANDBALL
1100:166 SELF DEFENSE**
1100:167 WATER SAFETY**
1100:168 RUGBY
1100:169 SOCCER
1100:170 VARSITY CROSS COUNTRY
1100:171 WATER POLO
1100:172 VOLLEYBALL
1100:173 FOOTBALL
1100:174 SWIMMING (advanced)
1100:175 TACKLE BASEBALL
1100:176 TRACK
1100:177 TENNIS
1100:178 FOOTBALL
1100:179 VARSITY SOFTBALL
1100:180 VARSITY SOFTBALL
1100:181 VARSITY BASEBALL
1100:182 SELF DEFENSE**
1100:183 VARSITY VOLLEYBALL
1100:184 MODERN DANCE
1100:185 SCUBA
1100:186 WRESTLING
1100:187 VOLLEYBALL
1100:188 SWIMMING (advanced)
1100:189 VARSITY CROSS COUNTRY
1100:190 VOLLEYBALL
1100:191 SKIING (cross country)
1100:192 MODERN DANCE
1100:193 SKIING (downhill)
1100:194 MODERN DANCE
1100:195 SKIING (downhill)
1100:196 MODERN DANCE
1100:197 MODERN DANCE
1100:198 MODERN DANCE
1100:199 MODERN DANCE
1100:200 MODERN DANCE

*Institutional credit only.
**One credit each. Two periods each week.
1100:221 NATURAL SCIENCE: BIOLOGY 3 credits
Designed for nonscience majors to illustrate fundamental concepts of living organisms with emphasis on man's position in and influence on the environment.

1100:222 NATURAL SCIENCE: CHEMISTRY 3 credits
Designed for nonscience majors. Introduction to chemical principles at work in man and in the environment.

1100:223 NATURAL SCIENCE: GEOLOGY 3 credits
Study of basic principles and investigative techniques in various fields of geology, with emphasis on relationship of geological processes to society.

1100:224 NATURAL SCIENCE: PHYSICS 1 credit
Introduction to, and commentary upon, some of the most significant principles, perspectives and development in contemporary physics, intended for nonscience majors.

1100:330,1 WESTERN CIVILIZATIONS TRADITIONS 4 credits each
Sequential. Prerequisite: 64 credits, or permission. Introduction to human experiences of the past as manifested in the ideas, music and visual arts of Western Civilization, the Greeks to the present. Two lectures/two discussions per week.

Courses 1100:330-5 are designed to give a basic knowledge of past human experiences and an understanding of current events in some key areas of the non-Western world.

1100:332 EASTERN CIVILIZATIONS: CHINA 2 credits
Prerequisite: 64 credits.

1100:333 EASTERN CIVILIZATIONS: JAPAN 2 credits
Prerequisite: 64 credits.

1100:334 EASTERN CIVILIZATIONS: SOUTHEAST ASIA 2 credits
Prerequisite: 64 credits.

1100:335 EASTERN CIVILIZATIONS: INDIA 2 credits
Prerequisite: 64 credits.

1100:336 EASTERN CIVILIZATIONS: JAPAN 2 credits
Prerequisite: 64 credits.

Air Force ROTC

1500: Aerospace Studies

1500:113,4 FIRST YEAR AEROSPACE STUDIES 1.5 credits each
(A6100), General Military Course. Missions and organization of Air Force, and current events discussed to show how the military contributes to national defense. Laboratory develops leadership skills.

1500:253,4 SECOND YEAR AEROSPACE STUDIES 1.5 credits each
(A6200), General Military Course. Emphasis on air power history. Forms, lectures and class discussions. The politico-military environment is presented. Leadership Laboratory.

1500:303,4 THIRD YEAR AEROSPACE STUDIES 3 credits each
(A6300), Professional Office Course. Management concepts in the military. Leadership, leadership functions and practices, professionalism and responsibilities. Communicative skills are developed. Leadership Laboratory.

1500:452,4 FOURTH YEAR AEROSPACE STUDIES 3 credits each
(A6400), Professional Office Course. Focuses on the military profession, military justice system, civil-military interactions, and the framework and formulation of defense policy. Communicative skills are developed. Leadership Laboratory.

Army ROTC

1600: Military Science

1600:100 INTRODUCTION TO MILITARY SCIENCE I 1.5 credits
Introduction to United States Army, Army ROTC and career opportunities for ROTC cadets. Emphasis on organization, capabilities and mission of the US Army. Rifle marksmanship, mountaineering techniques, and career planning. No military obligation incurred.

1600:101 INTRODUCTION TO MILITARY SCIENCE II 1.5 credits
A study of military map reading, first aid and leadership. Acquisition of cross-country skiing and pistol marksmanship skills. No military obligation incurred.

1600:200 SMALL UNIT OPERATIONS 1.5 credits
Application of principles of war to the techniques of unit tactical operation. A study of national defense policies, military communications and mountaineering techniques. Acquisition of cross-country skiing skills. No military obligation incurred.

1600:201 MILITARY LEADERSHIP 1.5 credits
Investigation of the theory and techniques of military leadership and management. Study of military communications and weapon systems. Acquisition of cross-country skiing and mountaineering skills. No military obligation incurred.

1600:300 ADVANCED LEADERSHIP I 3 credits
Prerequisite: 100-1,200 and/or permission. Intensive investigation of the leadership process to include applicatory work emphasizing officer ethics, duties and responsibilities.

1600:301 ADVANCED LEADERSHIP II 3 credits
Prerequisite: 300 and/or permission. Study and analysis of small unit leadership and tactics and stressing application and problem-solving processes. Practical work with communications equipment and land navigation.

1600:400 MILITARY MANAGEMENT I 3 credits
Prerequisite: 300 or permission. Study of the Army operational experience in military leadership relative to the principles of war. Study of the military judicial system.

1600:401 MILITARY MANAGEMENT II 3 credits
Prerequisite: 300 or permission. Study of the Army command and staff procedures. Examination of officer leadership and related responsibilities to include planning and organizing, delegation and control, and oral and written military communications.

Interdisciplinary Programs

1810: Afro-American Studies

1810:041 GENERAL SEMINAR IN AFRO-AMERICAN STUDIES 3 credits
Prerequisite: 3400-220 or permission. Exploration and intensive examination of variety of issues related to role and minority group relations which normally stand outside the compass of any one subject matter area.

1830: Environmental Studies

1830:201 MAN AND THE ENVIRONMENT 2 credits
Study of man's relationship with nature, his dependence upon his environment, and his control over it. An interdisciplinary approach with lecturers from various University departments, government and industry describing their approaches to the environment. This course will not apply toward the student's major.
1830:401 SEMINAR IN ENVIRONMENTAL STUDIES 2 credits
Covers specific environmental topics or problems from interdisciplinary viewpoints each semester. Topics of current interest studied from varying viewpoints. The director of Environmental Studies coordinates course; resource persons are drawn from the University and surrounding community.

1830:490/590 WORKSHOP IN ENVIRONMENTAL STUDIES 1-4 credits
Prerequisite: Varies with topic. Credit in graduate program must have prior approval of adviser. Skills, attitudes and fundamental concepts dealing with timely environmental problems and issues covered. Instruction under direction of University faculty.

1830:602 EVALUATION OF ENVIRONMENTAL DATA 3 credits
Prerequisite: graduate standing, one year of chemistry, physics, job experience or coursework in chemical engineering. A review of environmental testing techniques in current use; emphasis on interpretation and limitations.

1830:661 GRADUATE SEMINAR IN ENVIRONMENTAL STUDIES 3 credits
Prerequisite: graduate standing. Explores topics of current interest or coursework in chemical engineering. A review of timely environmental problems and issues covered.

1830:495 WORKSHOP IN ENVIRONMENTAL STUDIES 1-3 credits
Prerequisite: Varies with topic. Credit in graduate program must have prior approval of adviser. Skills, attitudes and fundamental concepts dealing with timely environmental problems and issues covered. Instruction under direction of University faculty.

1850:390 WORKSHOP IN PEACE AND WAR 1-3 credits
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in human rights.

1850:493 WORKSHOP IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1-3 credits
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in social and political sciences.

1850:495 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.

1850:496 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.

1850:497 INDEPENDENT STUDY IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 3 credits
Prerequisite: enrollment in the certificate program in Life-Span Development; Gender Identity and Roles, plus the completion of two-credit courses in addition to 1850:300 and permission. Supervised participation in research and/or community agency work.

1850:498 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1-3 credits
(May be repeated)
Prerequisite: permission. Supervised experience in research or community agency work.

1850:500 PERSPECTIVES ON GENDER 3 credits
IDENTITY AND ROLES
An examination of biological, historical, political, legal, economic, educational, intellectual and social influences which have shaped gender identity and roles in society.

1850:690 WORKSHOP IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 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.

1850:695 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 3 credits
Prerequisite: permission. Supervised experience in research or community agency work.

1880: Peace Studies
1880:300 TOPICS IN PEACE STUDIES 1-3 credits
(May be repeated for a total of three credits)
Interdisciplinary topics related to peace studies.

1880:301 VALUE CONCEPTS ON PEACE AND WAR 3 credits
Interdisciplinary study of attitudes, concepts and realities regarding war and peace issues.

1880:350 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of three credits)
Detailed study on selected topics related to peace.

1880:360 THE VIETNAM WAR 3 credits
An examination and evaluation of political, military, diplomatic and economic impact of the Vietnam War.

1880:378 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.

1880:390 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.

1880: Medical Studies
1880:201 MEDICAL SEMINAR AND PRACTICUM I 3 credits
Prerequisite: 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. Directed toward roles of professional and paraprofessional in meeting health care needs of community. Open to first-year student in Phase I of B.S./M.D. program, others by permission.

1880:202 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 II of B.S./M.D. program, others by permission.

1880:301 MEDICAL SEMINAR AND PRACTICUM III 1-3 credits
(May be repeated for a total of three credits)
Prerequisite: junior standing in B.S./M.D. program; others involved in health care delivery programs by permission. Introduction to the humanities as they bear upon history and practice of medicine. Seminar draws upon lectures from the University and community, and includes performances, field trips, films and tapes appropriate to topics discussed.

1880:401/501 SPECIAL TOPICS: MEDICAL EDUCATION 1-3 credits
(May be repeated with a change of topic — maximum of three credits count toward graduation)
Prerequisite: upper college student status and permission. Selected topics on medical education offered by professionals intended to provide advanced undergraduate education and continuing education for student and practitioners in the health sciences.
2000: Cooperative Education

2000:201 COOPERATIVE EDUCATION 0 credits
(May be repeated)
Prerequisite: Cooperative education students only. Work experience in businesses, industry or governmental agency. Comprehensive performance evaluation and written report required.

2020: Associate Studies

2020:111 ENGLISH 4 credits
Employs various techniques including art, films, personal journals and critical reading, leading from pre-writing to development of structured expository essays.

2020:130 INTRODUCTION TO TECHNICAL MATHEMATICS 3 credits
Elements of basic algebra, operations on signed numbers and polynomials; solutions and applications of first- and second-degree equations; English and metric systems; various types of graphs with applications; linear systems; trigonometry of right triangle. May not be used to meet General Studies mathematics requirement.

2020:131 MATHEMATICAL ANALYSIS I 4 credits
Prerequisite: Two units of high school mathematics. Fundamental algebraic concepts, ratio, proportion and variation, graphing equations, right triangle trigonometry, linear systems, factoring and algebraic fractions, quadratic equations, trigonometric functions, oblique triangles.

2020:132 MATHEMATICAL ANALYSIS II 3 credits
Prerequisite: 131 or equivalent. Exponents and radicals, exponential equations, logarithms, vectors, graphs of trigonometric formulas and identities, complex numbers.

2020:135 MATHEMATICS FOR DATA PROCESSING 3 credits
Prerequisite: 131 or equivalent. Sets and logic, basic probability and statistics, matrix algebra and business applications.

2020:222 TECHNICAL REPORT WRITING 3 credits
Prerequisite: 121 or equivalent. Prepares student to write the types of reports most often required of engineers, scientists, and technicians. Includes types of reports, memos, letters, techniques of research, documentation and oral presentations.

2020:224 WRITING FOR ADVERTISING 3 credits
Prerequisite: 121 or 1100:111. Study of language used in advertising; practice in writing advertisements for various media.

2020:233 MATHEMATICAL ANALYSIS III 3 credits
Prerequisite: 132. Analytic geometry of the conics, introduction to differentiation, the derivative, application of the derivative, integration, differentiation and integration of transcendental functions.

2020:240 HUMAN RELATIONS 3 credits
Examination of principles and methods which aid in understanding the individual's response to his society and relationship between society and individual.

2020:241 TECHNOLOGY AND HUMAN VALUES 2 credits
Examination of impact of scientific and technical change upon man, his values and his institution arrangements. Topics include biomedical technology, automation, economic growth, natural environment and technology and quality of life.

2020:242 AMERICAN URBAN SOCIETY 3 credits
Multidisciplinary treatment of urban processes and problems. Concerns historical, political, social, economic and other environmental forces which impact upon the individual in an urban setting.

2020:247 SURVEY OF BASIC ECONOMICS 3 credits
Introduction to economic analysis and issues designed for the student taking only one course in economics. Coverage includes economic systems, exchange, money and banking, national income, employment, fiscal policy and current domestic economic problems.

2020:251 WORK RELATIONSHIPS 2 credits
Examination of relationship between man and the work organization. Emphasis on involvement, sense of job satisfaction, supervision and goals of the organization.

2020:254 THE BLACK AMERICAN 2 credits
Examination of the Black American including origins, historical achievements and present striving to achieve first-class citizenship in American society. Emphasis on analysis of forces in American society that create racial separation.

2020:290 SPECIAL TOPICS: ASSOCIATE STUDIES 1-4 credits
(May be repeated with a change in topic)
Prerequisite: permission. Selected topics on subject areas of interest in associate studies.

2020:334 MATHEMATICS FOR TECHNICAL APPLICATIONS 3 credits

2100: Individualized Study

2100:190 INDIVIDUALIZED STUDY EVALUATION 1 credit
Prerequisite: admission to program. Analysis of interests, talents, goals expressed in three assigned papers; first shortly after enrollment in program, second after completing 12 to 16 credits; third after completing 24 credits. Topics include student's background of career and personal activities, effects of current coursework, opportunities resulting from educational experiences and application of ideas in planning areas of study. Student is required to enroll in this course in first semester.

2200: Educational Technology

2200:100 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Introduces student to library technology program and career opportunities available as library technologists. Includes discussions, field observations, guest speakers, lectures, readings and extensive practical hands-on experience.

2200:201 CATALOGING, CLASSIFYING AND PROCESSING MATERIALS 3 credits
Study of principles of descriptive cataloging, Dewey decimal system, Library of Congress classifications and subject headings. Programs, practice in typing catalog cards and filing.

2200:202 ORGANIZING AND OPERATING LIBRARY/MEDIA CENTERS 3 credits
Includes functional aspects of library, ordering and processing materials, circulation procedures and other control systems. Operational functions include program development and implementation, services of library/media centers and public relations.

2200:203 MATERIALS SELECTION 2 credits
Introduction to tools used in selecting print and nonprint materials for libraries/media centers. Problems of censorship, intellectual freedom and academic freedom discussed as they relate to evaluation selection process.
2200:204 REFERENCE PROCEDURES 3 credits
Introduction to study and use of basic information tools including almanacs, encyclopedias, dictionaries, bibliographies, yearbooks and specialized reference tools. Actual reference practices and procedures used.

2200:205 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisites: 201:4 or permission. Practical introduction to information retrieval systems and their application. Emphasis on Ohio College Library Center network and its impact on library technical and public services. Hands-on experience with OCLC and other off-line terminal operations.

2200:245 INFANT/TODDLER DAY CARE PROGRAMS 3 credits
Survey of infant/toddler development; principles of infant/toddler care giving. Design, of environment and curriculum based on child's needs. Inclusion of observation of children.

2200:250 OBSERVING AND RECORDING CHILDREN'S BEHAVIOR 3 credits
Prerequisite: 7400:265 or permission. Develops observing and recording skills using different types of records and assesses children's development and behavior. One-half of total hours spent in classroom and one-half on site in field.

2200:290 SPECIAL TOPICS: EDUCATIONAL TECHNOLOGY 1-2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics on subject areas of interest in educational technology.

2200:297 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission. Selected topics and special areas of study under supervision and evaluation of selected faculty member with whom specific arrangements have been made.

2210: INTRODUCTION TO INTERPRETING FOR THE DEAF 4 credits
Prerequisites: 104 and 7700:271. Introduction to basic theories, principles and practice of interpreting for the deaf in general and in specialized settings. A survey course intended to familiarize the student with the deaf and guidelines appropriate in situational settings. Will also emphasize interpreting/translation process and sign building.

2210:104 SIGN LANGUAGE, GESTURE AND MIME 3 credits
Non-language aspects of communication which form basic for communication in American Sign Language and international sign language. Emphasis on eye training use of gestures, pantomime, body language.

2210:110 SPECIALIZED INTERPRETING 3 credits
Prerequisites: 104, 7700:110. Introduction to interpreting in counseling, mental health, medical and social work settings with an overview and development of specific translations in these areas.

2215:150 HANDICAPPED SERVICES PRACTICUM 1-4 credits
(Must be repeated for a total of 8 credits)

2210:220 REVERSE INTERPRETING 3 credits
Prerequisite: 7700:100. Designed to enhance skills in comprehending the various sign language systems: a continuum from gestural signs to American Sign Language and International Sign Language. Students will be able to provide sign language interpretation.

2210:230 SPECIALIZED INTERPRETING II 3 credits
Prerequisite: 7700:150. Introduction to interpreting in the vocational/technical, medical, educational and religious settings with an overview and development of specific translations in these areas.

2210:290 SPECIAL TOPICS: HANDICAPPED SERVICES 1-3 credits
Selected topics or subject areas of interest in handicapped services.

2220: CRIMINAL JUSTICE TECHNOLOGY 3 credits

2220:100 INTRODUCTION TO CRIMINAL JUSTICE 3 credits
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.

2220:101 INTRODUCTION TO SECURITY 4 credits
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.

2220:102 CRIMINAL LAW FOR POLICE 3 credits
Prerequisite: 100. Historical development and philosophy of the law. Thorough study of modern criminal law including Ohio Criminal Code and defenses to particular crimes.

2220:104 EVIDENCE AND CRIMINAL LEGAL PROCESS 3 credits
Prerequisite: 100. Study of evidence law, constitutional perspectives and law enforcement officer's relationship thereto. Court procedures from arrest to incarceration.

2220:106 JUVENILE JUSTICE PROCESS 3 credits
Prerequisite: 100. Examination of juvenile justice system, functions of its various components; adolescent subculture, legislation, causative factors, prevention and treatment methodologies and programs.

2220:110 SOCIAL VALUES AND THE CRIMINAL JUSTICE PROCESS 3 credits
Prerequisite: 100. In-depth exploration stressing philosophy that social values and ethics are basic principles of a sound criminal justice process. Roles of administration of justice practitioners in relation to public they serve.

2220:200 CRIMINAL JUSTICE THEORY AND PRACTICE 3 credits
Prerequisites: 100, 150. Examination of criminal justice administrative problems in personnel selection, training, advancement and personnel utilization. Coordination and cooperation between agencies. Advanced concepts for change within criminal justice system.

2220:240 DYNAMICS OF VICE CRIME AND SUBSTANCE ABUSE 3 credits
Prerequisite: permission. Introduction to problems of crime, narcotics and drug abuse in our society. Provides knowledge concerning issues and solutions involving consensual acts: impact on society of physical and psychological results of substance abuse.

2220:250 CRIMINAL CASE MANAGEMENT 6 credits
Prerequisites: 100, 2840:100, 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.

2220:290 SPECIAL TOPICS: CRIMINAL JUSTICE 1-4 credits
(May be repeated for a total of six credits)
Prerequisite: permission. Workshop and special programs in selected areas of criminal justice such as community relations, crime statistics, ethics, survival.

2220:294 CRIMINAL JUSTICE INTERNSHIP EVALUATION 1 credit
Prerequisites: 100, 30 credits and permission. Corequisite: 295. Analysis by student and instructor of internship experience. A sharing of knowledge gained by student during internships.

2220:295 CRIMINAL JUSTICE INTERNSHIP 3 credits
Prerequisites: 100, 30 credits and permission. Supervised work experience in criminal justice agency for purpose of increasing student understanding of criminal justice process.

2230: FIRE SCIENCE TECHNOLOGY 3 credits

2230:100 INTRODUCTION TO FIRE SCIENCE 3 credits
History and philosophy of fire protection, introduction to agencies involved, current legislative developments; discussion of current related problems, expanding future of fire protection and career orientation.
2230:104 FIRE INVESTIGATION METHODS 3 credits
History of fire investigation, gathering of evidence and development of technical reports; fundamentals of arson investigation, processing of criminal evidence and procedures related to local and state statutes.

2230:153 PRINCIPLES OF FIRE PROTECTION AND LIFE SAFETY 3 credits

2230:202 FIRE-FIGHTING TACTICS AND STRATEGY 3 credits
Efficient and effective utilization of manpower, equipment and apparatus. Emphasis on preplanning, fireground organization and attack tactics and strategy.

2230:205 FIRE DETECTION AND SUPPRESSION SYSTEMS I 3 credits
Design, installation, maintenance and utilization of portable fire extinguishing appliances and pre-engineered automatic systems: fire detection and alarm signaling systems: operational capabilities, requirements.

2230:206 FIRE DETECTION AND SUPPRESSION SYSTEMS II 3 credits
Design, installation and operation of automatic fire suppression systems includes sprinkler, foam, carbon dioxide, dry chemical, halogenated agent systems.

2230:250 HAZARDOUS MATERIALS 4 credits
Prerequisite: 2240:100. Study of chemical characteristics and reactions related to storage, transportation and handling of hazardous materials. Emphasis on emergency situations, fire fighting and control.

2230:254 LEGAL ASPECTS OF FIRE PROTECTION 3 credits
Prerequisite: 104. Study of legal rights and duties, liabilities and responsibilities of fire department organizations.

2230:257 FIRE PROTECTION FOR BUSINESS AND INDUSTRY 3 credits
Industrial fire protection problems including specialized hazards, automatic extinguishing systems, codes and standards, fire safety planning, fire brigade organizations.

2230:290 SPECIAL TOPICS: FIRE SCIENCE TECHNOLOGY 1-2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in fire science technology.

2250: Public Service Technology

2250:280 ADMINISTRATION AND SUPERVISION IN THE PUBLIC SERVICE 3 credits
Prerequisite: 2220.100 or 2230.100. Examination and analysis of basic concepts of administration, supervision, policy formulation as they pertain to public service agencies. Practical application of supervisory responsibilities, functions of police/fire departments.

2250:290 SPECIAL TOPICS: COMMERCIAL ART 1-3 credits
Prerequisite: permission of instructor. Selected topics or subject areas of interest in commercial art.

2260: Community Services Technology

2260:100 INTRODUCTION TO COMMUNITY SERVICES 3 credits
Introductory course for familiarizing students with role of community services technician in service delivery. Use, history and rationale for para-professionals, programs, volunteer experiences, self awareness and interaction in community services.

2260:150 INTRODUCTION TO GERONTOLOGICAL SERVICES 3 credits
Basic orientation to gerontology and role of community service technician in service delivery to aged. Topics include social, biological, economical and psychological aspects of aging, national and state legislation, services and service provider.

2260:230 COMMUNITY BASED RESIDENTIAL SERVICES 3 credits
Orientation to community-based residential services and role of community services technician in delivery of services to mentally disabled. Includes historical, social and legal forces in community-based services and practical aspects of operation of a residential facility.

2260:240 DRUG USE AND ABUSE 3 credits
Basic introduction to drug use and abuse. Includes pharmacology, basic helping and crisis intervention skills, motivations, theories of treatment and exploration of some typical drug crisis situations.

2260:250 COMMUNITY SERVICES FOR SENIOR CITIZENS 3 credits
Prerequisite: 150. A study of national and community resources for social service delivery to senior citizens. Specific agencies, program needs and senior citizens and resultant services.
2280:122 LEGAL FRAMEWORK FOR COLLECTIVE BARGAINING
Legal framework within which collective bargaining process takes place. Rights of employees, union, employer under federal and state laws discussed in context of organizing, election and bargaining.

2270:129 LABOR LEGISLATION AND ECONOMIC SECURITY
Prerequisite: 122 or permission. Federal and state legislation governing employment conditions and standards. Includes minimum wage, health and safety, unemployment compensation, TDI, civil rights and anti-discrimination, social security, labor management reporting and disclosure.

2270:212 COLLECTIVE BARGAINING II
Prerequisite: 111. Mechanics and skills of formal grievance procedures in industrial, craft and public setting. Investigation, record keeping and presentation of grievance, as well as study of arbitration process and preparation and presentation of arbitration cases.

2270:231 OCCUPATIONAL HEALTH AND SAFETY STANDARDS
Prerequisite: 122. Examination of William Steiger Occupational Safety and Health Act and rights and responsibilities conferred on unions by this act. Includes not only workings of the law but also hazards recognition study.

2270:224 LABOR LAW IN THE PUBLIC SECTOR
Prerequisite: 271. Provides basic understanding of legal requirements and restraints placed upon parties when bargaining within federal, state and local sectors as well as state and educational areas. Legal framework of collective negotiations or contract administration.

2270:231 FAIR PRACTICES AND EQUAL OPPORTUNITY
Prerequisite: 101. Rights and responsibilities of unions and union members related to Title VII of the Civil Rights Act, the Voting Rights Act and development of EEOC.

2270:241 UNION LEADERSHIP
Prerequisite: 101. Specific skills related to administration of local unions structure and duties and responsibility of officers.

2270:251 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.

2270:281 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. Methods of compensation analyzed. Impact of federal and state laws governing the payment of wages.

2270:271 PUBLIC SECTOR LABOR RELATIONS

2270:290 SPECIAL TOPICS: LABOR STUDIES
1-2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or workshops in labor studies.

2280: Hospitality Management

2280:130 SAFETY AND SANITATION
3 credits
Introduction to food service sanitation, safety practices pertinent to hospitality manager. Emphasis on sanitation laws, rules, food microbiology, safe food handling, accident prevention.

2280:121 FUNDAMENTALS OF FOOD PREPARATION I
4 credits
Skills and basic knowledge of food preparation procedures in a laboratory situation.

2270: Labor Studies

2270:101 INTRODUCTION TO LABOR STUDIES
3 credits
Overview of Trade Unionism in America from Eighteenth Century to present with emphasis on factors affecting growth of unions. Rise of industrial unionism as alternative to craft unions. Trade Union movements in other countries examined for their influence on American unions.

2270:111 COLLECTIVE BARGAINING I
3 credits

2270:281 RECRUITMENT
3 credits
Volunteer job descriptions, methods of recruitment, techniques of interviewing; concentration on interviewing skills. Prerequisite: 278 or permission.

2270:278 TECHNIQUES OF COMMUNITY WORK
4 credits
For those intending to work at community organization and outreach assignments in inner city and other poverty areas in the United States and for others desiring an understanding of these newly developing technical community service roles.

2270:279 TECHNICAL EXPERIENCE IN COMMUNITY AND SOCIAL SERVICES
5 credits
Prerequisite: 278 or permission. Individual placement in selected community and social service agencies for educationally supervised experience in community and social services technician position. Does not substitute for 7750:421 or 495.

2280: Hospitality Management

2280:130 SAFETY AND SANITATION
3 credits
Introduction to food service sanitation, safety practices pertinent to hospitality manager. Emphasis on sanitation laws, rules, food microbiology, safe food handling, accident prevention.

2280:121 FUNDAMENTALS OF FOOD PREPARATION I
4 credits
Skills and basic knowledge of food preparation procedures in a laboratory situation.
2280:122 FUNDAMENTALS OF FOOD PREPARATION II 4 credits
Prerequisite: 121 Continuation of Fundamentals of Food Preparation I. Advanced food preparation techniques presented in laboratory situations.

2280:123 MEAT TECHNOLOGY 2 credits
Intensive examination of meat cutting, portioning, determining product yield, and calculating cost.

2280:135 MENU PLANNING AND PURCHASING 3 credits
Principles of food purchasing procedures including policies, buying specifications, recognizing quality standards, buying techniques, menu merchandising, and menu planning.

2280:150 HOTEL/MOTEL FRONT OFFICE PROCEDURES 3 credits
Prepares student for entry level positions in the hotel/motel industry. Basic principles of guest service, standard systems, techniques within the hotel/motel industry.

2280:152 MAINTENANCE AND ENGINEERING FOR HOTELS AND MOTELS 3 credits
Familiarization with organization, terms, concepts, responsibilities common to hospitality industry. History and development of viticulture, enology.

2280:160 WINE AND BEVERAGE SERVICE 2 credits
Introduction to the wine as related to hospitality industry. Emphasis on business practices. History and development of viticulture, enology.

2280:232 DINING ROOM SERVICE AND TRAINING 2 credits
In-depth study of the styles of dining service, development of job descriptions, importance of courtesy, customer relations.

2280:233 RESTAURANT OPERATIONS AND MANAGEMENT 4 credits
Introduction to large quantity food service procedures with emphasis on sound principles of food handling service and sanitation in large quantity operations. Gourmet meals served in simulated restaurant atmosphere.

2280:236 FOOD AND BEVERAGE COST CONTROL 3 credits
Prerequisite: 135. Principles and procedures of effective food beverage control. Adaptations to various types of operations. Control process with emphasis on calculating food costs, establishing standards, production planning.

2280:237 INTERNSHIP 1 credit
Prerequisite: permission. On/off campus observation/work experience integrated with academic instruction. Concepts applied to practical situations.

2280:240 SYSTEMS MANAGEMENT AND PERSONNEL 3 credits
Identifies systems utilized in successful food service operations. General principles of each system, its interrelationships with total food service organization explored.

2280:243 FOOD EQUIPMENT AND PLANT OPERATIONS 3 credits
Available food service equipment, its selection, use and care. Field trips taken to wholesale outlets and food service establishments to see food service equipment demonstrated and in operation.

2280:254 HOTEL/MOTEL HOUSING MANAGEMENT 3 credits
Analysis of housekeeping procedures, organization of successful housekeeping department.

2280:255 HOTEL/MOTEL SALES PROMOTION 3 credits
Sales promotion techniques, functioning of sales department, need for sales planning. Sales tools, selling techniques for food and beverage, group business, advertising, community relations, internal personal, telephone selling.

2280:256 HOSPITALITY LAW 3 credits
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.

2280:281 BAKING AND CLASSICAL DESSERTS 3 credits
Prerequisite: 122. Production of basic items in bakeshop. Use of equipment, materials, cost control to produce the desired product.

2280:282 CLASSICAL CUISINE 3 credits
Prerequisites: 122, 123. Lecture-demonstration experience in preparation of traditional American hotel cuisine. Includes traditional repertoire of food, spirits, application of kitchen production control, menu planning.

2280:283 INTERNATIONAL FOODS 2 credits
Prerequisite: 122. Lecture-demonstration laboratory experience in preparing foods of different nationalities. Demonstration, preparation of select foods by visiting chefs. Recipe file developed.

2280:290 SPECIAL TOPICS: HOSPITALITY MANAGEMENT 1-3 credits
May be repeated for a total of four credits. Prerequisite: permission. Selected topics or subject areas of interest in food service management.

2420: Business Management Technology

2420:101 ELEMENTS OF DISTRIBUTION 3 credits
Study of basic principles and methods in distribution. Presentation of marketing process as it relates to consumer and industrial products. Emphasis on pricing, product promotion, as well as distribution.

2420:103 THE ROLE OF SUPERVISION IN MANAGEMENT 3 credits
Presentation of basic management techniques, motivation, planning, organizing, leading and controlling. Elements of group behavior, communication and employee compensation.

2420:104 INTRODUCTION TO BUSINESS 3 credits
Survey course of business in its entirety including production, distribution, finance, control and personnel functions. Emphasis on descriptive materials, technical vocabulary and career opportunities and responsibilities in various business fields.

2420:105 INTRODUCTION TO CREDIT UNIONS 2 credits
Credit union as financial institution. History, structure, duties of board of directors, advisory committees, financial counseling, lending and analysis. Evaluation of financial statements.

2420:111 PUBLIC RELATIONS 2 credits
Study of philosophy, techniques and ethics of the management function known as public relations. Defines variety of public relations and methods of communication.

2420:113 INTRODUCTION TO BANKING 2 credits
Covers fundamentals of banking in operational perspective. Emphasis on bank functions, types of accounts, relationship to depositories, loans, investments, safe deposit operations, internal and external control, public service obligations.

2420:115 CREDIT UNION OPERATIONS 2 credits
Operations with emphasis on teller transactions, credit principles and policies, management, financial and counseling, delinquency control and collections. Credit union law.

2420:117 SMALL BUSINESS MANAGEMENT I 3 credits
Prerequisite: 104. Fundamentals of small business operations, emphasis on small business marketing.

2420:118 SMALL BUSINESS MANAGEMENT II 3 credits
Prerequisite: 117. Designed to provide greater insight into the management and financial aspects of small business operations. Emphasis on small business management.

2420:123 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 of conform with regulation.

2420:125 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.

2420:170 BUSINESS MATHEMATICS 3 credits
Review of fundamentals of math 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.
2420:202 PERSONNEL PRACTICES
Provides information necessary to develop policies and programs that attract,
retain and motivate employees. Includes staffing, human resources develop­
ment, compensation plans, labor and management relations, appraisal sys­
tems and career planning.

2420:211 BASIC ACCOUNTING I
Accounting for sole proprietorships and partnerships. Service and merchan­
dising concerns. Journals, ledgers, work sheets and financial statements
include handling of cash, accounts receivable, notes, inventories, plant and
equipment and payroll.

2420:212 BASIC ACCOUNTING II
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.

2420:221 ADMINISTRATIVE OFFICE SUPERVISION
Aids student in developing supervisory leadership skills and includes basic
concepts of function of office work, management of information, control of
office services and work simplification.

2420:225 CREDIT UNION LENDING AND COLLECTIONS
Credit and collections including nature and role of credit, types of consumer
credit, their management and investigation, along with collection policies
and systems.

2420:227 ENTREPRENEURSHIP
Prerequisite: 118. An overview of small business management. A project
course during which students create a hypothetical business.

2420:233 INSTALLMENT CREDIT
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.

2420:243 SURVEY IN FINANCE
Prerequisites: three credits of economics and three credits of accounting.
Survey of field including instruments, procedures, practices and institutions.
Emphasis on basic principles.

2420:245 CREDIT UNION FINANCIAL MANAGEMENT
Prerequisite: 211. Credit union accounting, financial statement analysis,
budgeting and planning, management of cash and investments, liquidity, cost
of funds, risk.

2420:253 ELEMENTS OF BANK MANAGEMENT
Prerequisite: 113. Applied course in bank operation and management. Bank
case studies utilized to focus on objectives, planning, structure, control and
interaction of bank functions and departments.

2420:273 MONETARY SYSTEMS AND THE PAYMENTS MECHANISM
Prerequisite: 280. Structure of banking system, Federal Reserve System poli­
cies and operations. Article IV of the 4CC; paperless electronic payments
mechanism, bank responsibilities in deposit, collection, dishonor and return,
payment of checks.

2420:280 ESSENTIALS OF LAW
Brief history of law and judicial system, study of contracts with emphasis on
sales, agency, commercial paper and bailments.

2420:290 SPECIAL TOPICS: BUSINESS MANAGEMENT TECHNOLOGY
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in busi­ness management technology.

2430: ELEMENTS OF HOUSING DESIGN AND CONSTRUCTION
Prerequisites: 105, 185. Discussions and readings on neighborhoods and
sites, details of the interior and exterior of homes, mechanical systems
and house construction which help professionals discharge agency
responsibilities.

2430:125 ELEMENTS OF LAND AND REAL ESTATE DEVELOPMENT
Prerequisites: 105, 185. Learning and applying step-by-step processes
needed by professional developer in producing real estate for consumption.

2430:185 REAL ESTATE LAW
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.

2430:205 INTRODUCTION TO REAL ESTATE MANAGEMENT
Prerequisites: 105, 185. Survey course focusing on application of manage­
ment process to the specialized field and product of real estate. Discussion
and research topics include property analysis, marketing and administration.

2430:215 ESSENTIALS OF REAL ESTATE ECONOMICS
Prerequisites: 105, 185. Students learn and applies techniques of analysis
found in economics to local real estate market and to parcels of real estate
found within the market.

2430:225 INDUSTRIAL REAL ESTATE
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.

2430:235 COMMERCIAL REAL ESTATE
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 property.

2430:245 REAL ESTATE FINANCE
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.

2430:255 VALUATION OF RESIDENTIAL PROPERTY
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.

2430:285 REAL ESTATE BROKERAGE
Prerequisites: 105, 185. Application of management functions of planning,
organizing, directing, controlling and staffing to real estate brokerage office.
Student activities include reading, discussion and research.

2430:275 SPECIAL PROJECT IN REAL ESTATE
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.

2430:285 APPLIED REAL ESTATE MATHEMATICS
Prerequisites: 105, 185. Student learns and applies mathematics necessary to
profession of real estate. Topics include proration of taxes, area calculations,
appraising math, mortgage math and closing statements.

2430:290 SPECIAL TOPICS: REAL ESTATE
Prerequisite: permission. Selected topics or subject areas of interest in real estate.

2440: Data Processing

2440:120 INTRODUCTION TO INFORMATION PROCESSING
General overview of data processing techniques providing fundamentals
necessary for subsequent computer-oriented courses.

2440:130 BASIC PROGRAMMING FOR BUSINESS
Prerequisite: two years of high school algebra or equivalent. Introduces the
### 2440: 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.

### 2440: ASSEMBLER PROGRAMMING AND JCL
4 credits
Prerequisite: 131. Involves in-depth coverage of basic assembler language including linkage conventions and macro construction. Fixed-point and decimal instruction set included.

### 2440: COBOL PROGRAMMING
2 credits
Prerequisite: 131. Introduction to COBOL with specific orientation toward the IBM system/360.

### 2440: ADVANCED COBOL PROGRAMMING
3 credits
Prerequisite: 133. Continuation of 131 including detailed applications in areas such as payroll and inventory. Disk concepts emphasized.

### 2440: CURRENT PROGRAMMING TOPICS
2 credits
Prerequisite: 234. Emphasizes topics varied to fit needs of the student at the time. Such topics as APL programming, teleprocessing and PL/1 programming may be included.

### 2520: PRINCIPLES OF WHOLESALING IN BUSINESS
3 credits
Prerequisite: permission. Review of basic principles and functions of current advertising practice. Emphasis on understanding viewpoints of groups involved.

### 2540: BEGINNING TYPWRITING
1-3 credits
Prerequisite: 171. Corequisite or prerequisite: 151 Emphasis on developing skill in taking shorthand dictation and transcribing at typewriter. Minimum speed attainment: 70 words for 5 minutes on new material.

### 2540: INTERMEDIATE TYPWRITING
3 credits
Prerequisite: 151 or equivalent. Further development of typewriting. Advanced letter styles, forms, reports and shortcuts. Minimum requirement: 40 words with a maximum of 5 errors for 5 minutes.

### 2540: SHORTHAND PRINCIPLES
4 credits
Prerequisite: 171 or equivalent. Emphasis on developing skill in taking shorthand dictation and transcribing at typewriter. Minimum speed attainment: 70 words for 5 minutes on new material required.

### 2540: SHORTHAND REFRESHER AND TRANSCRIPTION
4 credits
Accelerated review of Gregg shorthand theory. Minimum attainment: reading from notes at 100 words and taking dictation from new material at 50 words for 3 minutes. Credit not applicable toward Associate degree in Secretarial Science.

### 2540: INFORMATION MANAGEMENT
3 credits
Prerequisite: 150 or equivalent. Study of creation, classification, encoding, transmission, storage, retention, transfer and disposition of information. Emphasis on written, oral and machine language communication media used in business information systems.
2540:253 Advanced Typewriting 3 credits
Prerequisite: 151 or equivalent. To increase student's ability to do office-style production typewriting with minimal supervision. Minimum requirement: 50 wpm with a maximum of 5 errors for 5 minutes.

2540:254 Legal Typewriting 2 credits
Prerequisite: 151. Develops skill in typing legal documents and printed legal forms from rough draft materials; from straight-copy material.

2540:255 Business Communications 3 credits
Prerequisites: 119 and 2200:212 or equivalent. Business writing with emphasis on communicating in typical business situations and expressing ideas effectively to achieve specific purposes. Includes business letters, memos, reports, and a business report.

2540:256 Advanced Dictation and Transcription 4 credits
Prerequisite: 173 or equivalent. Emphasis on building dictation speed, producing mailable transcripts, increasing business and shorthand vocabulary and reviewing theory and expert shortcuts. Minimum speed attainment: 90 wpm for 5 minutes.

2540:257 Executive Dictation and Transcription 4 credits
Prerequisite: 274. Final shorthand course in Executive Secretarial program. Development of skills to level of employability in business office. Emphasis on vocabulary building in specialized areas of modern business and technology. Speed range 100-140 wpm.

2540:258 Word Processing Concepts 2 credits
Modern word processing and administrative management principles and practices in organization, operation and control of office functions. Special emphasis given to secretary's dual role as administrative assistant and corresponding secretary.

2540:259 Machine Transcription 2 credits
Prerequisite: 151 or permission. Transcription from taped dictation with emphasis on mailable documents. Special techniques for developing accuracy. Increasing productivity will be emphasized.

2540:260 Keyboarding on Word Processing Equipment 3 credits
Prerequisite: 253 or permission. Demonstration and laboratory practice on various word processing machines used to process data in a modern office. Word processors include those with magnetic or electronic storage.

2540:261 Word Processing Applications 3 credits
Prerequisite: 256. Simulation of word processing center. Students assume various functional roles to produce real-life work assignments using up-to-date word processing equipment.

2540:262 Special Topics: Secretarial Science 1-3 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in secretarial science.

2560: Transportation

2560:110 Transportation Economic Policy 3 credits
Analysis of role of transportation in nation's economic development. Survey of historical development and economic aspects of rail, highway, water, air and pipeline.

2560:115 Motor Transportation 3 credits
Prerequisite: 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.

2560:116 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.

2560:117 Water Transportation 2 credits
Prerequisite: 110. Water transportation, classification, rates, practices and tariffs.

2560:118 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 process problem solving.

2730: Histotechnology

2730:255 Histotechnology Practicum 5 credits
Prerequisite: 3100:366 and permission. Instruction and practical experience in a cooperative laboratory.

2730:290 Special Topics in Histotechnology 1-2 credits
Prerequisite: permission. Selected topics or subject areas of interest.

2740: Medical Assisting

2740:120 Medical Terminology 3 credits
Prerequisites: 3100:206, 2840:100. Vocabulary and terms used by medical personnel. Usage and spelling of medical terms.

2740:130 Medical Assisting Techniques I 3 credits
Prerequisite: 120. Theory and practice in medical assisting duties most often performed in physician's office. Includes medical ethics and law, microbiology, care of instruments, methods of sterilization, surgical and medical asepsis.

2740:230 Pharmacology in Medical Assisting 3 credits
Prerequisite: 130. Introduction to history of drugs; standardization; legislation;
2750:150. Preparing specimens in the laboratory. 2 credits
2750:257. Designed to correlate medical terminology with secretarial skills and includes practice in various machines used in dictation and transcription found in medical offices. 3 credits
2750:261. Physical Science for Radiologic Technology. 2 credits
2760:140. Medical and Surgical Diseases, Radiology. 3 credits
2770:100. Introduction to Surgical Assisting Technology. 4 credits
2770:101. Introduction to Surgical Assisting Technology. 2 credits
2770:121. Surgical Assisting Procedures I. 2 credits
2770:185. Clinical Application II. 4 credits
2780:108,7. Anatomy for Radiologic Technology I, II. 3 credits each
2780:161. Physical Science for Radiologic Technology II. 3 credits
2780:165. Clinical Application II. 4 credits
2780:165,6. Radiographic Principles I, II. 3 credits
2780:170. Radiographic Positioning I. 3 credits
2780:170,171. Radiographic Positioning I and II. 3 credits
2780:171. Radiographic Positioning II. 3 credits
2780:184. Clinical Application I. 4 credits
2780:195. Special Topics: Radiologic Science. 1-3 credits (May be repeated with a change in topic)
2770:232 CLINICAL APPLICATION II 3 credits
Prerequisite: 131. Application of learned skills in care of patients in operating room of an affiliated hospital.

2770:233 CLINICAL APPLICATION III 3 credits
Prerequisite: 232. Application of learned skills in care of patients in operating room of an affiliated hospital.

2770:234 CLINICAL APPLICATION IV 2 credits
Prerequisites: 232 and 242. A student is assigned to surgical services of affiliated hospitals. Assists 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.

2770:235 CLINICAL APPLICATION V 3 credits
Prerequisite: 234. A student is assigned to surgical services of affiliated hospitals. Assists in surgery and carries out preoperative and postoperative care procedures as assigned by, and under the supervision of, the surgeon or the resident surgical staff.

2770:236 CLINICAL APPLICATION VI 3 credits
Prerequisites: 241, 242. Introduction to techniques of obtaining medical histories and physical evaluations. Techniques of interviewing and physical diagnosis.

2770:240 SPECIAL TOPICS: SURGICAL ASSISTING 1-2 credits
Prerequisite: permission. Selected topics or workshops of interest in surgical assisting technology.

2770:241 SURGICAL ANATOMY 3 credits
Prerequisites: 100 and 3100:106. Surgical anatomy of the human body as it relates to the various surgical specialties.

2770:242 SURGICAL LABORATORY PROCEDURES 2 credits
Prerequisites: 121 and admission to program option. Corequisite: 241. Classroom, laboratory instruction in surgical techniques and procedures.

2770:243 INTRODUCTION TO MEDICINE 2 credits
Prerequisites: 241, 242. Pathophysiology, clinical manifestations, therapeutic management of surgically related disorders.

2770:244 MEDICAL HISTORY AND PHYSICAL EVALUATION 2 credits
Prerequisites: 241, 242. Introduction to techniques of obtaining medical histories and physical evaluations. Techniques of interviewing and physical diagnosis.

2770:245 ROENTGENOGRAM ASSESSMENT 1 credit
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.

2770:246 MEDICAL LABORATORY PROCEDURES 1 credit
Prerequisite: 242. Introduction to 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.

2770:247 PULMONARY ASSESSMENT AND ELECTROCARDIOGRAPHY 2 credits
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.

2770:290 SPECIAL TOPICS: SURGICAL ASSISTING 1-2 credits
Prerequisite: permission. Selected topics or workshops of interest in surgical assisting technology.

2790: Respiratory Therapy

2790:121 INTRODUCTION TO RESPIRATORY THERAPY TECHNOLOGY 3 credits
Prerequisite: admission to program. Basic science and laws governing gases as well as appliances to administer and monitor oxygen. Covers equipment used to generate and give aerosol therapy, including I.P.P.B. therapy. Lecture/Laboratory.

2790:122 PATIENT CARE IN RESPIRATORY THERAPY 3 credits
Prerequisite: 121. Covers basic hospital practices in sterile technique, suctioning and postural drainage. Lecture/Laboratory.

2790:123 MECHANICAL VENTILATORS 3 credits
Prerequisite: 122. Introduction to different brands of ventilators and their functions. Airway and airway complications.

2790:131 CLINICAL APPLICATIONS I 3 credits
Prerequisites: admission to program and 121. Introduction to work in hospital and hands-on experience on hospital equipment. Laboratory.

2790:132 CLINICAL APPLICATIONS II 2 credits
Prerequisites: 122, 131. First of several rotations through hospitals. Specialty area of each hospital covered at that hospital. Laboratory.

2790:133 CLINICAL APPLICATIONS III 5 credits
Prerequisites: 123, 132, 141, 201. Semester is broken into three, five-week rotations, one at each hospital to cover specialty area for that site. Laboratory.

2790:134 CLINICAL APPLICATIONS IV 5 credits
Prerequisites: 133, 142, 223. Semester has three, five-week sessions. They will be spent at different clinical sites working on their specialty areas. Laboratory.

2790:141 PHARMACOLOGY 2 credits
Prerequisites: 2840:100 and 3100:103. Drugs administered by respiratory therapy and effect, route of action in the body. Lecture.

2790:142 PATHOLOGY FOR RESPIRATORY THERAPY 2 credits
Prerequisites: 201 and 3100:103. Discussion of disease processes, diseases of lung and heart, their effect on respiratory therapy.

2790:201 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/Laboratory.

2790:223 ADVANCED RESPIRATORY THERAPY 3 credits
Prerequisites: 123, 141. Covers blood gas analysis, and machines, drawing arterial gases, pulmonary functions research studies and radioactive pulmonary function studies. Lecture/Laboratory.

2790:224 PULMONARY REHABILITATION AND THE RESPIRATORY THERAPY DEPARTMENT 2 credits
Prerequisites: 141, 142, 223. Covers area of pulmonary rehabilitation of chronic lungers. Includes essentials of establishing a respiratory therapy department. Lecture/Laboratory.

2790:290 SPECIAL TOPICS: RESPIRATORY THERAPY 1-3 credits
Prerequisite: permission. Selected topics or subject areas of interest in respiratory therapy technology.

2840: Chemical Technology

2840:100 BASIC CHEMISTRY 3 credits
Elementary treatment of facts and principles of chemistry emphasizing biological application. Elements and compounds important in everyday life, biological processes and medicine. Introduction to laboratory techniques. Primarily for medical assistant, criminal justice and allied health students. Laboratory.

2840:101 INTRODUCTORY CHEMISTRY 3 credits
Facts and theories of general chemistry. Elements and compounds and their uses. Elementary treatment of atomic structure, gaseous state, periodic table, water, solutions. For chemical technology and Bachelor of Technology students. Laboratory.
2840:102 INTRODUCTORY AND ANALYTICAL CHEMISTRY  
Prerequisite: 101 or permission. Chemical equilibria, ionization, radioactivity. Properties of selected metals and nonmetals. Introduction to organic chemistry. Basic concepts of qualitative analysis. Identification of cations and anions. Laboratory.

2840:103 CHEMICAL CALCULATIONS  
Prerequisite: permission. Review of mathematics as applied to problems in introductory chemistry and other science courses. Topics include unit conversions, percentages, concentrations, pH, gas laws, chemical equilibria, solubility products. Suitable as a refresher course.

2840:121 ORGANIC PRINCIPLES  
Structure, nomenclature and classification of simple organic compounds. Their physical and chemical properties. Methods of separation, analysis and synthesis. Laboratory.

2840:151 BASIC PHYSICS: MECHANICS  
Corequisite: 2020:131. Principles of mechanics. Topics include force and motion, work and energy, properties of fluids and gases and introduction to atomic physics. Laboratory.

2840:152 BASIC PHYSICS: ELECTRICITY AND MAGNETISM  
Prerequisites: 151 and 2020:131. Principles of electricity and magnetism. Electrostatics, basic direct current circuits, magnetism and electromagnetic, alternating currents, basic AC circuits. Laboratory.

2840:153 BASIC PHYSICS: HEAT, LIGHT AND SOUND  
Prerequisites: 151 and 2020:131. Principles of heat, light and sound. Topics include thermal behavior of matter, wave motion, sound waves, light and illumination, reflection and refraction, mirrors and lenses, interference and diffraction. Laboratory.

2840:201 QUANTITATIVE ANALYSIS  
Prerequisite: 102 Theory of quantitative analytical chemistry including gravimetric, volumetric and electrochemical procedures. Laboratory.

2840:202 INSTRUMENTAL METHODS  
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.

2840:210 SCIENTIFIC GLASSBLOWING  
Laboratory instruction in art of glass blowing. Fabrication and blowing of scientific glassware and chemical apparatus.

2840:250 ELEMENTS OF PHYSICAL CHEMISTRY  
Prerequisites: 102, 153, 2020:132. Physical principles governing behavior of chemical systems. Introductory thermodynamics, solution properties, chemical equilibrium, phase rule, chemical kinetics and structure of matter. Laboratory.

2840:255 LITERATURE OF SCIENCE AND TECHNOLOGY  
Corequisite: permission. Literature of science and technology as used to gather technical information. Techniques of abstracting and the computer search.

2840:260 COMPOUNDING METHODS  
Prerequisites: 121 or permission. Principles and methods of selecting and compounding rubber for specific end uses. The compounder's art. Processing and testing of basic elastomers and end products. Laboratory.

2840:270 NATURAL AND SYNTHETIC ORGANIC POLYMERS  
Corequisite: 121 or permission. Structure and properties of macromolecules with particular reference to carbohydrate, proteins, nuclear acids, rubber. Synthetic thermoplastic, thermosetting and elastomeric polymers.

2840:290 SPECIAL TOPICS: CHEMICAL TECHNOLOGY  
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in chemical technology.

2860: Electronic Technology

2860:120 DC CIRCUITS  

2860:122 AC CIRCUITS  
Prerequisite: 120, corequisite: 2020:132. Sinusoidal voltage and currents, reactance and impedance, methods of AC circuit analysis, AC power, transformers, resonance, polyphase circuits.

2860:123 ELECTRONICS I  
Corequisite: 122. Physical theory, characteristics, operational parameters and incircuit consideration of solid-state electronic devices.

2860:210 INSTRUMENTAL DESIGN  
Prerequisite: 123 Linear devices and pertinent applications widely used in electronics. Topics include amplifier fundamentals, frequency response, operational amplifiers, special structures and integrated circuits and power amplifiers.

2860:227 MEASUREMENTS  
Prerequisite: 123 or 271. Principles and use of electrical and electronic instruments including moving coil instruments, bridges, oscilloscopes and signal generators. Analysis of measurement errors.

2860:231 CONTROL PRINCIPLES  

2860:237 DIGITAL CIRCUITS I  
Prerequisite: 123. Introduction to devices and techniques used in design of combinational logic circuits. Topics include number systems, binary arithmetic codes, Boolean algebra, Karnaugh mapping, and integrated circuit and its application in combinational solutions such as data selection, bridging, symmetrical functions and ROM synthesis.

2860:238 DIGITAL CIRCUITS II  
Prerequisite: 237. Continuation of combinational logic design plus introduction to sequential logic design and microcomputer. Integrated circuit information extended into MOS and CMOS devices. Microprocessor applications.

2860:242 MACHINERY AND CONTROLS  
Prerequisites: 132 and 2020:271. Principles and characteristics and applications of DC and AC generators and motors. Basic control circuits for rotating machinery. Principles of industrial electronic devices used in machinery control such as unijunctions, SCRs, triacs, diacs. Laboratory practice with industrial machines in practical industrial circuits.

2880:350 ADVANCED CIRCUITS  
Prerequisites: 123, 242 and 2020:334. Analysis of linear circuits in frequency
and time domain. Loop analysis by matrix methods, Fourier analysis of non-
sinusoidal waveforms, Laplace transformations, power and power-factor cor-
rection, polyphase systems and mutual inductance.

2860:351 INDUSTRIAL ELECTRICAL SYSTEMS 3 credits
Prerequisites: 350 and 4450:206. Power system single-phase and three-
phase analysis, balanced and unbalanced systems, fault calculations, sym-
metrical components with industrial applications.

2860:352 DIGITAL SYSTEMS 4 credits
Detailed study of several digital computers systems including topics in archi-
teecture, software and I/O. Specific systems studied include the S085, S092, 
supportive respect circuits.

2860:353 CONTROL SYSTEMS 4 credits
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 AG control systems, discrete control systems, 
digital control system.

2860:400 DATA ANALYSIS 3 credits
Prerequisites: 4450:206 and 3470:252. Application of statistics to electronic 
data. Problems include quality control, failure estimating and synthesizing 
equations of dependence. Analysis methods include hypothesis estimation, 
curve fitting, regression, correlation and analysis of variance.

2860:406 COMMUNICATION SYSTEMS 3 credits
Prerequisites: 351 and 250. Antennas, transmission lines, matching networks, 
modulation systems, propagation noise, radar and microwaves. Problems 
encountered in communication systems.

2860:410 TECHNOLOGY PROJECT 1 credit
Prerequisite: senior standing. Detailed study of problem selected by student.
Includes problem definition, literature search, comparison of solutions and 
formal report.

2860:497 SENIOR HONORS PROJECT: 1-3 credits
ELECTRONIC TECHNOLOGY
(May be repeated for a total of six credits)
Prerequisites: senior standing in Honors Program, permission of department 
preceptor and major in electronic technology. Independent research leading 
to completion of Senior Honors Thesis or other original work.

2880: Manufacturing Technology

2880:100 INTRODUCTION TO MANUFACTURING MANAGEMENT 3 credits
Introduction to functions of major sections of manufacturing concern. Depart-
mental purposes identified with major emphasis on their sequential relation-
ship with each other. Intended to identify and relate major functions encoun-
tered later in individual courses.

2880:130 WORK MEASUREMENT PROCEDURES I 2 credits
Prerequisite: 100. Familiarizes student with procedures for handwork and 
techniques for choosing the best method for accomplishing such tasks.

2880:141 SAFETY PROCEDURES 3 credits
Prerequisites: 100 and 2420:211. Study of occupational health and safety. 
Sources and causes of accidents. Elements of an effective safety program. Human 
Factors in safety, safety promotion and enforcement.

2880:200 MANUFACTURING PROFITABILITY 3 credits
Prerequisites: 100 and 2420:211. Profit defined. Cost analysis and control 
studied. Control of price and profit within market limitations discussed.

2880:210 CONTROLLING AND SCHEDULING PRODUCTION 2 credits
Prerequisite: 100. Production order followed from sales order through recus-
tion, plant loading, expediting, scheduling and shipping. Also covers mate-
rial control and inventory record keeping. Critical path, linear programming 
and EDP techniques discussed.

2880:231 PLANT LAYOUT 3 credits
Prerequisite: 100. Solution of activities for a production facility. Optimum 
arrangements of factors of production: manpower, materials and equipment.

2880:232 LABOR MANAGEMENT RELATIONS 3 credits
Prerequisite: 100. Study of historical background of labor movement, man-
agement viewpoints, legal framework for modern labor organizations and 
occlusive bargaining process.

2880:235 WORK MEASUREMENT PROCEDURES II 2 credits
Prerequisite: 130. Continuation of 130. Work measurement techniques and 
establishment of production standards for optimization of lowered costs.

2880:241 QUALITY CONTROL PROCEDURES 3 credits
Prerequisite: 2020:131. Theory and practice of inspection and sampling tech-
iques for measurement of quality. QC charts, sampling plans, mill specs, 
checking machine capabilities and setting tolerances.

2880:290 SPECIAL TOPICS: INDUSTRIAL TECHNOLOGY 1-2 credits
Prerequisite: permission. Selected topics or subject areas of interest in indus-
tial technology.

2900: Instrumentation Technology

2900:121 FUNDAMENTALS OF INSTRUMENTATION 4 credits
Prerequisites: 2840:151 and 2860:123 or 270. Study of variables encountered 
in process instrumentation, indicating and recording devices and applications 
of physical principles affecting measurement and control.

2900:232 PROCESS CONTROL 3 credits
Prerequisite: 231. Study of analysis and design of process control systems 
with emphasis on techniques and instrumentation used in process control. 
Digital control fundamentals introduced.

2900:239 PULSE CIRCUIT TESTING 3 credits
Prerequisite: 2860:237. General study of digital circuits and systems. Analog-to-
digital and digital-to-analog conversion. Digital troubleshooting and analysis of digital interface.

2900:240 CALIBRATION AND STANDARDIZATION 1 credit
Prerequisite: 231. Laboratory experience in calibration and standardization of 
electrical, electronic and mechanical systems. Instrument theory, mainte-
nance, troubleshooting, specifications, performance and safe working prac-
tices included.

2900:241 INSTRUMENTATION PROJECT 2 credits
Prerequisite: Permission. Final semester or permission. Design construction and testing of 
an approved instrumentation project by an individual student. Lending inde-
dependent study, initiative, assumption of responsibility and application of skills 
attained in related courses.

2900:290 SPECIAL TOPICS: INSTRUMENTATION TECHNOLOGY 1-2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Selected topics or subject areas of interest in instru-
tainment technology.

2920: Mechanical Technology

2920:121 TECHNICAL DRAWING I 3 credits
Prerequisite: 2980:125; corequisite: 2980:241. Fundamental properties of 
materials. Material testing. Applications of methods to control material 
properties.

2920:122 TECHNICAL DRAWING II 3 credits
Prerequisite: 121 Sections and conventions; dimensioning; allowances and 
tolerances; threads and fasteners; descriptive geometry; intersections; develop-
ments.

2920:242 DESIGN MATERIALS 3 credits
Prerequisite: 2980:125; corequisite: 2980:241. Fundamental properties of 
materials. Material testing. Applications of methods to control material 
properties.
2920:243 KINEMATICS 2 credits

2920:244 DYNAMICS 2 credits
Prerequisites: 243, 2920:233 and 2980:125. Introduction to particle dynamics, displacement, velocity and acceleration of a constrained rigid body in plane motion. Kinetics of particles and rigid bodies, work and energy, mechanical vibrations.

2920:245 MECHANICAL DESIGN I 5 credits

2920:247 TECHNOLOGY OF MACHINE TOOLS 3 credits

2920:249 APPLIED THERMAL ENERGY 2 credits

2920:251 FLUID POWER 2 credits

2920:252 THERMO-FLOWS LABORATORY 1 credit
Prerequisite: 249; corequisite: 251. Laboratory experiments in applied thermal energy and fluid power.

2920:290 SPECIAL TOPICS: MECHANICAL TECHNOLOGY 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics or subject areas of interest in mechanical technology.

2920:310 ECONOMICS OF TECHNOLOGY 3 credits
Prerequisite: 84 credits or permission. Economic principles as they pertain to technology. Equivalence, alternatives, costs, depreciation, valuation: Project studies.

2920:333 WELDING, THEORY AND PRACTICE 3 credits

2920:336 WELDING PROJECTS 1 credit
Prerequisite: 333. Individual projects containing elements of analysis, design and laboratory experimentation.

2920:339 ADVANCED SHOP METHODS AND PRACTICES 2 credits
Prerequisite: 247; corequisite: 242. Selected topics dealing with sophisticated metal cutting techniques.

2920:346 MECHANICAL DESIGN II 3 credits

2920:347 PRODUCTION MACHINERY AND PROCESSES 2 credits
Prerequisites: 247, 2920:344. Study of modern production machines, processes and techniques. Casting, forging, rolling, welding, powder metallurgy, plastic molding.

2920:348 INTRODUCTION TO NUMERICAL CONTROL 3 credits
Prerequisites: 121, 2920:132. Introduction to numerical control (N/C) of operation of machine tools and other processing machines. Includes programming, types of N/C systems, economic evaluation.

2920:402 MECHANICAL PROJECTS 1 credit
Prerequisite: senior standing. Individual projects emphasizing creative technical design.

2920:446 NUMERICAL CONTROL PROGRAMMING 3 credits
Prerequisite: 348. Introduction to computer-assisted interactive part programming system. Writing of milling and drilling programs.

2920:495 INSPECTION TOOLS 1 credit
Prerequisite: senior standing. Trips through area industrial plants and technical facilities.

2920:497 SENIOR HONORS PROJECT IN MECHANICAL TECHNOLOGY 1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program; permission of area honors preceptor and major in mechanical technology. Independent research leading to completion of Honors Thesis or other original work.

2940:140 SURVEY OF ENGINEERING TECHNOLOGY 3 credits
Prerequisite: 2940:131. Introductory course in basic concepts pertaining to mechanical, civil and electrical technology. A study of technical terminology, applied mathematics and applied physics. Graphical solutions will be emphasized.

2940:150 DRAFTING DESIGN PROBLEMS 2 credits
Prerequisite: 2940:131; corequisite: 151. Introductory course in basic concepts in engineering technology computations. A study of technical terminology and applied mathematics.

2940:151 TECHNICAL COMPUTATIONS 1 credit
Prerequisite: 2940:131; corequisite for drafting technology students only.

2940:160 MANUFACTURING AND CONSTRUCTION PROCESSES 2 credits
Prerequisite: 2940:131. Familiarizes student with terms and layouts concerning manufacturing and construction processes. Written or oral reports will be required after each film or field trip.

2940:170 SURVEYING DRAFTING 3 credits
(One hour lecture/six hours laboratory) Prerequisite: 2920:122; corequisite: 2020:131. Provides basic understanding of drafting procedures, techniques and tools required for the various phases of survey office work. Reduction of topographic maps, plan and profile drawings, cross-section drawings and earthwork calculations.

2940:190 ADVANCED DRAFTING 3 credits
(One hour lecture/six hours laboratory) Prerequisite: 2940:122. Descriptive geometry and geometric dimensioning. Principles of descriptive geometry applied to practical problems pertaining to the civil and mechanical fields of technology. Geometric dimensioning.

2940:210 COMPUTER DRAFTING 3 credits
(One hour lecture/six hours laboratory) Prerequisite: 2940:122. Familiarizes student with terms and laying out computer drafting procedures and of numerical control (N/C) concept. Includes definitions of most important terminology and drafting standards relating to N/C.

2940:220 MECHANICAL SYSTEMS DRAFTING 3 credits
(One hour lecture/six hours laboratory) Prerequisite: 2920:122. Familiarizes student with terms and laying out layouts for installations of systems concerning plumbing, heating and air conditioning. Also welding, gears, cams and fluid power drawings.

2940:240 ELECTRICAL, ELECTRONIC AND INSTRUMENTATION DRAFTING 3 credits
(One hour lecture/six hours laboratory) Prerequisite: 2940:220. Familiarizes student with terms and laying out concerning electronic, electrical and instrumentation systems.

2940:250 ARCHITECTURAL DRAFTING 3 credits
(One hour lecture/six hours laboratory) Prerequisite: 2940:131. Fundamentals of architectural drafting, including projection, sectioning, pictorial drawing, perspective, shades, shadows and architectural representation. Emphasis on construction details, interior space use, traffic patterns, exterior materials.

2940:350 DRAFTING TECHNOLOGY PROJECT 3 credits
Prerequisite: last semester or permission. Provides opportunity to work on a special drafting project within chosen field of interest.

2940:390 SPECIAL TOPICS: DRAFTING TECHNOLOGY 1-3 credits
(May be repeated for a total of four credits) Prerequisite: permission. Selected topics on subject areas of interest in drafting technology.
## 2980: Surveying and Construction Technology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2980:122</td>
<td>BASIC SURVEYING</td>
<td>3</td>
</tr>
<tr>
<td>2980:123</td>
<td>SURVEYING FIELD PRACTICE</td>
<td>2</td>
</tr>
<tr>
<td>2980:125</td>
<td>STATICS</td>
<td>3</td>
</tr>
<tr>
<td>2980:122</td>
<td>CONSTRUCTION SURVEYING</td>
<td>3</td>
</tr>
<tr>
<td>2980:224</td>
<td>LAND SURVEYING</td>
<td>3</td>
</tr>
<tr>
<td>2980:225</td>
<td>ADVANCED SURVEYING</td>
<td>4</td>
</tr>
<tr>
<td>2980:226</td>
<td>SUBDIVISION DESIGN</td>
<td>2</td>
</tr>
<tr>
<td>2980:231</td>
<td>BUILDING CONSTRUCTION</td>
<td>2</td>
</tr>
<tr>
<td>2980:232</td>
<td>CONSTRUCTION</td>
<td>3</td>
</tr>
<tr>
<td>2980:233</td>
<td>CONSTRUCTION ADMINISTRATION</td>
<td>2</td>
</tr>
<tr>
<td>2980:234</td>
<td>ELEMENTS OF STRUCTURES</td>
<td>3</td>
</tr>
<tr>
<td>2980:237</td>
<td>MATERIALS TESTING I</td>
<td>2</td>
</tr>
<tr>
<td>2980:238</td>
<td>MATERIALS TESTING II</td>
<td>2</td>
</tr>
<tr>
<td>2980:241</td>
<td>STRENGTH OF MATERIALS</td>
<td>3</td>
</tr>
<tr>
<td>2980:245</td>
<td>COST ANALYSIS AND ESTIMATING</td>
<td>3</td>
</tr>
<tr>
<td>2980:250</td>
<td>STRUCTURAL DRAFTING</td>
<td>2</td>
</tr>
<tr>
<td>2980:290</td>
<td>SPECIAL TOPICS: SURVEYING AND CONSTRUCTION TECHNOLOGY</td>
<td>1-2</td>
</tr>
</tbody>
</table>

**2980:122 Basic Surveying**
- **Credits:** 3
- **Prerequisite:** 122. Practical experience in use of surveying equipment and methods of surveying. Provides student with responsibility for making decisions and planning and directing complete project.
- **Description:** Basic tools and computations for surveying; measurements of distance, elevations and angles; traverse surveys. Field practice.

**2980:123 Surveying Field Practice**
- **Credits:** 2
- **Prerequisite:** 122. Practical experience in use of surveying equipment and methods of surveying. Provides student with responsibility for making decisions and planning and directing complete project.
- **Description:** Provides student with responsibility for making decisions and planning and directing complete project.

**2980:125 Statics**
- **Credits:** 3
- **Prerequisites:** 2840:151 and 2020:132. Equilibrium of force systems. Trusses, frames, first and second moment of areas, friction.

**2980:222 Construction Surveying**
- **Credits:** 3
- **Prerequisite:** 122. Methods and procedures for establishing line and grade for construction. Circular, spiral and parabolic curves. Cross-sectioning methods and earthwork. Field practice.

**2980:224 Land Surveying**
- **Credits:** 3
- **Prerequisite:** 122 or permission. Historical development of boundaries, rectangular system of public land surveys, systems used to describe property, working and interpretation of deed descriptions, surveyor's rights, duties and responsibilities.

**2980:225 Advanced Surveying**
- **Credits:** 4
- **Prerequisite:** 122. Introduction to theory of errors, precise leveling, baseline measurements, triangulation, trilateration and bearings from celestial observation. Photogrammetry. Field practice.

**2980:226 Subdivision Design**
- **Credits:** 2
- **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.

**2980:231 Building Construction**
- **Credits:** 2
- **Description:** Materials and types of construction used in heavy construction. Encompasses buildings constructed with heavy timber, steel, concrete or a combination of these materials.
3000: Cooperative Education

3000:301 COOPERATIVE EDUCATION 0 credits
(May be repeated)
For Cooperative Education Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

3100: Biology

3100:100 NATURE STUDY: PLANTS 3 credits
Identification and biology of common plants of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.

3100:101 NATURE STUDY: ANIMALS 3 credits
Identification and biology of common animals of this region. Recommended for teachers of nature study. Not available for credit toward a degree in biology. Laboratory.

3100:103 INTRODUCTION TO MICROBIOLOGY 3 credits
Basic microbiology; destruction, removal and inhibition of microorganisms; immunity and allergy, common pathogens. Not available for credit toward a degree in biology. Laboratory.

3100:104 ECOLOGY AND BIOLOGICAL RESOURCES 1 credit
FIELD LABORATORY
Corequisite: 105. Short field trips and laboratory studies illustrating natural and man-modified characteristics of selected local ecosystems.

3100:105 ECOLOGY AND BIOLOGICAL RESOURCES 2 credits
Various options for managing natural resources. human populations, biotic communities and industrial technologies. At global level emphasized. Not available for credit toward a degree in biology.

3100:111 PRINCIPLES OF BIOLOGY 4 credits
Prerequisite: 112. Principles of heredity, principles of genetics.

3100:112 PRINCIPLES OF BIOLOGY 4 credits
Prerequisite: 112. Early concepts of evolution; Darwinian theory, supporting evidence, mechanisms of evolution, molecular evolution, evolutionary trends in plants and animals.

3100:117 GENERAL ECOLOGY 2 credits
Prerequisite: 112. Study of interrelationships between organisms and environment.

3100:206,7 HUMAN ANATOMY AND PHYSIOLOGY 3 credits each
Sequential. Structure and function of the human body. Background of high school chemistry and biology recommended.

3100:211 GENERAL GENETICS 3 credits
Prerequisite: 112. Principles of heredity, principles of genetics.

3100:212 GENETICS LABORATORY 1 credit
Prerequisite or corequisite: 211. Fundamental principles of genetics illustrated by experiments with Drosophila and other organisms.

3100:215 ORGANIC EVOLUTION DISCUSSION 1 credit
Informal discussions of various aspects of evolutionary general or special interest.

3100:216 ORGANIC EVOLUTION 2 credits
Prerequisite: 112. Early concepts of evolution; Darwinian theory. supporting evidence, mechanisms of evolution, molecular evolution, evolutionary trends in plants and animals.

3100:224 ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING 3 credits
Prerequisite: 265. Study of anatomy and physiology of organs directly and indirectly responsible for sound perception and production of speech. Laboratory.

3100:225 INTRODUCTORY HUMAN PHYSIOLOGY 4 credits
Study of physiological processes in the human body, particularly at organ system level. Not open to preprofessional majors. Laboratory.

3100:230,1 HEALTH CARE DELIVERY SYSTEMS 1 credit each
Health care principles and practices. A continuation of 190, 1 for a second year student in NEOUCOM six-year BS/MD program. Graded credit/noncredit. Not available toward credit as major in biological sciences. Some field trips.

3100:231 CELL BIOLOGY 3 credits
Prerequisites: 112 and 3100:202 (organic and biochemistry). Study of structure and function of cellular and animal cells for demonstration of common tenets.

3100:232 MICROBIOLOGY 4 credits
Prerequisites: 112 and 3100:202 or equivalent. Survey of protists with emphasis on the bacteria: their morphology, cultivation and chemical characteristics. Relationships of microorganisms to man and his environment. Laboratory.

3100:233 MICROBIOLOGY 4 credits
Prerequisite: 331 or equivalent. Basic elements of microbial genetics, and temporary variation in the bacteria. Classification and identification of major groups of bacteria. Laboratory.

3100:241 FLORA AND TAXONOMY I* 3 credits
Prerequisite: 112. Collection-identification of flowering plants. Family characteristics and discussion of methods used to determine their relationships. Plants used by man discussed and plant collection required. Laboratory.

3100:242 FLORA AND TAXONOMY II* 3 credits
Prerequisite: 112. Classification systems, international rules governing application of names and collection-identification of non-flowering plants. Family characteristics. Plant collection. Laboratory.

3100:251 INVERTEBRATE ZOOLOGY* 4 credits
Prerequisite: 112. Invertebrate groups, their classification, anatomy and life history of representative forms. Laboratory.

3100:253 GENERAL ENTOMOLOGY* 4 credits
Prerequisite: 112. Structure, physiology, life cycles and economic importance of insects; survey of orders and major families. An insect collection is made. Laboratory.

3100:255 PARASITOLOGY 4 credits
Prerequisite: 112. Principles of parasitism, survey of the more important human and veterinary parasitic diseases. Laboratory.

*Field trips involved, minor transportation costs.

186
3100:356 ORNITHOLOGY* 3 credits
Prerequisite: 112. Introduction to biology of birds: classification, anatomy, physiology, behavior, ecology, evolution, natural history and field identification. Laboratory.

3100:361,2 HUMAN ANATOMY AND PHYSIOLOGY 3 credits each
Sequential. Prerequisite: one year of college chemistry. Study of structure and function of the human body. Laboratory.

3100:365 HISTOLOGY I 3 credits
Prerequisite: 311. Microscopic study of animal tissue preparations and histochemical stains; emphasis on functional differences. Laboratory.

3100:366 HISTOLOGY II 3 credits
Prerequisite: 365. Cellular structure of organs in relation to their functional activity, life history, comparative development. Laboratory.

3100:381 HUMAN GENETICS 2 credits
Prerequisite: 112 or 362. Principles of genetics in the human, immunogenetics, mutation, genetics of population, selection and eugenics. Not open to biology majors.

3100:383 LABORATORY TECHNIQUES AND INSTRUMENTATION IN BIOLOGY 2 credits
Prerequisite: 112. Corequisite: 384. Instruction in techniques and instrumentation used in biological laboratories.

3100:384 TECHNIQUES AND INSTRUMENTATION IN BIOLOGY 1 credit
Corequisite: 383. Application of biological techniques and instrumentation with emphasis on isolation and identification of cellular components and metabolites; also includes enzymology, use of radioscopes and light and electron microscopy.

3100:406/506 FOOD PLANTS 2 credits
Prerequisites: 311, or permission of instructor. A survey of the plants used for human food, including their history, structure, uses.

3100:422/522 CONSERVATION OF BIOLOGICAL RESOURCES* 4 credits
Prerequisite: 218 or permission. Basic principles for management of plant and animal resources and natural areas. Political, economic and social aspects of resource management. Laboratory with field trips.

3100:424/524 LIMNOLOGY* 3 credits
Prerequisite: 218. Field laboratory study of lake ecosystems. Species composition of selected bentic communities, community energetics, nutrient cycling. Limnological survey of a local lake. Laboratory.

3100:426/526 APPLIED AQUATIC ECOLGY* 3 credits
Prerequisite: permission. Methods for assessing quality of natural waterways. Emphasis given to use of bentic invertebrates as indices of water quality. Laboratory.

3100:428/528 BIOLOGY OF BEHAVIOR 2 credits
Prerequisites: 211, 216 and 217. Biological basis of behavior: ethological theory: function, causation, significance, evolution and adaptiveness of behavior.

3100:431/531 BACTERIAL PHYSIOLOGY 3 credits
Prerequisites: 332 and 3150:202 (organic and biochemistry). Biochemical activities in bacterial cell, emphasizing enzymatic mechanisms of metabolic transformations. Energy relationships in catabolic and biosynthetic pathways stressed.

3100:435/533 PATHOGENIC BACTERIOLOGY 4 credits
Prerequisite: 332. Study of major groups of bacteria which produce infections in man. Biochemical properties of microorganisms which engender virulence and nature of host resistance. Laboratory.

3100:435/535 VIROLOGY 4 credits
Prerequisite: 332. Physical, chemical and biological properties of viruses including mechanisms of infection, genetics and tumorigenesis; methods of cultivation and identification. Laboratory.

3100:437/537 IMMUNOLOGY 4 credits
Prerequisite: 332. Recommended: 433. Nature of antigens, antibody response and antigen-antibody reactions. Site and mechanism of antibody formation, hypersensitivity, immunologic tolerance and immune diseases considered. Laboratory.

3100:438/538 HEMATOLOGY 4 credits
Prerequisite: 437/537 or permission of instructor. Quantitative and qualitative evaluation and interpretation of formed elements of blood including study of hereditary, metabolic, nutritional, inflammatory, immunologic and neoplastic diseases encountered in field of hematology. Lecture/Laboratory.

3100:440/540 MYCOLOGY 4 credits
Prerequisite: 112. Structure, life history, classification of representative fungi with emphasis on the importance of fungi to man. Laboratory.

3100:441/541 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.

3100:442/542 PLANT ANATOMY 3 credits
Prerequisite: 112. Structure and development of cells, tissues, organs and organ systems of seed plants. Laboratory.

3100:443/543 PHYCOLOGY 4 credits
Prerequisite: 112. Examination of the major groups of algae with emphasis on life histories and their relationship to algal form and structure. Laboratory.

3100:445/545 PLANT MORPHOLOGY* 4 credits
Prerequisite: 112. Structure, reproduction, lifecycles, ecology, evolution, economic significance of land plants-bryophytes, club-mosses, whisk ferns, horsetails, ferns, seed plants. Laboratory.

3100:447/547 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.

3100:449/549 PLANT BIOSYSTEMATICS 2 credits
Prerequisite: four credits of botany at 400 level. Current research methods and theories in plant phylogeny and taxonomy. Includes study of original publications, discussion of experimental methods and use of herbarium in research.

3100:458/558 VERTEBRATE ZOOLOGY 4 credits
Prerequisite: 218 or permission. Biology of vertebrates, except birds — evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.

3100:461,2/561,2 HUMAN PHYSIOLOGY 4 credits each
Prerequisites: senior or graduate standing. Detailed study of function of the human body with special emphasis on neuromuscular, cardiovascular, respiratory, renal and endocrine physiology. Laboratory.

3100:464/564 GENERAL AND COMPARATIVE PHYSIOLOGY 4 credits
Prerequisites: 112 and one year of organic chemistry. Study of cellular, osmoregulatory, respiratory, cardiovascular, endocrine and neural mechanisms involved in understanding physiology of variety of invertebrate and vertebrate animals. Laboratory.

3100:465/565 ADVANCED CARDIOVASCULAR PHYSIOLOGY 3 credits
Prerequisite: 462 or 562 or permission. Study of biological mechanisms involved in heart attack, strokes, fluid balance, hypertension and heart disease. Controversial issues in each area will be examined and current research presented.

3100:466,7/566,7 DEVELOPMENTAL ANATOMY 4 credits each
Prerequisite: 112. Sequence designed to introduce process of vertebrate development. Lecture and laboratory work includes descriptive and experimental embryology, phylogenetic development of major vertebrate orders and individual study research. Laboratory.

3100:468/568 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.

3100:480/580 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 laboratory. Laboratory.

*Field trips involved; minor transportation costs.

187
3100:481/581 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.

3100:480 ENVIRONMENTAL PHYSIOLOGY 3 credits
Prerequisites: 561, 2. Study of physiologic reactions of healthy mammals to natural changes or extremes of physical environment.

3100:487 EXPERIMENTAL EMBRYOLOGY 3 credits
Prerequisite: permission. Principles and experimental methods of developmental biology. Practical application to oncology, drug interaction and inductive mechanisms. Laboratory.

3100:481 CYTOLOGY 3 credits
Prerequisite: 311. Structure and functional organization of cells at ultrastructural level. Three lecture hours a week.

3100:485 ANIMAL TISSUE CULTURE 3 credits
Prerequisite: 332. Tissue culture techniques: biology and physiology of animal cells and tissues under in vitro conditions; application of these techniques to radiobiology, cancer chemotherapy and animal cell genetics. Laboratory.

3100:484 RESEARCH IN THE BIOLOGY OF AGING 3 credits each
Prerequisite: graduate standing in biology; or by approval in related fields. Introduction to research techniques in study of biological aspects of aging and experience in special research project in the field.

3100:486 PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY 3 credits
Prerequisite: 311 or 681 or equivalent. Modern cytological methods using transmission electron microscope. Portfolio required to demonstrate proficiency in fixation techniques, use of ultramicrotome, light and electron microscopes and darkroom techniques.

3100:488 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY 3 credits
Prerequisites: 311, 681 or equivalent. An introduction of 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.

3100:495 SPECIAL TOPICS: BIOLOGY 1-3 credits
(May be repeated)
Prerequisite: permission. Special courses offered once or only occasionally in areas where no formal course exists.

3100:497,8 SEMINAR IN BIOLOGY 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.

3100:899 MASTER'S RESEARCH 1-6 credits
(May be repeated)
A minimum of six credits is required for thesis option student.

3110: Biology/NEOUCOM

3110:420 MICROSCOPIC ANATOMY 4 credits
Prerequisite: 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.

3110:430 HUMAN GROSS ANATOMY AND EMBRYOLOGY 3 credits
Prerequisite: graduate standing and permission. An intensive survey of human macroanatomy.

3110:431 HUMAN GROSS ANATOMY AND EMBRYOLOGY LABORATORY 3 credits

3110:441 FUNCTIONAL NEUROANATOMY 4 credits
Prerequisite: permission or graduate standing. Study of structure and function of mammalian nervous system with emphasis on human brain and human behavior. Laboratory.

3110:443 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 neurobiology. Laboratory.

3110:460 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.

3120: Medical Technology

3120:401 SPECIAL TOPICS LABORATORY 1-4 credits
MANAGEMENT, EDUCATION AND SAFETY
Seminars, lectures, workshops in medical technology not included in formal clinical courses. Minimum one credit required for graduation.

3120:410 CLINICAL ANALYSIS OF URINE AND OTHER BODY FLUIDS 1 credit
Prerequisite: 3100:361, 2 or equivalent. Physiology of renal system; theory of renal functions in health and disease states; theory of other fluid systems in diagnosis of disease.

3120:411 CLINICAL ANALYSIS OF URINE AND OTHER BODY FLUIDS II PRACTICUM 1 credit
Prerequisite: 3100:361, 2 or equivalent. Renal function tests to include chemical and microscopic examination of urine. Methods of detection of chemical and cellular elements of other body fluids.
3120:420 CLINICAL CHEMISTRY AND BIOCHEMISTRY I 4 credits
Prerequisites: 3100:383, 4 or equivalent; 3120:201, 02, 335, 36 or equivalent. Concepts of clinical biochemistry; identification and quantification of specific chemical substances in body fluids in normal and disease states; principles of instrumentation and quality control.

3120:421 CLINICAL CHEMISTRY AND BIOCHEMISTRY II PRACTICUM 4 credits
Prerequisites: 3100:383, 4 or equivalent; 3120:201, 02, 335, 36 or equivalent. Clinical application by various analytical techniques; clinical correlation of results with disease states.

3120:430 CLINICAL HEMATOLOGY I 2 credits
Prerequisites: 3100:311 and 3100:361, 2 or equivalent. Theory of blood cell formation; identification of blood and bone marrow cells; differentiation of erythrocytes, leukocytes, morphology.

3120:431 CLINICAL HEMATOLOGY II PRACTICUM 2 credits
Prerequisites: 3100:311 and 3100:361, 2 or equivalent. Clinical application and practice of blood cell mounting procedures using automated and manual techniques.

3120:432 CLINICAL COAGULATION 1 credit
Prerequisites: 3100:311 and 3100:361, 2 or equivalent. Theory of coagulation mechanisms and their relationship to disease states. Emphasis on identification of coagulation deficiencies and abnormalities.

3120:440 CLINICAL IMMUNOHEMATOLOGY I 2 credits
Prerequisites: 3100:437, 211 or equivalent. Theory of principles of immunology applied to blood grouping, cross matching; blood components; transfusion; blood collection, processing and preservation.

3120:441 CLINICAL IMMUNOHEMATOLOGY II PRACTICUM 2 credits
Prerequisites: 3100:437, 211 or equivalent. Clinical application of theory: cross matching; blood donors; blood bank management.

3120:450 CLINICAL IMMUNOHEMATOLOGY I 1 credit
Prerequisite: 3100:357 or equivalent. Antigens and antibodies and their interaction in disease states.

3120:451 CLINICAL IMMUNOLOGY II PRACTICUM 1 credit
Prerequisite: 3100:457 or equivalent. Qualitative and quantitative serological laboratory procedures in immunology.

3120:460 CLINICAL MICROBIOLOGY I 4 credits
Prerequisites: 3100:333, 2 and equivalent. Theory of diagnosis of medical microbiology with emphasis on pathogenic bacteria and their relationship to disease.

3120:461 CLINICAL MICROBIOLOGY II PRACTICUM 4 credits
Prerequisites: 3100:333, 2 or equivalent. Isolation and identification of pathogenic bacteria; media making; sensitivity and antimicrobial agents; principles of sterilization and asepsis.

3120:462 CLINICAL MYCOLOGY 1 credit
Study of pathogenic fungi, basic methods of cultivation and identification, treatment and safety precautions.

3120:463 CLINICAL PARASITOLOGY 1 credit
Prerequisite: 3100:355 or equivalent. Study of parasites common to man, life cycles, and relationship to man; procedure for handling and examining, identification by morphological characteristics.

3120:464 CLINICAL PARASITOLOGY 1 credit
Prerequisite: 3100:355 or equivalent. Study of parasites common to man, life cycles, and relationship to man; procedure for handling and examining, identification by morphological characteristics.

3120:465 CLINICAL PARASITOLOGY 1 credit
Prerequisite: 3100:355 or equivalent. Study of parasites common to man, life cycles, and relationship to man; procedure for handling and examining, identification by morphological characteristics.

3120:466 CLINICAL PARASITOLOGY 1 credit
Prerequisite: 3100:355 or equivalent. Study of parasites common to man, life cycles, and relationship to man; procedure for handling and examining, identification by morphological characteristics.

3120:467 CLINICAL PARASITOLOGY 1 credit
Prerequisite: 3100:355 or equivalent. Study of parasites common to man, life cycles, and relationship to man; procedure for handling and examining, identification by morphological characteristics.

3121:401 INTRODUCTION TO CYTOLOGY 1 credit
A brief course in which by means of lecture and demonstration the student becomes familiar with the cytopathologist's role and with cytology laboratory. Areas covered include historical background of clinical cytology, microscopy and basic histology.

3121:410 CYTOPREPARATION 2 credits
Combined lecture and laboratory of different cytologic 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.

3121:411 GYNECOLOGIC CYTOPATHOLOGY 5 credits
Anatomy, histology and cellular morphology of female reproductive system. Study of disease, processes and endocrine, inflammation and benign lesions. Stressed are premenopausal lesions of cervix and endometrium, as well as malignant neoplasms and their cytologic characteristics. A study of extrametastatic and metastatic tumors is included.

3121:412 GENITO-URINARY CYTOPATHOLOGY 3 credits
Study of anatomy, histology, pertinent physiology and cellular morphology of kidneys, ureters, bladder and lower urinary tract. Emphasis on recognition of cancer cells and various benign pathologic conditions in the urinary tract by microscopic studies of urine sediment.

3121:413 RESPIRATORY CYTOPATHOLOGY 3 credits
Study of disease processes as related to cytology of respiratory tract. Covers general anatomy, normal histology and cytology, inflammatory and mycotic diseases, benign proliferative disorders and malignant neoplasms with emphasis on their associated cell morphology.

3121:414 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 in cellular morphology of primary and metastatic tumors and in different cytodagnosis.

3121:415 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.

3121:416 BREAST SECRETION AND NEEDLE ASPIRATION SMears 2 credits
The study of anatomy and histology of body organs subject to needle aspiration biopsy with emphasis on cellular morphology of both benign and malignant tumors.

3121:417 CYTOGENETICS 1 credit
Basic genetic principles are taught to lay foundation for study of chromosomal aberrations and their pathological manifestations. Include techniques of sex chromosome determination, culturing and harvesting of blood cells, preparation of metaphase plate and preparation of karyotypes.

3121:418 CYTOTOLOGY SEMINARS AND RESEARCH 3 credits
Collections of American Society of Cytology Seminars are presented. Current cytology cases from within department are also utilized. Based on projected slides and pertinent clinical history, a student formulates opinions on each sample. Each case presented is discussed in depth by student with faculty moderator. A term paper on an independently selected topic in cytology is to be submitted and presented to the class and faculty.

3121:420 CYTOTOLOGY PRACtICUM 5 credits
Involves five hours of daily prescreening of routine gynecologic and non-gynecologic specimens. Abnormal cases are reviewed with a proctor who is a registered cytopathologist or pathologist. Correlation of clinical data, follow-up of patients and proper reporting is emphasized. The goal is to be able to screen accurately at least 40 cases of gynecologic specimens per day.

3150: Chemistry

3150:121, 2 INORGANIC CHEMISTRY I, II 3 credits each Sequential. Designed primarily for a student in medical technology. Fundamental laws and theories of chemistry; the more important elements and their compounds. Laboratory.

3150:124 CHEMISTRY 3 credits
Fundamentals of organic, inorganic and physiological chemistry. Discussion.

3150:128, 129 INTRODUCTION TO GENERAL, ORGANIC AND BIOCHEMISTRY I, II 4 credits each Sequential; Introduction to principles of chemistry and fundamentals of inorganic and biochemical structure and chemistry of carbohydrates, lipids, proteins; biochemistry of enzymes, metabolism, body fluids and radiation effects.

3150:132 PRINCIPLES OF CHEMISTRY I 4 credits
Introduction to basic facts and principles of chemistry including atomic and
molecular structure, states of matter and thermodynamics. For chemistry major, premedical student and most other science majors. Laboratory.

3150:133 PRINCIPLES OF CHEMISTRY II 3 credits
Prerequisite: 132. Continuation of 132, including aqueous solution theory, chemical kinetics, equilibrium, electrochemistry and nuclear chemistry. For chemistry major, premedical student and most other science majors.

3150:134 QUALITATIVE ANALYSIS 2 credits
Corequisite: 133. Laboratory course applying principles of chemical equilibria to inorganic qualitative analysis.

3150:201,2 ORGANIC CHEMISTRY AND BIOCHEMISTRY 4 credits each
Prerequisite: 122. Designed especially for student in medical technology. Principles of organic chemistry with emphasis on biological systems. Laboratory.

3150:203 NUTRITIONAL BIOCHEMISTRY 3 credits
Prerequisites: 130 and 132. Enzymes, vitamins, electrolyte balance, diseases of nutrition. Corequisite: 133. Laboratory designed for premedical student and most other science majors. Laboratory.

3150:283,4 ORGANIC CHEMISTRY LECTURE I, II 3 credits each
Sequential: Prerequisite: 134 or permission. Structure and reactions of organic compounds, mechanism of reactions. Laboratory.

3150:303,4 ELEMENTARY PHYSICAL CHEMISTRY I, II 3 credits each
Sequential: Prerequisites: 264, 3650:232, 292 or 292, 3450:222 or permission of instructor. Chemical thermodynamics and kinetics (I) and molecular structure and spectra (II). Not accepted for credit toward B.S. degree in chemistry or chemical engineering. Laboratory.

3150:305,6 PHYSICAL CHEMISTRY LABORATORY I, II 2 credits each
Sequential: Corequisites for 315 is 314. Laboratory experiments to develop techniques in organic chemistry and illustrate principles. Laboratory.

3150:313,4 PHYSICAL CHEMISTRY LECTURE I, II 3 credits each
Sequential: Prerequisites: 264, 3450:235, 3650:292 or permission of instructor. Gases, thermodynamics, thermochemistry, solutions, dilute solutions, chemical equilibria, phase rule, chemical kinetics, electrochemistry, electrolytic equilibrium, atomic and molecular structure. Laboratory.

3150:315,6 PHYSICAL CHEMISTRY LABORATORY I, II 2 credits each
Sequential: Corequisite for 315 is 314. Laboratory designed for illustrating techniques and equipment used in physical/chemical investigations.

3150:335,6 ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS I, II 4 credits each
Sequential: Prerequisite: 133, 4 or 122. Intended primarily for preparing to become a laboratory or hospital technician. Theory and calculations in qualitative and quantitative analysis, laboratory, methods used in hospital laboratories.

3150:401/501 BIOCHEMISTRY LECTURE I 3 credits
Prerequisite: 264. Biochemistry of amino acids and proteins; enzymes, role as biocatalysts: structure, biochemistry of nucleic acids, carbohydrates, and lipids; energy storage, utilization. Laboratory.

3150:402/502 BIOCHEMISTRY LECTURE II 3 credits
Prerequisite: 401/501. Carbohydrate and amino acid metabolism, protein, nucleotide and nucleic acid biosynthesis and gene function. Laboratory.

3150:403 COOPERATIVE EDUCATION WORK PERIOD 0 credits
For the cooperative education student only. Work experience in industry and business. Comprehensive written reports of the work experience are required.

3150:404/504 BIOCHEMISTRY LABORATORY I 1 credit

3150:405/505 BIOCHEMISTRY LABORATORY II 1 credit
Prerequisite: 404/504. Corequisite: 402/550. Biological synthesis and degradation, role of enzymes, their characteristics and utilization of energy released during oxidation of biological compounds.

3150:404/508 THE PROFESSIONAL CHEMIST IN INDUSTRY 2 credits
Prerequisite: senior year or degree in chemical engineering or permission. Business, legal, societal, economic and other nonchemical aspects of a chemist's profession.

3150:411/511 PHYSICAL CHEMISTRY FOR BIOLOGY MAJORS 3 credits
Prerequisites: 266 and 3450:148 and permission. Gases, thermodynamics, electrochemistry, chemical kinetics, macromolecules and colloids; special topics in biochemistry, biophysics and molecular biology. Laboratory.

3150:415/515 CHEMICAL INSTRUMENTATION 3 credits
Prerequisites: 266 and 415/515. Principles and applications of electrical and electronic devices and various transducers for chemical analysis. Laboratory.

3150:416/516 INSTRUMENTAL METHODS OF ANALYSIS 3 credits
Prerequisite: 415/515. Principles and applications of analytical chemical techniques based on physical measurements. Laboratory.

3150:421/521 QUALITATIVE ORGANIC ANALYSIS 4 credits
Prerequisite: 266. Identification and characterization of organic substances, separation and identification of components of organic mixtures. Laboratory.

3150:423 QUANTITATIVE ANALYSIS 3 credits
Prerequisite: 134. Theoretical principles of quantitative analysis. Techniques and calculations, gravimetric and volumetric methods.

3150:425 QUANTITATIVE ANALYSIS LABORATORY 2 credits
Corequisite: 423. Laboratory techniques employed in gravimetric, volumetric and instrumental analysis.

3150:427 ANALYTICAL CHEMISTRY LECTURE 3 credits
Prerequisites: 304 or 314. Separation and identification of components of organic mixtures. Laboratory.

3150:428 ANALYTICAL CHEMISTRY LABORATORY 2 credits
Corequisite: 427. Laboratory techniques employed in gravimetric, volumetric, instrumental analysis. Emphasizes instrumental analysis.

3150:435/535 ADVANCED ORGANIC CHEMISTRY 3 credits
Prerequisite: 264, 304 or 314 or permission. Introduction to study of mechanisms of organic reactions.

3150:472/572 ADVANCED INORGANIC CHEMISTRY 3 credits
Prerequisite: 304 or 314. Concepts of atomic structure integrated in systematic classification of elements; periodicity. Chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.

3150:490/590 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.

3150:498 SPECIAL TOPICS: CHEMISTRY 1-3 credits

3150:499 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

3150:601,2 CHEMISTRY OF POLYMERS I, II 2 credits each
Sequential: Prerequisites: 264 and 266 or permission of instructor. History, classification and nomenclature, natural polymers. Types and methods of polymerization. Ring vs. chain stability. Natural and synthetic polypeptides, nucleic acids.

3150:604,5 CHEMISTRY OF POLYMERS LABORATORY I, II 2 credits each
Sequential: Prerequisites: 264, 266. Preparation, identification of polymers to illustrate polymerization methods in 601, 602, 649.
3150:609 MICROQUANTITATIVE ORGANIC ANALYSIS 2 credits
Prerequisites: 266, 428 and permission. Microquantitative analytical methods for determination of acidity, hydrogen, nitrogen, sulfur and halogens in organic substances. Laboratory.

3150:610 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.

3150:611 CHEMICAL BONDING AND SPECTROSCOPY 2 credits
Prerequisite: 610. Application of quantum chemistry to elucidation of chemical bonding, structure and interpretation of molecular spectra.

3150:613 SYNTHETIC METHODS OF ORGANIC CHEMISTRY 2 credits
Prerequisite: 264. Discussion of synthetic organic chemistry. Standard synthesis of organic compounds as well as newer techniques.

3150:621, 2 ADVANCED PREPARATIONS I, II 1-2 credits each
Prerequisite: permission. Methods for preparing and purifying organic and inorganic compounds. Laboratory.

3150:625 COLLOID CHEMISTRY 2 credits

3150:629, 30 THEORETICAL INORGANIC CHEMISTRY I, II 2 credits each
Sequential Prerequisites: 314, 472 or permission. Detailed treatment of chemistry of transition elements. Group theoretical applications; ligand field theory, kinetics and mechanism, magnetism, electronic spectra, molecular orbital theory.

3150:635 THERMODYNAMICS, STATISTICAL THERMODYNAMICS AND KINETICS I 2 credits

3150:636 THERMODYNAMICS, STATISTICAL THERMODYNAMICS AND KINETICS II 2 credits
Prerequisite: 635. Applications of statistical thermodynamics to chemical systems in equilibrium. Theories of rate processes. Fundamentals of chemical kinetics. Methods of investigation and interpretation of data.

3150:639, 9 ADVANCED PHYSICAL CHEMISTRY LABORATORY I, II 1 credit each
Prerequisite: permission. Laboratory physical chemistry.

3150:649 CHEMISTRY OF ELASTOMERS 2 credits
Prerequisites: 264, 428, or permission. Study of molecular structure and chemical reaction and properties of natural and synthetic rubbers: polymerization processes in formation of synthetic elastomers.

3150:651, 2 QUANTUM CHEMISTRY I, II 3 credits each
Sequential Prerequisite: 3450:236 or permission. Quantum mechanics: exactly soluble problems and approximation methods in many-particle systems; structure properties, symmetry and spectroscopy of molecules, self-consistent field techniques.

3150:660 BIO-ORGANIC REACTIONS 2 credits
Prerequisites: 264, 313, 314, 402 or permission. Bio-organic mechanisms, including nucleophilic displacements on carbon, hydration and redox reactions; chemistry of catalysts, enzyme catalysis and models.

3150:665 BIOENERGETICS 2 credits
Prerequisites: 313, 314, 402 or permission. Energy production, utilization in living systems: historical aspects; thermodynamics, glycolysis, phosphorylation, citric acid cycle, respiratory chain, electron transport, metabolic control, active transport and muscle contraction.

3150:667 ADVANCED BIOCHEMISTRY TECHNIQUES 2 credits
Prerequisites: 402, 405, 428 or permission. Advanced analytical course in biochemistry laboratory; purification and characterization of DNA, RNA, and chromatins; study of metabolic pathways in bacteria using advanced biochemistry techniques.

3150:670 CHEMICAL MICROSCOPY AND MICROCHEMICAL ANALYSIS 2 credits
Prerequisite: 462 and permission. Microscale titrations, physical measurements; phase studies; identifications; microchemical procedures.

3150:671 THERMOCHEMICAL METHODS 2 credits
Prerequisite: permission. Thermochemistry and related techniques and methods of programming, recording, data treatment and effects of atmosphere and sample parameters described with applications.

3150:672 ADVANCED ANALYTICAL CHEMISTRY 2 credits
Prerequisite: 428 or equivalent. Advanced techniques for separation, determination and identification: classical as well as recent techniques.

3150:673 STEREOCHEMISTRY OF ORGANIC COMPOUNDS 2 credits
Prerequisite: 264. Stereochemistry and its applications to reactions of organic chemistry.

3150:674.5 PHYSICAL CHEMISTRY OF POLYMERS I, II 2 credits each
Sequential. Prerequisite or corequisite: 674, 675, respectively. Laboratory to illustrate methods and principles discussed in 674 and 675.

3150:686 ADVANCED CHEMICAL THERMODYNAMICS 2 credits
Prerequisite: 686. Thermodynamics of solutions; fluctuation theory, general statistical thermodynamic potential, irreversible thermodynamics.

3150:691 ADVANCED INSTRUMENTAL ANALYSIS 2 credits
Prerequisite: 416/516. Modern instruments.

3150:692 ADVANCED INSTRUMENTATION 2 credits
Prerequisites: 316, 428. Theory and application of instrumental measurements; interpretation of data.

3150:699 MASTER’S RESEARCH CHEMISTRY 1-6 credits
For properly qualified candidates for master’s degree. Supervised original research in analytical, inorganic, organic, physical or biochemical.

3150:710 SPECIAL TOPICS: ANALYTICAL CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Topics in advanced analytical chemistry. Electroanalysis, activation analysis, atomic absorption spectrometry, mass spectrometry, liquid-liquid, liquid-solid and gas chromatography, ion exchange, thermoanalytical methods, separations, standards, sampling, recent developments.

3150:711 SPECIAL TOPICS: INORGANIC CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite permission. Consideration of topics in modern inorganic chemistry, such as coordination compounds, chemistry of the solid state, representative elements, nonaqueous solvents, organometallic compounds, homogeneous catalysis.

3150:712 SPECIAL TOPICS: ORGANIC CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite permission. Topics in advanced organic chemistry such as natural products, heterocyclic compounds, photochemistry.

3150:713 SPECIAL TOPICS: PHYSICAL CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite permission. Subject from modern physical chemistry.

3150:714 SPECIAL TOPICS: POLYMERS CHEMISTRY 1-2 credits
(May be repeated)
Prerequisites: 264, 266, 314, 316 or permission. Study of topical subjects of current interest. Chemistry of macromolecules encompassing organic, inorganic or physical chemistry aspects and including laboratory work where applicable. Lectures and/or laboratory.
3200: Classics

3200:189 MYTHOLOGY OF ANCIENT GREECE 3 credits
Myth, legend, and folklore in ancient Greece, with some attention to religion (Olympian deities, Orphism, etc.) and the transmission of Greek myth to Rome and the West. No foreign language necessary.

3200:190 THE MAKING OF ENGLISH WORDS FROM LATIN AND GREEK ELEMENTS 3 credits
The influence of Latin and Greek on English vocabulary with some attention to the use of these languages in the scientific and legal fields. No foreign language is necessary.

3200:313 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.

3200:314 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.

3200:361 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.

3200:382 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.

3200:401,2/601,2 EGYPTOLOGY 3 credits each
(May be repeated with change of subject)
Prerequisite: permission of instructor. Classical Egyptian (standard hieroglyphic of Eighteenth Dynasty); history and antiquities of Egypt as far as Roman occupation.

3200:404,5/604,5assyrology 3 credits each
(May be repeated with change of another cuneiform language)
Prerequisite: permission of instructor. The Akkadian language; history and antiquities of Mesopotamia.

3200:407,8/607,8 ANCIENT NEAR EASTERN ARCHAEOLOGY 3 credits each
(May be repeated with change of subject)
Prerequisite: permission of instructor. Palestine, Mesopotamia, Asia Minor, adjacent lands. Old Testament in light of material evidence.

3200:450/550 SELECTED TOPICS IN ANCIENT CULTURES 3 credits
(May be repeated with change of subject)
Varied offerings in literature, art and archaeology and religion. No foreign language necessary.

3200:497,8/597,8 READING AND RESEARCH IN THE ANCIENT NEAR EAST 1-3 credits
Prerequisite: permission of instructor. Advanced work in various aspects of Ancient Near Eastern Studies (Archaeology, Assyriology, Egyptology, etc.).

3210: Greek

3210:121,2 ELEMENTARY GREEK 4 credits each
Sequential. Standard language of Hellenistic times with some attention to Modern Greek.

3210:223,4 INTERMEDIATE GREEK 3 credits each
Prerequisite: 121,2. A survey of readings of the less difficult authors such as Homer, certain dialogues of Plato, Xenophon. New Testament or the like.

3210:303,4 ADVANCED GREEK 3 credits each
(May be repeated with a change of subject)
Prerequisite: 223,4 or equivalent. Satirists, dramatists, philosophers, religious writers, lyric and elegiac poets, medieval writers.

3210:497,8/597,8 GREEK READING AND RESEARCH 3 credits each
(May be repeated for credit with change of subject)
Prerequisite: permission of instructor. Homer, Sophocles, Plato or the like.

3220: Latin

3220:121,2 ELEMENTARY LATIN 4 credits each
Sequential. Some attention to development of Romance languages, especially Italian.

3220:223,4 INTERMEDIATE LATIN 3 credits each
Prerequisite: 121,2. A survey of readings of the less difficult authors such as Livy, Caesar, Plautus, Cicero's Letters or equivalent material.

3220:303,4 ADVANCED LATIN 3 credits each
(May be repeated with change of subject)
Prerequisite: 223,4 or equivalent. Satirists, dramatists, philosophers, religious writers, lyric and elegiac poets, medieval writers.

3220:497,8/597,8 LATIN READING AND RESEARCH 3 credits each
(May be repeated for credit with change of subject)
Prerequisite: permission of instructor. Generally Latin epigraphy, prose composition of philology; numismatics or certain other archaeological topics may be offered.

3250: Economics

3250:100 INTRODUCTION TO ECONOMICS 3 credits
May not be substituted for 201,2, 244. Economics primarily considered in a broad social science context. Adequate amount of basic theory introduced.

3250:201 PRINCIPLES OF MACROECONOMICS 3 credits
Study of the economic factors which affect the price level, national income, employment, economic growth. No credit if 244 already taken.

3250:202 PRINCIPLES OF MICROECONOMICS 3 credits
Analysis of decision making on the part of the firm and household, and the market processes affecting price, output and resource allocation. No credit if 244 already taken.

3250:244 INTRODUCTION TO ECONOMIC ANALYSIS 3 credits
For engineering majors. Intensive introduction to analysis of modern industrial society and formulation of economic policy. Structure of economic theory and its relation to economic reality. No credit to a student who has completed 201,2.

3250:248 CONSUMER ECONOMICS 3 credits
Spending habits of American consumers; influences affecting their spending decisions, personal finance, budget planning, saving programs, installment buying, insurance, investments, housing finance.
3250:333 LABOR ECONOMICS 3 credits
Prerequisite: 330. Theoretical tools used in analysis of problems of labor in any modern economic system. Emphasis given to examination of determinants of demand for and supply of labor.

3250:430/530 LOCAL PUBLIC FINANCE 3 credits
Prerequisite: 401.2. Theoretical tools used in analysis of problems of labor in any modern economic system. Emphasis given to examination of determinants of demand for and supply of labor.

3250:481/581 MONETARY AND BANKING POLICY 3 credits
Prerequisite: 480.400. Control over currency and credit policies of central banks and governments. United States Treasury and Federal Reserve System.

3250:486 GHETTO ECONOMIC DEVELOPMENT 3 credits
Prerequisite: 482.2. Stressful study of factors of urban ghetto development.

3250:490 INDEPENDENT STUDY IN ECONOMICS 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Independent study in economics under supervision and evaluation of selected faculty member.

3250:491/591 WORKSHOP IN ECONOMICS 1-3 credits
(May be repeated) Group study of special topics in economics. May not be used to meet undergraduate or graduate major requirements in economics. May be used for elective credit only.

3250:497 HONORS PROJECT 1-3 credits
(May be repeated by a total of six credits) Prerequisite: senior standing in Honors Program. Individual senior honors thesis on a creative project relevant to economics, approved and supervised by faculty member of the department.

Graduate Courses

3250:600 FOUNDATIONS OF ECONOMIC ANALYSIS 3 credits
Prerequisite: graduate standing. Determination of national income, employment and price level; aggregate consumption, investment and asset holding: decision problems faced by household and firm. Partial equilibrium analysis of competition and monopoly and general equilibrium analysis. May be repeated for credit.

3250:602 MACROECONOMIC ANALYSIS I 3 credits
Construction of dynamic macroeconomic models. Analysis predominately in terms of comparative statics with only relatively brief mention of dynamic models.
194

3250:603 MACROECONOMIC ANALYSIS II 3 credits
Prerequisite: 602. Macroeconomic economics and stability analysis of closed and open Keynesian systems. Inclusive coverage of post-Keynesian theories of economic growth.

3250:606 PUBLIC FINANCE 3 credits

3250:610 FRAMEWORK OF ECONOMICS 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.

3250:611 MICROECONOMIC THEORY I 3 credits

3250:612 MICROECONOMIC THEORY II 3 credits
Prerequisite: 611. Continuation of 611. Covers micro-market equilibrium, general equilibrium, and welfare economics theory, and applications in public choice and applied welfare theory.

3250:615 INDUSTRIAL ORGANIZATION 3 credits
Prerequisite: 611 or permission. Examines link between market structure and conduct and economic performance. Measurement and effects of monopoly power, industrial concentration and changes.

3250:616 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.

3250:617 THE ECONOMICS OF REGULATION 3 credits
Prerequisite: 615 or permission of instructor. Examine rationale, methods, and success of government regulation of public utility, transportation and communications industries.

3250:620 APPLICATIONS OF MATHEMATICAL MODELS TO ECONOMICS 3 credits
Prerequisites: Calculus, intermediate microeconomics or permission of the instructor. Review of selected topics of differential and integral calculus and their application to economic analysis. Theory of optimization in production and consumption, static macroeconomic models. Analysis of growth, and stability.

3250:621 APPLICATIONS OF LINEAR MODELS IN ECONOMIC ANALYSIS 3 credits
Prerequisites: 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 demands, linear programming, general equilibrium analysis.

3250:622 STATISTICS FOR ECONOMETRICS 3 credits
Prerequisites: Elementary differential and integral calculus, 620 or permission. A review of statistical theory and its application to research in economics. Emphasis is on estimation and hypothesis testing as a prelude to econometrics.

3250:627 ECONOMETRICS 3 credits
Prerequisite: 525 or equivalent. Formulation of functional relations among economic variables suitable for statistical estimation from observational data and construction of multiequation econometric models and methods of estimation.

3250:628 SEMINAR IN RESEARCH METHODS 3 credits
Prerequisite: Permission of instructor. A seminar in the use of applied mathematical economics or econometrics. Emphasis is on individual development of a theoretical proposition or research statement, its empirical examination, and policy implications.

3250:633 THEORY OF WAGES AND EMPLOYMENT 3 credits
Analytical approach to integration of economic theory with observed labor market phenomena. Discussion of wage and employment theories, effects of unions, collective bargaining theories and effects of government regulation.

3250:634 COLLECTIVE BARGAINING 3 credits
Economic issues and implications involved in hours of work, employment and unemployment, and the impact of labor unions upon basic institutions of a free private enterprise economy.

3250:635 LABOR LAW 3 credits
Evaluation of labor relations laws. Public policy affecting public, private worker organizations; collective bargaining; strikes; picketing.

3250:636 COLLECTIVE BARGAINING II 3 credits
Prerequisite: 635 or permission of instructor. Examination of processes of negotiation. Course core is an actual contract negotiation. Student decides on issues, positions and tactics, then negotiates contract.

3250:637 LABOR LAW II 3 credits
Intensive study of selected aspects of current labor legislation affecting employer-employee relationships. Special focus on arbitration law, public sector bargaining law and employment discrimination.

3250:639 PUBLIC EMPLOYEE COLLECTIVE BARGAINING 3 credits
Prerequisite: 635 or permission of instructor. Examination of unique problems of public employees under collective bargaining agreements. Focus on legal frameworks, tripartite nature of negotiations and special situations facing public employees.

3250:664 SEMINAR ON ECONOMIC GROWTH AND DEVELOPMENT 3 credits
Review of major theories of economic growth since age of classical economics. Problems in development of emerging countries. Discussion of aggregative macroeconomic models of capital formation, investment, technology, and external trade.

3250:665 SEMINAR ON ECONOMIC PLANNING 3 credits
Types, methods and applications of planning. Planning for growth. Application of input-output, linear programming, computer simulations and other statistical and mathematical methods of plan formation.

3250:666 SEMINAR ON REGIONAL ECONOMIC ANALYSIS AND DEVELOPMENT 3 credits
Study of a particular national or international regional development. Any one or combination of following regions may be considered: Middle East, North Africa, Southeast Asia, South America.

3250:670 INTERNATIONAL MONETARY ECONOMICS 3 credits

3250:671 INTERNATIONAL TRADE 3 credits
Traditional trade theory. Recent developments in trade theory, policy implications in trade relations among developed and developing economies.

3250:673 MONETARY ECONOMICS 3 credits
Intensive study of important aspects of monetary theory. Emphasis on integration of money and value theory among other areas, plus some pressing policy issues.

3250:677 READING IN ADVANCED ECONOMICS 1-4 credits each (A maximum of six credits may be applied toward the master's degree in economics.) Intensive investigation of selected problem area in advanced economics under supervision of instructor. Since the subject matter is decided upon in each case, the course may be repeated for credit.

3250:699 RESEARCH AND THESIS 3 credits
(May be repeated for a total of six credits)

3300: English

3300:270 INTRODUCTION TO LINGUISTICS 3 credits
Broad range of topics on language and introduction to its scientific study. Topics include language origins and history, dialects, sound systems, syntax, semantics, animal language, writing systems and language universals.

3300:275 SPECIALIZED WRITING 3 credits
(May be repeated for different topics, with permission)
330:277 INTRODUCTION TO POETRY WRITING 3 credits
Practice in writing poems. Study techniques in poetry, using contemporary poems as models. Class discussion of student work, individual conferences with instructor to direct student's reading and writing.

330:278 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.

330:279 INTRODUCTION TO SCRIPT WRITING 3 credits
Practice in writing scripts. Study o various techniques in script writing, using contemporary models for study. Class discussion of student work, individual conferences with instructor to direct student's reading and writing.

330:280 POETRY APPRECIATION 3 credits
Close reading of wide selection of British and American poems with emphasis on dramatic situation, tone, allusional language, theme and meaning.

330:281 FICTION APPRECIATION 3 credits
Focus on some modern masters of short story and novel: Conrad, Faulkner, Joyce, Lawrence, Malamud, Bellow and Barth, approaching fiction as experience and as art.

330:282 DRAMA APPRECIATION 3 credits
Dramatic material in terms of theme, characterization and style.

330:283 FILM APPRECIATION 3 credits
Introduction to 10 dramatic choices made by filmmakers in scripting, directing, editing and photographing narrative films, and 20 qualities of reliable film reviews.

330:286 STUDIES IN LITERATURE 3 credits
Close reading of wide selection of British and American poems with emphasis on dramatic situation, tone, allusional language, theme and meaning.

330:301 ENGLISH LITERATURE I 4 credits
Studies in English literature from Old English to 1600, with emphasis on 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.

330:302 ENGLISH LITERATURE II 4 credits
Studies in English literature 1800-1950. Emphasis will be given to cultural and intellectual backgrounds and to the development of various modes and genres.

330:315 SHAKESPEARE: THE EARLY PLAYS 3 credits
Study of eight to 10 of Shakespeare's plays after 1598, beginning with mature comedies. Concentration on major tragedies and romances.

330:316 SHAKESPEARE: THE MATURE PLAYS 3 credits
Study of eight to 10 of Shakespeare's plays after 1598, beginning with mature comedies. Concentration on major tragedies and romances.

330:317 ENGLISH DRAMA TO 1642 3 credits
Development of non-Shakespearean drama from earliest Mystery plays to death of Queen Elizabeth, 1603.

330:320 ENGLISH DRAMA: 1660-1800 3 credits
Study of major dramatic works from reopening of English theatre in 1660 to end of Eighteenth Century.

330:321 THE ENGLISH NOVEL: BEFORE 1830 3 credits

330:330 THE ENGLISH NOVEL: 1830-1900 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.

330:331 AMERICAN LITERATURE I 3 credits
Historical survey of major and minor American writers to 1865.

330:342 AMERICAN LITERATURE II 3 credits
Readings in major, minor American writers from 1865 to present.

330:350 BLACK AMERICAN LITERATURE 3 credits
Survey of representative Black American writers from Nineteenth Century to present, with particular attention to historical and social backgrounds.

330:360 THE OLD TESTAMENT AS LITERATURE 3 credits
History of Hebrews in 586 B.C., as revealed through epic, fiction, saga and poetry, viewed against background of the Oriental World.

330:361 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.

330:385 CONTINENTAL DRAMA 3 credits
Study of masterpieces of European drama emphasizing evolution of dramatic forms, styles and subjects from Greek, Roman, Italian, Spanish, French, German, Scandinavian and Russian playwrights.

330:386 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.

330:387 MODERN EUROPEAN LITERATURE 3 credits
Representative European writers from about 1850 to present, in translation. Focus on fiction of such writers as Zola, Tolstoy, Dostoyevsky, Mann, Proust, Kafka and Sartre.

330:388 SPECIAL TOPICS: LITERATURE AND LANGUAGES 3 credits
(May be repeated for credit as different topics are offered) English language's methods for constructing complex sentences from simple ideas are investigated.

330:390 PROFESSIONAL WRITING I 3 credits
Designed to help prepare student for a career as professional business writer. Stresses theory and practice of written and oral communication in business organization, individual and group performance, relating to communication theories, concepts of semantics. Functional writing as well as special needs of business are illustrated by actual cases. Adapting style and organization is practiced.

330:391 PROFESSIONAL WRITING II 3 credits
Designed to help prepare student for a career as a professional technical writer. Covers principles and practices concerning editing company technical communications, such as specifications, annual reports, promotional brochures for technical products, services, scientific abstracts, proposals. Also treats problems of adapting materials to formats, graphic display of technical information, adaptation of technical material to nontechnical reader.

330:400/500 ANGLO SAXON 3 credits
Studies in Old English language and Old English prose and poetry, including Beowulf.

330:406/506 CHAUCER 3 credits
Close study of Chaucer's major works — The Canterbury Tales and Troilus and Cressida in Middle English.

330:407/507 MIDDLE ENGLISH LITERATURE 3 credits
Study of genres, topics, styles and writers in Middle English literature works from Twelfth to Fifteenth Century. Readings in Middle English.
3300:410/510 SIXTEENTH CENTURY LITERATURE 3 credits
Prose and poetry from early Tudor period to later Elizabethan period, excluding drama. Literature studied in context of general intellectual and artistic movements of the age.

3300:417/517 SEVENTEENTH CENTURY LITERATURE 3 credits
Overview of major authors of earlier Seventeenth Century, especially Bacon, Donne, Burman, Jonson and several fiction writers. Involves genre study, historical and cultural perspectives and new critical analysis.

3300:418/518 MILTON 3 credits
Emphasis on Milton's major poems and prose works. Paradise Lost, Paradise Regained. Aretapogicke, the divorce tracts, and poems of the 1651 edition. Student becomes acquainted with Milton the man and Milton the art.

3300:420/520 THE EIGHTEENTH CENTURY 3 credits
First half of course examines satire as major mode in work of Butler, Dryden, Pope, Swift and others. Second half emphasizes Johnson and Boswell.

3300:425/525 LITERATURE OF THE ROMANTIC PERIOD 3 credits
Literary, philosophical, psychological and social revolutions of romantic period as reflected in works of such major writers as Wordsworth, Byron and Keats.

3300:437/537 CONCENTRATED STUDY OF MAJOR POEMS OF YEATS, ELIOT AND AUDEN 3 credits
Study of Yeats, Eliot and Auden with attention to their major poems. This course deals with the major poems of Yeats, Eliot and Auden and their major works of poetry.

3300:448/548 AMERICAN FICTION: 1885 TO 1918 3 credits
Study of important American novelists since 1925, excluding Lawrence, Joyce and Woolf. Attention to development of British short story from 1925 to present.

3300:449/539 MODERN BRITISH AND IRISH DRAMA 3 credits
Study of major British dramatists, principally those of post-World War II. Focal figures are Shaw, Galsworthy, O'Casey, Osborne, Arden and Pinter.

3300:454/547 AMERICAN NONFICTION 3 credits
Study of nonfictional writing including journals, notebooks, autobiographical writings, biographies and essays of major American writers.

3300:457/548 AMERICAN FICTION: TO 1885 3 credits
Study of important British novelists since 1925, excluding Lawrence, Joyce and Woolf. Attention to development of British short story from 1925 to present.

3300:458/549 AMERICAN FICTION: 1885-1918 3 credits
Study of important British novelists since 1925, excluding Lawrence, Joyce and Woolf. Attention to development of British short story from 1925 to present.

3300:465/550 AMERICAN FICTION SINCE 1918 3 credits
Study of major American short and long fiction from Sherwood Anderson to Kurt Vonnegut.

3300:451/551 AMERICAN POETRY FROM 1900 TO PRESENT 3 credits
Study of American poetry since 1900, beginning with Ann Bradstreet and ending with Stephen Crane.

3300:452/552 AMERICAN POETRY FROM 1900 TO PRESENT 3 credits
Study of American poetry since 1900, beginning with Ann Bradstreet and ending with Stephen Crane.

3300:470/570 HISTORY OF ENGLISH LANGUAGE 3 credits
Development of English language, its beginnings, sources of its vocabulary, its sounds, its rules, semantic change, political and social influences on changes, dialect origins, correctness.

3300:475/575 THEORY OF RHETORIC 2 credits
Ancient and modern theories of rhetoric, with attention to classical oration, "topics" of rhetoric and their application to teaching of English

3300:480 HONORS IN ENGLISH 2 credits
Prerequisites: senior standing and permission. Directed studies in individual and group sessions to encourage independent reading and thought, based on series of readings arranged by instructor.

3300:481 HONORS IN ENGLISH 2 credits
Prerequisites: senior standing and permission. Directed studies in individual and group sessions to encourage independent reading and thought, based on series of readings arranged by instructor. 480 and 481 may be taken once each.

3300:482 SENIOR HONORS PROJECT IN ENGLISH 1-3 credits
(May be repeated for a total of six credits.) Prerequisites: senior standing in Honors Program and approval of honors preceptor; open only to English majors enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

3300:489/589 SEMINAR IN ENGLISH 2-3 credits
(May be repeated with different topics.) Special studies, and methods of literary research, in selected areas of English and American literature and language.

3300:490/590 WORKSHOP IN ENGLISH 1-3 credits
(May be repeated with different topics.) Group studies of special topics in English. Cannot be used to meet undergraduate or graduate major requirements in English, for elective credit only.

3300:498 INDEPENDENT STUDY 1-3 credits
Prerequisites: permission of instructor. Directed study in a special field of interest chosen by student in consultation with instructor.

Graduate Courses

3300:600 TEACHING COLLEGE COMPOSITION PRACTICUM 1 credit
Prerequisite: teaching assistantship. Orientation and weekly analysis of teaching rationale and practice. Limited to teaching assistants in the Department of English.

3300:615 SHAKESPEAREAN DRAMA 3 credits
Concentrated study of several Shakespearean plays with emphasis on historical, critical and dramatic documents pertinent to development of Shakespeare's art.

3300:616 SHAKESPEARE'S CONTEMPORARIES IN ENGLISH DRAMA 3 credits
Readings in such playwrights as Lyly, Greene, Marlowe, Jonson, Beaumont, Fletcher, Webster, Middleton and Ford and in contemporary writings relevant to theory and practice of drama.

3300:627 KEATS AND HIS CONTEMPORARIES 3 credits
Writings of John Keats, studied against background of romantic poetic theory and poetry of Keats's contemporaries.

3300:632 VICTORIAN POETS 3 credits
Study of major poets of Tennyson, Browning, Arnold and Hopkins, in light of Victorian intellectual currents and theories of poetry. Brief attention to Swinburne, D. G. Rossetti and later Victorian poets.

3300:639 THEORY AND PRACTICE OF MODERN POETRY 3 credits
Study of modern prosody, critical theories of modern poetry and relation between writer's theory and practice, with particular attention to Frost, Stevens, Yeats and Eliot.

3300:645 AMERICAN ROMANTIC FICTION 3 credits
Intensive exploration of American romantic fiction, focusing especially on works of Poe, Hawthorne and Melville.

3300:646 REALISM AND NATURALISM IN AMERICAN FICTION 3 credits
Analysis of relevant works of J.W. DeForest, Stephen Crane, Theodore Dreiser, Harold Frederic, W.D. Howells, Frank Norris and selected short stories of local color and nat-ve honor.

3300:658 LITERARY CRITICISM 3 credits
Inquiry into nature and value of literature and problems of practical criticism as represented in major statements of ancient and modern critics.
3300: Geography

3350: INTRODUCTION TO GEOGRAPHY
3 credits
Analysis of world patterns of population characteristics, economic activities, settlement features, climate, resources, economic and environmental patterns, excluding U.S. R.

3350-02 INTRODUCTORY GEOGRAPHY
3 credits
Introductory examination of methods and results of modern geospatial and geographic research in syntax, semantics, phonology, and dialects. Emphasis on understanding of language variation and background preparation for linguistic studies of literature.

3350-073 THEORIES OF COMPOSITION
3 credits
Study of composition theories and research. Particular focus on such topics as composing processes, invention, form, style, modes of writing, language varieties, and evaluation of writing. Class sessions include discussion of readings and presentations.

3350-074 SCHOLARLY WRITING
2 credits
Class examination of good and bad writing styles and forms of scholarly writing. Includes special attention to thesis and dissertation writing and scholarly essay, and to special requirements of journal articles. Class discussion and demonstration, drawn from scholarly and dissertation writing and from student's own writing.

3350-089 SEMINAR IN ENGLISH
2 credits
(May be repeated with change of topics)
Special topics within the general field of literature and language, usually focusing on major figures or themes.

3350-091 BIBLIOGRAPHY AND LITERARY RESEARCH
2 credits
Choosing research topics typical of literary scholarship. Abstracting of scholarly material and bibliographic searches. Emphasis on library resources. Bibliographic exercises done, modes of literary scholarship learned.

3350-098 INDIVIDUAL READING IN ENGLISH
1-3 credits
Individual study under guidance of professor who directs and coordinates student's reading and research.

3350-099 THESIS
1-6 credits
Original work in the field of literature and language 

3350: Recreation Resource Planning
3 credits
Prerequisite: 230 or permission. Analysis of physical and economic environment on recreational patterns. Case studies of important recreational activities and areas in which tourism contributes significantly to the area economy.

3350: Cartography
3 credits
Use of graphic cartographic principles and techniques as a means of presenting information.

3350: Anglo America
3 credits
Prerequisite: 600 or permission. Regional and topical study of the northern states and Canada, with emphasis on environmental, economic and cultural patterns and their interrelationships.

3350: OHIO ENVIRONMENT AND SOCIETY
3 credits
Regional and topical analysis of cultural, economic, and environmental patterns; also in comparison with other states.

3350: Latin America
3 credits
Prerequisite: 100 or permission. Analysis of relationship of cultural and economic patterns to physical environment in Mexico, Central America, the Caribbean, and South America.

3350: Europe
3 credits
Prerequisite: 100 or permission. Regional and topical analysis of cultural, economic, and environmental patterns, excluding U.S. R.

3350: U.S.S.Bl.
3 credits
Prerequisite: 100 or permission. Regional and topical analysis of cultural, economic, and environmental patterns, with comparison to other major world regions.

3350: Asia
3 credits
Prerequisite: 100 or permission. Environmental, cultural, and economic geography of East, Southeast, South Asia and the Middle East with emphasis on the contemporary.

3350: Africa South of the Sahara
3 credits
Prerequisite: 100 or permission. Environmental and human bases of regional contrasts. Emphasis on the environmental systems and changing patterns of resource utilization.

3350: Planning Seminar
1 credit
Prerequisite: permission of instructor. Development of planning studies including completion of a written plan. Projects are presented by student and critically analyzed.

3350: Special Problems
1-3 credits
(Any be repeated for a total of five credits) Prerequisite: permission of instructor. Directed reading and research in special field of interest.

3350: Geographic Information Systems
3 credits
Prerequisite: Six credits of advanced geography courses at the 300 level or above, including regional courses or permission. Concentrates on the requirements and techniques for using all types of Geographic Information Systems (GIS). Designed for students who wish to become applied geographers, physical and social scientists, resource managers, planners, environmental analysts, who will be making decisions based on data which have geographic significance.

3350: Transportation Systems Planning
3 credits
Prerequisite: 230 or permission. Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problems and issues, elements of transportation planning.

3350: Industrial and Commercial Site Location
3 credits
Prerequisite: 220 or permission. Relationship between land uses, population, transportation and industrial and commercial location process.

3350: Urban, Regional and Resource Planning
3 credits
Prerequisite: 230 or permission. Role of geographic investigation in city, regional and economic planning.

3350: Urban Land Use Analysis
3 credits
Prerequisite: 230 or permission. Land use classification systems and their spatial variation in urban areas. Land use data are collected by student by field work and analyzed to identify the associations and structure of sub-regions.

3350: World Metropolitan Areas
3 credits
Prerequisite: 230 or permission. Comparative analysis of metropolitan regions.

3350: Latin America
3 credits
Prerequisite: 100 or permission. Analysis of relationship of cultural and economic patterns to physical environment in Mexico, Central America, the Caribbean, and South America.

3350: Europe
3 credits
Prerequisite: 100 or permission. Regional and topical analysis of cultural, economic, and environmental patterns, excluding U.S. R.
Urbanism, and use, housing, transportation, population and role of cities in economic development in different cultures.

**3350/442/542 THEMATIC CARTOGRAPHY** 3 credits
Prerequisite: 240 or permission. Principles and techniques used in thematic mapping. Emphasis on integration of computer and cartographic techniques. Stress uses of maps to indicate certain characteristics of classes of information both qualitative and quantitative.

**3350/444/544 MAP COMPIILATION AND REPRODUCTION** 3 credits
Prerequisite: 240 or permission. Production of new improved maps from existing maps, aerial photographs, surveys, new data and other sources. Includes special cartographic considerations for cartography, lithography and printing.

**3350/447/547 INTRODUCTION TO REMOTE SENSING** 3 credits
Prerequisite: 240 or permission. Study of aerial photography and non-photographic imagery developed by radar, thermal, multispectral and satellite scanners. Emphasis on use in geographical, geological, biological and engineering research.

**3350/448/548 AUTOMATED COMPUTER MAPPING** 3 credits
Prerequisite: 240 or permission. Study of computer-assisted map compilation and execution. Emphasis on integration of computer and cartographic techniques. Problems adapted to specialized interests of student.

**3350/449/549 ADVANCED REMOTE SENSING** 3 credits
Prerequisite: 447/547 or permission. Current research in remote sensing of man's cultural and biophysical environment; practice in planning, design, execution and interpretation of remote sensing studies.

**3350/481/591 GEOGRAPHIC RESEARCH METHODS** 3 credits
Prerequisite: 15 credits in geography. Techniques in geographic research. Library resources, techniques of professional writing.

**3350/483/583 SPATIAL ANALYSIS** 3 credits
Prerequisite: 481/581 or permission. Analysis of mapped statistical surfaces. Principles for use of map as model for statistical evidence, prediction, hypothesis testing.

**3350/490/590 WORKSHOP IN GEOGRAPHY** 1-3 credits
(May be repeated for a total of six credits)
Group studies of special topics in geography.

**3350/495/595 SOIL AND WATER FIELD STUDIES** 3 credits
Prerequisite: 210 or permission. Properties, origins and uses of major soil and water regime landscapes. Stress relationships between soil and the hydrological cycle, urbanization, suburbanization and agriculture. Field trips required.

**3350/496/596 FIELD RESEARCH METHODS** 3 credits
Prerequisite: 481/581 or permission. Field work enabling student to become competent in collecting, organizing and analyzing data while carrying out field research projects.

**3350/498 HONORS RESEARCH IN GEOGRAPHY** 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission of department honors committee, honors student only. Exploration of research topics and issues in contemporary geography. Selection of selected topic and writing of research paper in proper scholarly form under direction of faculty member.

**Graduate Courses**

**3350/600, 1-2 SEMINAR** 3 credits each
(Each may be repeated for a maximum of six credits)
Prerequisite: permission. Investigation and analysis of selected topics in particular fields of geography. Specialization indicated by second portion of title.

**3350/680 ADVANCED SPATIAL ANALYSIS** 3 credits
Prerequisite: 483/583 or permission. Advanced concepts and methodologies in geographic research. Emphasis on quantitative revolution in geographical analysis including multivariate procedure as factor, discriminant and econometric analysis, and multidimensional scaling.

**3350/895 PLANNING: FIELD EXPERIENCE** 2 credits
Prerequisite: permission. Individual experience in selected planning agencies for supervised performance in professional planning work.

**3350/887 HISTORY OF GEOGRAPHIC THOUGHT** 3 credits
Prerequisite: 481/581 or permission. Critical review of major developments in geographic concepts from ancient times to present.

**3350/896 INDIVIDUAL READING AND RESEARCH** 1-3 credits
(May be repeated for a total of five credits)
Prerequisite: permission of instructor. Intensive investigation of selected topics under guidance of faculty member.

**3350/899 THESIS RESEARCH** 2 credits
(May be repeated twice)
Prerequisite: permission of department head. Supervised original research.

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**3370: Geology**

**3370/100 EARTH SCIENCE** 3 credits
Introduction to earth science for non-science majors. Survey of earth in relation to its physical composition, structure, history, atmosphere, oceans, and relation to solar system and universe.

**3370/101 INTRODUCTORY PHYSICAL GEOLOGY** 4 credits
Comprehensive survey of minerals, rocks, structures and geologic processes of solid earth. Laboratory.

**3370/102 INTRODUCTORY HISTORICAL GEOLOGY** 4 credits
Prerequisite: 101. Geologic history of earth, succession of major groups of plants and animals interpreted from rocks, fossils, laboratory.

**3370/200 ENVIRONMENTAL GEOLOGY** 3 credits
Analysis of geologic aspects of man's environment with emphasis on geologic hazards and environmental impact of society's demand for water, minerals and energy.

**3370/201 EXERCISES IN ENVIRONMENTAL GEOLOGY** 1 credit
Prerequisite or corequisite: 200. Recognition, evaluation of environmental problems related to geology through field, laboratory exercises and demonstrations which apply concepts from 200.

**3370/202 GEOLOGY OF THE NATIONAL PARKS** 3 credits
Prerequisite: 119/223 or 3370/100 or 101. Geologic setting of major national parks, interpreted in terms of geological principles and processes which shaped them in past and/or currently affect them, including the rock cycle, evolution of landscapes and plate tectonics.

**3370/210 GEOMORPHOLOGY** 3 credits
Prerequisite: 101. Landforms of the earth. Emphasis on origins, geologic processes and distributions. Laboratory.

**3370/230 CRYSTALLOGRAPHY** 3 credits
Prerequisites: 101 and 3150:132. Study of morphological crystallography and crystal chemistry of minerals. Laboratory.

**3370/231 MINERALOGY** 3 credits
Prerequisites: 101 and 3150:132. Recommended: 220. Emphasis on physical, structural, chemical properties and the occurrences of minerals. Laboratory.

**3370/233 PETROLOGY** 2 credits
Prerequisite: 230. Petrologic identification, classification, origin concepts of igneous, sedimentary, metamorphic rocks. Laboratory.

**3370/271 OCEANOGRAPHY** 3 credits
Prerequisite: 101. Introduction to physical processes, geologic history and development of marine areas.

**3370/324 SEDIMENTATION AND STRATIGRAPHY** 3 credits
Prerequisite: 102. Introduction to processes and environments of sedimentation and stratigraphic principles employed in examination of sedimentary strata. Hand specimens and sequences of sedimentary strata studied. Laboratory.

**3370/350 STRUCTURAL GEOLOGY** 4 credits
Prerequisite: 101 or permission. Origins and characteristics of folds, faults, joints and rock cleavage. Structural features of sedimentary, igneous and metamorphic rocks. Laboratory.
3370:395 FIELD METHODS IN GEOLOGY  
Prerequisite: 101 or permission. Use of geologic field equipment including Brunton compasses, alidades and plane tables, stereoscopes, and aerial photographs.

3370:404/504 ASTROGEOLOGY  
Prerequisites: 3450/222, 3650/392 or permission. Relations of planet earth to the solar system and universe. Analysis and implications of data from lunar and space probes.

3370:410/510 REGIONAL GEOMORPHOLOGY OF NORTH AMERICA  
Prerequisites: 101, 102, 210 or permission. Recommended: 350. Examination of physiographic provinces of North America emphasizing structure, tec tonic setting, stratigraphy, and processes responsible for landforms in each province. Laboratory.

3370:411/511 GLACIAL GEOLOGY  
Prerequisite: 210 or permission. Causes and effects of Pleistocene expansion of polar ice masses with emphasis on glacial deposits and world climatic changes.

3370:425/525 STRATIGRAPHY  
Prerequisites or corequisites 360, 324 or permission. Nomenclature, sedimentary facies, fossils, and subdivisions of the rock record and correlation; geologic time, time-rock and rock units; field studies.

3370:432/532 OPTICAL MINERALOGY  
Prerequisite: 210 or equivalent. Introduction to petrographic microscope. Optical properties and identification of minerals in thin section and as crushed fragments. Laboratory.

3370:433/533 PETHOGRAPHY  
Prerequisite: 432/532. Origin and petrogenesis of igneous, metamorphic and sedimentary rocks as determined by microscopic studies of textures and mineral assemblages in thin section.

3370:435/535 PETROLEUM GEOLOGY  
Prerequisite: 350 or permission. Recommended: 324. Natural occurrences of petroleum. Characteristics, origin, entrapment and exploration methods.

3370:436/536 COAL GEOLOGY  
Prerequisites: 101, 102, recommended: 324. Origin, composition and occurrence of coal with emphasis on depositional environments, coalsification processes, exploration, evaluation and exploitation. Laboratory.

3370:437/537 ECONOMIC GEOLOGY  
Prerequisites: 350 and 433. Study of economic and nonmetallic mineral deposits emphasizing paragenesis and exploitation. Laboratory.

3370:441/541 FUNDAMENTALS OF GEOPHYSICS  
Prerequisites: 3450/223 or permission and 3650/292. Fundamental concepts in solid earth geophysics, planetary physics, geodesy, and geomagnetism. Contributions of geophysics to recent major developments in geoscience.

3370:446/546 EXPLORATION GEOPHYSICS  
Prerequisites: 3450/223, 3650/392 or permission. Basic principles and techniques of geophysical exploration with emphasis on gravimetric, magnetic, seismic and electrical methods and application to geological problems. Laboratory.

3370:450/550 ADVANCED STRUCTURAL GEOLOGY  
Prerequisite 350 or permission. Fundamental and advanced concepts of structural geology with emphasis on current and developing concepts. Laboratory.

3370:463/563 MICROPALAEONTOLOGY  
Prerequisite: 360 or permission. Introduction to techniques of micropaleontology evolution and paleoecology of selected microfossil groups. Laboratory.

3370:470/570 GEOCHEMISTRY  
Prerequisite: minimum of 12 credits in chemistry and geology or permission. Chemical systems of the earth, both open and closed, with emphasis on mineral-water relationships. Laboratory.

3370:474/574 GROUNDWATER HYDROLOGY  
Prerequisite: 101. Origin, occurrence, regimen and utilization of groundwater. Qualitative and quantitative presentation of geological and geochemical aspects of groundwater hydrology. Laboratory.

3370:496/596 GEOLGY FIELD CAMP  
(May be repeated) 6 credits  
Prerequisites: 350 and permission. Recommended: 360, 324, 395. Emphasis on collection, recording and interpretation of field data and detailed structural and stratigraphic field study. Student will bear trip expenses.

3370:497 SENIOR HONORS PROJECT IN GEOLOGY  
(May be repeated for a total of four credits) 1-3 credits  
Prerequisite: permission. Senior Honors Project in Geology. Independent research leading to completion of senior honors thesis or other original work under guidance of student's honors project advisor.

3370:499 RESEARCH PROBLEMS  
(May be repeated for a total of four credits) 1 credit  
Prerequisite: permission. Directed reading and research in an aspect of geology chosen by student in consultation with an instructor.

Graduate Courses

3370:508 REMOTE SENSING IN GEOLOGY  
Prerequisite: 3350:447/547 or equivalent. Techniques for analysis and processing of remotely sensed data from conventional and satellite sensing systems. Applications to local, regional and global geologic and environmental geology problems. Laboratory.

3370:510 APPLIED QUANTITATIVE GEOMORPHOLOGY  
Prerequisite: 210. Quantification of geomorphic processes and associated landforms. Application of statistical methods and evaluation of validity of these methods. Examination of these methods in practical problems. Laboratory.

3370:532 SEDIMENTARY PETROLOGY  
Prerequisites: 324 and 432/532 or permission. Detailed hand specimen and thin section examination of selected sedimentary suites, particularly with respect to mineralogy and texture. Laboratory.

3370:531 ROCKS AND MINERALS  
4 credits  
Prerequisite: 101 and permission. Intensive course integrating crystallography, mineralogy and petrology for the science teacher and graduate student from disciplines other than geology. Laboratory.

3370:532 IGNEOUS PETROLOGY  
3 credits  
Prerequisite: 433/533. Origin and paragenesis of igneous rocks. Theory, petrochemistry and occurrences of major igneous rock types. Selected rock suites studied. Laboratory.

3370:533 METAMORPHIC PETROLOGY  
3 credits  
Prerequisite: 433/533. Textures, chemistry of metamorphic reactive, phase diagrams and occurrences of metamorphic rocks. Selected rock suites studied. Laboratory.

3370:534 CLAY MINERALOGY  
3 credits  
Prerequisite: 430/532. Classification, identification, genesis of clay minerals, clay rocks, use, exploitation. Laboratory stresses methods of identification of clay minerals, analysis, petrographic interpretation of clay minerals in suites of samples from the rock record. Laboratory.

3370:558 ORE MICROSCOPY  
3 credits  
Prerequisites: 432/532, 437/537. Identification, study of ore minerals, their textures using reflected-light microscope. Discussion of diagnostic physical, optical properties of opaque minerals. Laboratory.


3370:630 NUCLEAR GEOLoGY 3 credits
(Two hour lecture, three hour laboratory)
Prerequisites: minimum of seven credits in chemistry, eight credits in physics, eight credits in calculus and eight credits in geology or permission. Discusses nature of radioactive and stable isotopes, their applications in geology, radioactive minerals, radioactive background and disposal of radioactive wastes. Nuclear analytical techniques will also be discussed, lecture, laboratory, and field study.

3370:643 GEOSTATISTICS 3 credits
Prerequisites: 101, 3470:461/561 or an equivalent course in statistics. Application of statistical methods to geology and geophysics including tests of hypotheses, trend surface analysis, analysis of variance, non-parametric statistics and time series analysis.

3370:645 TERRESTRIAL HEAT FLOW 3 credits
Prerequisite: 101 and 3450:235 or permission. Techniques of measuring terrestrial heat flow, solutions of heat conduction equation, results of heat flow measurements, geographical deduction, and future of geothermal energy.

3370:856 GLOBAL TECTONICS 3 credits
Prerequisites: 3350, 441/541 or permission. Theoretical study of physical forces involved in formation and deformatation of earth's crust with emphasis on plate tectonics and associated diastrophic features.

3370:860 EVOLUTION AND THE FOSSIL RECORD 2 credits
Prerequisite: 101. Major features of evolution including rates and extinction using selected fossil groups as examples.

3370:874 ADVANCED GROUNDWATER HYDROLOGY 3 credits
Prerequisite: 474/574. Study of water table and artesian aquifers under steady and nonsteady state conditions. Collection and evaluation of field data with regard to theory. Water well and well field design. Laboratory and field work.

3370:875 GEOCHEMICAL METHODS OF PROSPECTING 2 credits
Prerequisites: nine credits in chemistry, nine credits in mineralogy and/or petrology, recommend 537 and 570. Application of geochemical methods of analysis and interpretation to search for ore deposits, emphasis on stability, mobility, and association of elements in geological environments. Laboratory.

3370:878 URBAN GEOLOGY 3 credits
Prerequisites: 210, 230 or permission. Problems of urbanization related to our finite resources and creation of wastes. Geologic hazards. Application of geologic data to urban development.

3370:880 SEMINAR IN GEOLOGY 2 credits
(May be repeated for a total of six credits)
Selected topics with reference material from original sources.

3370:884 SELECTED TOPICS IN GEOLOGY 1-3 credits
(May be repeated for a total of eight credits)
Prerequisite: permission. Topics not regularly offered as formal courses, generally of classic or current importance. Entails lectures, readings, discussions and/or guided laboratory work.

3370:895 ADVANCED FIELD STUDIES 1 credit
Prerequisite: permission. Field trip course emphasizing phases of geology not readily studied in Ohio. Includes pretrip preparation, field observations and data gathering, posttrip examination and/or written report. Student will bear trip expenses.

3370:988 GRADUATE RESEARCH PROBLEMS 1 credit
(May be repeated for a total of six credits)
Prerequisite: permission. Directed reading and research in an aspect of geology chosen by student in consultation with an instructor.

3370:999 THESIS RESEARCH 1-6 credits
Independent and original investigation. Must be successfully completed, report written and defended before a committee.

3400:201 UNITED STATES HISTORY TO THE CIVIL WAR 4 credits
Survey of United States history from Age of Discovery through colonization and nation building to the Civil War Era.

3400:202 UNITED STATES HISTORY SINCE THE CIVIL WAR 19th Century to present
Survey of United States history from Civil War Era to present.

3400:204 EUROPE: RENAISSANCE THROUGH THE EIGHTEENTH CENTURY 4 credits
Survey of European history from French Revolution and Napoleon; Eighteenth Century "isms," formation of Germany and Italy, the two world wars, totalitarian dictatorship and postwar age.

3400:208 EUROPE: NINETEENTH AND TWENTIETH CENTURIES 4 credits
Survey of European history from French Revolution and Napoleon; Nineteenth Century "isms," formation of Germany and Italy, the two world wars, totalitarian dictatorship and postwar age.

3400:230 BLACK PEOPLE OF THE UNITED STATES 3 credits
Survey of United States history from Renaissance, Reformation, development of nation states, religious wars, Age of Louis XIV and Enlightenment.

3400:232 EVOLUTION OF AMERICAN BUSINESS 3 credits
An examination of the development of the American business system from the Colonial era to the present.

3400:304 THE ANCIENT NEAR EAST 3 credits
Mesopotamia, Egypt, Israel; her neighbors to Persian Empire.

3400:305 GREECE 3 credits
Minoans and Mycenaeans, classical Greece to triumph of Macedon.

3400:306 ROME 3 credits
Rome and Hellenistic East to end of classical times.

3400:307 THE EASTERN ROMAN EMPIRE (324-1453) 3 credits
Byzantine culture and history from 324 to the fall of 1453.

3400:336 WOMEN IN MODERN EUROPE 3 credits
A survey of the history of women in Europe since 1500, with emphasis on their roles and the changes attendant on modernization.

3400:337 THE WEST IN THE DEVELOPMENT OF THE UNITED STATES 3 credits
Examination of westward movement from Revolution to closing of frontier; types of frontiers: impact of the West on nation's development.

3400:338 WOMEN IN THE UNITED STATES 3 credits
Changing roles, status, self-images and activities of women in context of American social, economic, political and intellectual movements.

3400:339 AMERICAN IMMIGRATION 3 credits
Examination of European migrants to American colonies and United States, their reasons for leaving Europe and coming to America, and their experience after arrival.

3400:340 PEACE, WAR AND MANKIND 3 credits
Historical examination of theories of war and peace, including study of leaders, groups and ideas for peace.

3400:341 SOVIET AND UNITED STATES WOMEN IN THE TWENTIETH CENTURY 3 credits
An historical and comparative study of the status of women in both societies, with special attention to changing conditions, the efforts by women, individually and collectively, to define and shape role.

3400:350 SELECTED TOPICS IN HISTORY 3 credits
Includes experimental offerings such as those crossing subject of chronological limits, and subjects not listed in this Bulletin. See departmental office for current subject.

3400:397 INDIVIDUAL STUDY OR RESEARCH IN HISTORY 1-3 credits
Prerequisite: permission. For individual study or research in history, including special projects, summer study tours or specialized training.

3400:401 HONORS SEMINAR 2 credits
Prerequisite: permission of department head or instructor. Selected readings, writing of research paper. For student seeking to graduate with honors in history and for student in Honors Program.

3400:403/503 UNITED STATES SOCIAL-CULTURAL HISTORY TO 1877 3 credits
Concepts and attitudes considered in their social-cultural framework. Emphasis on population growth, rural and urban life, literature, the arts, family life, slavery and impact of Civil War.
on political responses to rise of an industrialized-urbanized society, the populist and progressive movements.

3400:429/529 THE UNITED STATES BETWEEN THE WORLD WARS 3 credits
World War I and Versailles; the 1920s, the Great Depression and the New Deal; World War II.

3400:430/530 RECENT AMERICA: THE UNITED STATES SINCE WORLD WAR II 3 credits
Nuclear age, cold war, foreign policy and domestic affairs to present. Social, political, constitutional, diplomatic, cultural and economic changes since 1945.

3400:422/522 AMERICAN ECONOMY TO 1800 3 credits
Survey of economic developments from colonial era including agriculture, commerce, labor. Special emphasis on role of big business and evolution of monetary and fiscal policy.

3400:433/533 AMERICAN ECONOMY SINCE 1800 3 credits
Survey of economic developments since 1900; topics include agriculture, business and labor. Special emphasis on role of big business and evolution of monetary and fiscal policy.

3400:434/534 AMERICAN ENVIRONMENTAL HISTORY 3 credits
Utilization, conservation of natural resources from beginnings of American society to present; combination of economic, technological history of extensive treatment of public policy, environmental issues.

3400:426/526 OHIO 3 credits
Political, social, economic and intellectual history of Ohio with special emphasis on Ohio's relationship to Old Northwest and to the nation.

3400:438/538 THE AMERICAN CITY 3 credits
Development of urbanization and its consequences from colonial period to present.

3400:437/537 AMERICAN FAMILY HISTORY 3 credits
Evolution of American family, colonial times to present, including developments in structure and roles of family members and status of the aged. Exploration of methods for historical study of the family.

3400:442/542 EUROPE IN THE BAROQUE ERA 3 credits
Constitutional, diplomatic, cultural, intellectual and social developments of Seventeenth Century Europe.

3400:444/544 EUROPE IN THE FRENCH REVOLUTIONARY ERA 3 credits
Development of Revolution; Napoleon's regime and satellites.

3400:445/545 MEDIEVAL EUROPE, 400-1200 3 credits
Migration of peoples, Carolingian revival, renewed invasions, social, economic and intellectual stirrings leading to "birth of Europe."

3400:446/546 MEDIEVAL EUROPE, 1200-1500 3 credits
Middle Ages and the middle class; economic and political change, international wars, social unrest and religious crosscurrents.

3400:448/549 THE RENAISSANCE 3 credits
The European renaissance (1350-1600); Economic and political trends with special emphasis on Protestant, Anglican and Catholic reformation.

3400:450/550 THE REFORMATION 3 credits
Europe in Sixteenth Century, its religious, cultural, political and diplomatic development, with special emphasis on Protestant, Anglican and Catholic reformation.

3400:451/551 NINETEENTH CENTURY EUROPE, 1815-1871 3 credits
European in the century of change, revolution, romanticism, industrialization, decolonization, first wars of the industrial age.

3400:452/552 NINETEENTH CENTURY EUROPE, 1871-1914 3 credits
Socialism, imperialism, nationalism, and the great war. The belle epoque and contemporary artistic and intellectual currents.

3400:454/554 TWENTIETH CENTURY EUROPE, 1914-1939 3 credits
Europe between world wars; Russian revolution, fascism and national socialism; plight of democracies.

3400:455/555 TWENTIETH CENTURY EUROPE SINCE 1939 2 credits
Europe in World War II, the cold war and attempts at unity.
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<td>RUSSIA SINCE 1801</td>
<td>3 credits</td>
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<tr>
<td>3400:480/580</td>
<td>WAR AND WESTERN CIVILIZATION</td>
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<tr>
<td>3400:470/570</td>
<td>ANGLO-SAXON AND MEDIEVAL ENGLAND</td>
<td>3 credits</td>
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<tr>
<td>3400:471/571</td>
<td>EARLY MODERN ENGLAND TO 1640</td>
<td>3 credits</td>
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<tr>
<td>3400:472/572</td>
<td>EARLY MODERN ENGLAND, 1840-1782</td>
<td>3 credits</td>
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<td>3400:473/573</td>
<td>ENGLAND SINCE 1783</td>
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<td>3400:474/574</td>
<td>WESTERN SCIENCE TO 1800</td>
<td>3 credits</td>
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<td>3400:475/575</td>
<td>WESTERN SCIENCE SINCE 1800</td>
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<td>3400:476/576</td>
<td>WESTERN TECHNOLOGY</td>
<td>3 credits</td>
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<td>3400:477/577</td>
<td>TRADITIONAL CHINA</td>
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<td>3400:478/578</td>
<td>MODERN CHINA</td>
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<td>3400:480/580</td>
<td>JAPAN</td>
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<td>3400:500/600</td>
<td>WORKSHOP IN HISTORY</td>
<td>1-3 credits</td>
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<td>3400:501/601</td>
<td>HONORS PROJECT</td>
<td>1-3 credits</td>
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<td>3400:625</td>
<td>READING SEMINAR IN MEDIEVAL HISTORY</td>
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<td>3400:631</td>
<td>READING SEMINAR IN MODERN EUROPEAN HISTORY TO 1815</td>
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<td>3400:640</td>
<td>READING SEMINAR IN HISTORIOGRAPHY</td>
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<td>3400:641</td>
<td>WRITING SEMINAR IN HISTORY OF SCIENCE</td>
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<td>READING SEMINAR IN THE HISTORY OF ENGLAND AND THE EMPIRE</td>
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<td>READING SEMINAR IN AMERICAN HISTORY TO 1865</td>
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<td>3400:689</td>
<td>HISTORIOGRAPHY</td>
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**Course Descriptions**

- **Survival of Russian history from Kievian period to death of Paul I. emphasizing development of autocratic government, Russian culture, reigns of Peter and Catherine.**
- **Survey of Nineteenth and Twentieth Centuries, Special emphasis on problems of modernization, the revolution and development of communism.**
- **War and society in Europe, America and beyond from ancient world to prehistory with special emphasis on period since 1740.**
- **Anglo-Saxon life, thought and institutions, the Norman Conquest, medieval life, thought and institutions to 1475.**
- **Yorkists and Tudors, transition from medieval to early modern times; Elizabeth and early Stuart.**
- **Conflict under the Stuarts and civil war, Restoration, Sensible Revolution and early Hanoverians. Politics, religion and society in Age of Absolutism.**
- **Agricultural and first industrial revolution, politics of reform and transition: the welfare state, society and war.**
- **Science in Greek, Roman, Islamic, European societies with special emphasis on the scientific revolution of the Sixteenth and Seventeenth centuries.**
- **Continuing development of physical, medical, biological sciences in European and American societies. Atomic physics and weapons, evolution, genetics, modern medicine.**
- **Technology in Mesopotamia, Egypt, Greece, Rome, Islam, medieval Europe, first and second industrial revolutions in Europe, America.**
- **Selective study of institutional, intellectual, political and artistic developments in Chinese civilization from antiquity to Eighteenth Century. Emphasis on general features of traditional Chinese culture.**
- **Survey of China since Eighteenth Century with focus on process of modernization. Background of contemporary scene stressed.**
- **Survey of history of Japan from antiquity to present. Emphasis on developments since 1600, impact of the West and modernization process.**
- **Group studies of special subjects pertaining to history. May be used for elective credit only. May not be used to meet undergraduate or graduate major requirements in history.**
- **Prerequisite: senior standing in Honors Program. An individual research project relevant to history, supervised by a member of the Department of History, culminating in an undergraduate thesis.**

**Graduate Courses Descriptions**

- **Study of historical literature, sources of materials and major interpretations of ancient history, especially Greek and Roman periods.**
- **Prerequisite: 622, Research and writing in selected topics of ancient history, particularly Greek and Roman eras.**
3400:890 HISTORY TEACHING PRACTICUM 3 credits
Prerequisite: graduate assistantship. Required of all graduate assistants each fall semester. Training and experience in college teaching of history under the supervision of an experienced faculty member. Credits may not be used to meet degree requirements.

3400:894 THESIS RESEARCH 3 credits
Research for Master of Arts degree thesis.

3400:897, 898 INDIVIDUAL READING FOR M.A. STUDENT 1-4 credits each
(May be repeated for a total of 12 credits)
Directed reading to fit individual student programs. May be repeated, but no more than six credits may count toward the M.A. degree in history. Written permission of the instructor required.

3400:899 DISSERTATION WRITING 3 credits
Prerequisite: 898. Writing of Master of Arts degree thesis.

3400:797, 798 INDIVIDUAL READING FOR Ph.D. STUDENT 1-6 credits each
(May be repeated, but no more than 12 credits may apply toward the Ph.D. in history)
Directed reading to fit individual student programs. Written permission of the instructor required.

3400:898 DISSERTATION RESEARCH 1-12 credits
Research for Doctor of Philosophy degree dissertation.

3400:899 DISSERTATION WRITING 1-12 credits
Prerequisite: 898. Writing of Doctor of Philosophy degree dissertation.

3450:101-39 MODERN UNIVERSITY MATHEMATICS 1 credit each
A series of modules designed primarily for the non-physical science major to be taken after consultation with an advisor.

3450:101 ELEMENTARY ALGEBRA 2 credits
(Does not count toward the University General Studies mathematics requirement.)
Prerequisite: placement. An introductory course in algebra to prepare the student for entry-level mathematics courses at the University. Topics include real numbers, arithmetic operations, symbolism, word problems, linear equations and inequalities, quadratic equations, radicals, rational expressions and exponents.

3450:111 ALGEBRA 1 credit
Prerequisite: one year of high school algebra or equivalent. Sets, signed numbers, algebraic expressions, factoring, exponents, radicals, binomial theorem.

3450:112 ALGEBRAIC FUNCTIONS AND GRAPHING 1 credit
Prerequisite: 111. Linear and quadratic functions and equations, complex numbers, inequalities, absolute value, ratio and proportions, graphing functions and inequalities.

3450:113 COMBINATORICS AND PROBABILITY 1 credit
Prerequisite: 112. Permutations, combinations, sample spaces, events, simple, compound and conditional probability, Bernoullis trials, expectations and odds.

3450:114 MATRICES 1 credit
Prerequisite: 112. Nomenclature, operations, inverse, solution of n linear equations in n variables using elementary row operations.

3450:115 LINEAR PROGRAMMING 1 credit
Prerequisite: 114. Minimizing and/or maximizing a linear function subject to a system of linear inequalities (geometrically and simplex method); Introduction to game theory.

3450:117 INTRODUCTION TO TRIGONOMETRY 1 credit
Prerequisite: 112. Definitions of trigonometric functions, identities, solving right triangles, applications.

3450:118 TRIGONOMETRIC FUNCTIONS AND GRAPHING 1 credit
Prerequisite: 117. Graphing, identities, solving triangles, applications.

3450:121 ANALYTIC GEOMETRY 1 credit
Prerequisite: 112. Cartesian coordinate system; rational, logarithmic, exponential functions; sequences, series, limits, definition of series.

3450:122 DIFFERENTIAL CALCULUS 1 credit
Prerequisite: 121. Differentiation of algebraic, logarithmic and exponential functions, higher derivatives, partial derivatives, applications.

3450:129 INTEGRAL CALCULUS 1 credit
Prerequisite: 122. Indefinite and definite integral differentials, change of variable, numerical integration, improper integrals, double integral

3450:133 CALCULUS WITH TRIGONOMETRY 1 credit
Prerequisites: 118, 123. Differentiation and integration of trigonometric functions. Trigonometric substitution, applications.

3450:127 COMPUTER SCIENCE TOPICS I 1 credit
Prerequisite: permission. Selected topics or subject areas of interest in computer science.

3450:128 COMPUTER SCIENCE TOPICS II 1 credit
Prerequisite: permission. Selected topics II or subject areas of interest in computer science.

3450:131 NUMBER SYSTEMS 1 credit
Prerequisite: 112. Ancient number systems, number bases, Euclidean algorithm, modular arithmetic.

3450:132 ELEMENTARY GEOMETRY 1 credit
Prerequisite: 112. Definitions and measure of line segments, angles and triangles in Euclidean plane geometry; Hilbert's axioms.

3450:136 SYSTEMS OF MEASUREMENT 1 credit
English and metric systems of weights and measures. Troy, avoirdupois and apothecaries' systems.

3450:138 MATHEMATICS OF FINANCE 1 credit
Prerequisite: 112 or equivalent. Simple and compound interest; bank discount, ordinary annuities (present value, amount and rate), amortization, annuities, perpetuities.

3450:147 ELEMENTARY FUNCTIONS I 3 credits
Prerequisite: high school algebra and trigonometry. Real numbers, equations and inequalities, radicals, absolute value, relations and functions, linear and quadratic functions, system of equations, matrices and determinants, complex numbers.

3450:148 ELEMENTARY FUNCTIONS II 3 credits
Prerequisite: high school algebra and trigonometry. Exponential and logarithmic functions, exponential and logarithmic equations, trigonometric functions, reduction formulas, trigonometric identities, arithmetic and geometric sequences and series, mathematical induction.

3450:149 PRE-CALCULUS MATHEMATICS 4 credits
Prerequisite: three years of high school mathematics. Sets, number systems, absolute value, relations, functions, polynomial functions, determinants, systems of equations, inequalities, trigonometric functions, matrices, exponents, exponential, logarithmic and trigonometric functions, integration, functions of several variables, differential and integral equations, vectors and matrices, probability.

3450:211, 212 CALCULUS FOR THE LIFE SCIENCES 4 credits each
Prerequisite: 149 or equivalent. A calculus course for student majoring in the biological and health sciences. Functions, differentiation, exponential and logarithmic functions, applications of derivatives, trigonometric functions, integration, functions of several variables, differential and integral equations, vectors and matrices, probability.

3450:215 CONCEPTS OF CALCULUS I 4 credits
Prerequisite: 149. Analytic geometry; functions; limits and continuity; differentiation; applications of differentiation; integration; applications of integration, logarithmic and exponential functions. An intensive treatment designed for computer science business-option majors and those students who desire the Computer Science Certificate or a computer science minor.

3450:216 CONCEPTS OF CALCULUS II 4 credits
Prerequisite: 215. Trigonometric and inverse trigonometric functions; differentiation and integration techniques of integration; conic sections, parametric equations, quadratic surfaces, cylindrical and spherical coordinates; sequences and series, partial differentiation, multiple integration.

3450:221 ANALYTIC GEOMETRY-CALCULUS I 4 credits
Prerequisite: 148 or 149. Real numbers, analytic geometry, limits, continuity,
derivatives of algebraic functions, tangent and normal lines, extrema of functions, Rolle's theorem, mean value theorem, related rates, antiderivatives, definite integrals, areas, volumes, arc length.

3450:222 ANALYTIC GEOMETRY-CALCULUS II 4 credits
Prerequisite: 221. Derivatives of exponential, logarithmic trigonometric, inverse trigonometric, hyperbolic and inverse hyperbolic functions; methods of integration, moments, centroids, indeterminate forms, polar coordinates, vector algebra, cylindrical and spherical coordinates, vectors, vector functions, curvature.

3450:223 ANALYTIC GEOMETRY-CALCULUS III 4 credits
Prerequisite: 222. Sequences, series, power series, Taylor and Maclaurin series, binomial series, functions of several variables, limit, continuity, partial derivatives, directional derivatives, maxima and minima, double and triple integrals, surface area.

3450:238 DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 223. Methods of forming and solving important types of differential equations. Analysis of models involving differential equations of first order and simple equations of second order.

3450:289 SELECTED TOPICS IN MATHEMATICS 1-3 credits
Prerequisite: permission. Selected topics of interest in mathematics.

3450:301 HISTORY OF MATHEMATICS 2 credits
Prerequisite: 222. Origin and development of mathematical ideas.

3450:311 ABSTRACT ALGEBRA 3 credits
Prerequisite: 222. Introduction to groups, rings, integral domains, Euclidean foundation: natural, integer, rational, real, complex number systems.

3450:312 LINEAR ALGEBRA 3 credits
Prerequisite: 222. Study of vector spaces, linear transformations, matrices, determinants, inner products, the eigenvalue problem, quadratic forms and canonical forms.

3450:327 INTRODUCTION TO NUMERICAL METHODS 3 credits
Prerequisites: 115, 123 and 3460:201. Introduction to numerical methods with applications to business, behavioral, social sciences. Topics: root finding, interpolation, quadrature and differentiation, numerical linear algebra, optimization. Does not meet major requirements.

3450:413/513 THEORY OF NUMBERS 2 credits
Prerequisite: 222 or permission. Euclidean algorithm, unique factorization theorem, congruences, primitive roots, indices, quadratic residues, number-theoretic functions, Gaussian integers and continued fractions.

3450:414/514 VEC TOR AND TENSOR ANALYSIS 3 credits
Prerequisite: 223. Vector algebra, calculus of scalar-vector, vector-scalar, vector-vector functions; integral theorems; coordinate transformations, carthesian, contravariant, covariant vectors, tensors; fundamental operations with tensors: differentiation of tensors, applications.

3450:415/515 COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisite: 222 or permission. Introduction to basic ideas and techniques of mathematical counting, properties of structure of systems.

3450:417/517 COMPUTATIONAL LINEAR ALGEBRA 3 credits
Prerequisite: 312 or equivalent. Computational techniques related to linear algebra. Topics include direct and iterative methods for solving eigenvalue problems and consideration of questions concerning stability of solutions.

3450:421, 2/521, 2 ADVANCED CALCULUS I AND II 3 credits each
Prerequisite: 223. Real number system, sequences, series, set theory, continuity, differentiation, integration, partial derivatives, multiple integration, maxima and minima, convergence and uniform convergence, power series, improper integrals, transformations, line and surface integrals.

3450:425/525 COMPLEX VARIABLES 3 credits
Prerequisite: 223. Complex variables: elementary functions, differentiation and analytic functions, integration and Cauchy's theorem, power series and Laurent series, residue theorem, applications such as conformal mappings, inversion of integral transform.

3450:427/527 INTRODUCTION TO NUMERICAL ANALYSIS 3 credits
Prerequisite: 223 and 3460:201 or 4450:206. Mathematical analysis of numerical methods for solving equations, approximating functions, approximating derivatives and integrals, approximating functions.

3450:428/528 NUMERICAL METHODS IN DIFFERENTIAL EQUATIONS 3 credits

3450:433/531 SPECIAL FUNCTIONS AND OPERATIONAL CALCULUS 3 credits

3450:432/532 PARTIAL DIFFERENTIAL EQUATIONS 4 credits
Prerequisite: 235. The classical initial value and boundary value problems of mathematical physics developed and solved using Fourier series and integral transforms.

3450:435/535 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 235. Analysis, solution of systems of equations, linear, nonlinear. Topics: stability theory, perturbation methods, asymptotic methods, applications from physical, social sciences.

3450:436/536 MATHEMATICAL METHODS 3 credits
Prerequisite: 235. Formalization and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topics may include stochastic processes, linear programming, graph theory, theory of measurement.

3450:441/541 CONCEPTS IN GEOMETRY 4 credits
Prerequisite: 222 or permission. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and invariance.

3450:442/542 PROJECTIVE GEOMETRY 3 credits
Prerequisite: 222 or permission. Projective geometry, projective planes, duality, homogeneous coordinates, 1-1 correspondence, cross ratios, harmonic ranges, conics, quadrilaterals, quadrangles, applications to Euclidean geometry, quadric surfaces.

3450:446/546 INTRODUCTION TO TOPOLOGY 3 credits
Prerequisite: 312 or permission. Introduction to topological spaces and topologies, mappings, cardinality, homeomorphisms, connected spaces, metric spaces.

3450:489/589 TOPICS IN MATHEMATICS 1-3 credits
Prerequisite: permission of instructor. Selected topics in mathematics and applied mathematics at an advanced level.

3450:491/591 WORKSHOP IN MATHEMATICS 1-3 credits
(May be repeated)
Group studies of special topics in mathematics and statistics. May not be used to meet undergraduate or graduate major requirements in mathematics and statistics. May be used for elective credit only.

3450:497 INDIVIDUAL READING 1-2 credits
Prerequisites: senior standing and permission. Mathematics majors only. Directed studies designed as an introduction to research problems, under guidance of selected faculty member.

3450:498 SENIOR HONORS PROJECT 1-3 credits
Prerequisite: 345C:489 (honors). Directed study for senior student in the Honors Program who has completed 3450:489 (honors). An introduction to research problems in mathematical sciences under the guidance of selected faculty.

Graduate Courses

3450:601 INTRODUCTION TO ANALYSIS 4 credits
Prerequisite: permission. An introduction to analysis to include differentiation and integration, maxima and minima, Lagrangean multipliers, transformations, infinite series, line and surface integrals, improper integrals. May not be used to meet degree requirements for mathematical sciences majors.
3450:610 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.

3450:611 ALGEBRAIC THEORIES I AND II 3 credits each
Sequential Prerequisites: 311, 312 or 610. In-depth analysis of algebraic theory—monoids, groups, rings, modules, vector spaces, lattices and algebras.

3450:612 FUNCTIONS OF A REAL VARIABLE I AND II 3 credits each
Sequential Prerequisite: 422/522. Real number system, sets, limit theorems, semi and continuous functions, derivatives of functions, Borel sets and Baire functions, measure, measurable sets, measurable functions, Riemann-Lebesgue integration, multiple integration.

3450:625 ANALYTIC FUNCTION THEORY 3 credits
Prerequisite: 422/522. Complex number system, holomorphic functions, continuity, differentiability, power series, complex integration, residue theory, singularities, analytic continuation, asymptotic expansion.

3450:637 & ADVANCED NUMERICAL ANALYSIS 3 credits each I AND II
Sequential Prerequisite: 422/522. Theoretical analysis of numerical methods in linear algebra, polynomial interpolation and approximation, integration and ordinary differential equations.

3450:631 CALCULUS OF VARIATIONS 3 credits
Prerequisite: 235. Problems with fixed and movable endpoints, problems with constraints, generalization to several variables, the maximum principle, linear time-optimal problems, the connective between classical theory and the variationally principled.

3450:632 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 422/522 or permission. Existence, uniqueness and stability of solutions to general classes of partial differential equations. Methods for solving these classes introduced, emphasizing both analytical and numerical techniques.

3450:635 A CONTINUOUS SYSTEMS I AND II 3 credits each
Sequential Prerequisite: 422/522 or permission of instructor. Boundary value problems formulated as ordinary differential equations, partial differential equations and integral equations analyzed as linear operator equations on function spaces using tools of generalized functions. Green’s functions and spectral theory. Particular attention paid to evolution and potential equations as well as variational methods.

3450:635 OPTIMIZATION 3 credits
Prerequisite: 422/522 or permission. Unconstrained and constrained optimization theory and methods in applied problems.

3450:636 ADVANCED COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisite: 235. Theory and techniques of combinatorics as applied to network problems and graph theoretic problems.

3450:642 DIFFERENTIAL GEOMETRY 3 credits
Prerequisite: 422/522. Analytic representation of space curves, surfaces, intrinsic geometry of surfaces, geometry of surfaces in large.

3450:645 TOPOLOGY 3 credits
Prerequisite: 422/522. Set theory, ordinal and cardinal numbers, topological spaces, filters and nets, separation, coverings, metric spaces, homotopy, related topics.

3450:689 ADVANCED TOPICS IN MATHEMATICS 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission of instructor. Topics within research interests of faculty members in mathematics and applied mathematics.

3450:692 MATHEMATICS AND STATISTICS SEMINAR 2 credits
(May be repeated for a total of four credits)
For properly qualified candidate for Master’s degree in mathematics and statistics. Seminar-type discussions involving special problems dealing with mathematics and statistics. Includes a supervised research project.

3450:695 PRACTICUM IN MATHEMATICS AND STATISTICS 1-3 credits
Prerequisite: graduate teaching assistant or permission. Training and experience in college teaching of mathematics and statistics. May not be used to meet degree requirements.

3450:697 INDIVIDUAL READING 1-2 credits
(May be repeated for a total of four credits)
Prerequisites: graduate standing and permission. Directed studies in mathematics at graduate level under guidance of selected faculty member.

3450:699 THESIS RESEARCH 2 credits
(May be repeated for a total of four credits) Prerequisite: permission. Properly qualified candidate for master’s degree may obtain four credits for research experience which culminates in presentation of faculty-supervised thesis.

3460: Computer Science

3460:125 DESCRIPTIVE COMPUTER SCIENCE 1 credit
Computer literacy: terminology; methods and media for data representation, storage, elements of a computing system, data organization.

3460:126 INTRODUCTION TO BASIC PROGRAMMING 1 credit
Prerequisite: 3460:125. Introduction to Basic language: assignment statement and arithmetic, control statements and loops, input/output.

3460:127 COMPUTERS IN TODAY’S WORLD 3 credits
Introduction to nature of computers and their capabilities. Special attention given to topics such as effects of computer on privacy, employment and education, ethics in computer community, potential for computer crime. Designed for nonmajors.

3460:201-5 INTRODUCTION TO PROGRAMMING LANGUAGES 2 credits each
Introduction to syntax and semantics of programming languages: assignment statement, arithmetic, control statements and loops, input/output, subprograms.

3460:201 INTRODUCTION TO FORTRAN PROGRAMMING 2 credits
Prerequisite: 3460:125 or 147 or equivalent.

3460:202 INTRODUCTION TO COBOL PROGRAMMING 2 credits
Prerequisite: 201 or equivalent.

3460:203 INTRODUCTION TO APL PROGRAMMING 2 credits
Prerequisite: 201 or equivalent.

3460:204 INTRODUCTION TO PL/I PROGRAMMING 2 credits
Prerequisite: 201 or equivalent.

3460:205 INTRODUCTION TO PASCAL PROGRAMMING 2 credits
Prerequisite: 201 or equivalent.

3460:210 INTRODUCTION TO COMPUTER CONCEPTS 3 credits
Prerequisites: 210 and 3450:221 or 215. Method of representation of information on a digital computer: character representation, fixed point-floating point numbers; introduction to computer organization, algorithms and machine language programming, Boolean algebra, computer circuits.

3460:307 APPLIED SYSTEMS PROGRAMMING 3 credits

3460:316 INTRODUCTION TO DATA STRUCTURES 3 credits
Prerequisites: 210 and 3450:222 or 216 or permission Standard data structures: stacks, queues, deques, trees, graphs, vectors, arrays, files; searching, sorting.

3460:418/518 INTRODUCTION TO DISCRETE STRUCTURES 3 credits
Prerequisite: 210 or permission. Introduction to a number of structures in algebra of particular use to student in computer science. Topics include graphs and flow chart language, graphs and digraphs, trees, lattices.
3470:420/520 STRUCTURED PROGRAMMING 3 credits
Prerequisite: 316. Techniques of block programming using a structured programming language, program verification and program design.

3470:425/525 INTRODUCTION TO SOFTWARE SYSTEMS 3 credits
Prerequisite: 201. Introduction to software systems, operating systems, input/output systems, languages and their processors, memory management, software engineering principles.

3470:428/528 OPERATING SYSTEMS 3 credits
Prerequisites: 316 and 4450:306. Introduction to various types of operating systems, batch processing systems, multiprogramming systems and interacting processes; storage management; process and resource control; deadlock problem. Course is independent of any particular operating system.

3470:430/530 THEORY OF PROGRAMMING LANGUAGES 3 credits
Prerequisite: 316. More advanced concepts underlying programming languages and their applications, formal definitions of programming languages, Backus Normal Form. Compiler design.

3470:435/535 ANALYSIS OF ALGORITHMS 3 credits
Prerequisites: 316 and 3450:121 or equivalent. Design and analysis of efficient algorithms for random access machines; deviation of pattern classification algorithms.

3470:445/555 DATA COMMUNICATIONS 3 credits
Prerequisite: 210. Introduction to data communications, teleprocessing networks, codes, modes of transmission, errors, protocol.

3470:457/557 COMPUTER GRAPHICS 3 credits
Prerequisite: 210. Topics in vector graphics, scan line graphics, representations and languages for graphics.

3470:460/560 ARTIFICIAL INTELLIGENCE AND HEURISTIC PROGRAMMING 3 credits
Prerequisite: 418. Presentation of theory of formal languages and their relation to automata. Topics include: description of languages, regular context-free and context-sensitive grammars, finite, pushdown and linear-bound automata, turing machines, closure properties, computational complexity, stack automata and decidability.

3470:470/570 AUTOMATA, COMPUTABILITY AND FORMAL LANGUAGES 3 credits
Prerequisite: 418. Study of various programs which have displayed some intelligent behavior. Exploration of level at which computers can display intelligence.

3470:475/575 DATA BASE MANAGEMENT 3 credits
Prerequisite: 416. Fundamentals of data base organization, data manipulation and representation, data integrity, privacy.

3470:480/580 TOPICS IN COMPUTER SCIENCE 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission of instructor. Selected topics in computer science at an advanced level.

3470:491/591 WORKSHOP IN COMPUTER SCIENCE 1-3 credits
Group studies of special topics in computer science. May not be used to meet graduate or undergraduate requirements in mathematics, statistics or computer science.

3470:497/597 INDIVIDUAL READING IN COMPUTER SCIENCE 1-3 credits
(May be repeated)
Prerequisite: permission. Computer science major only. Directed studies designed as introduction to research problems, under guidance of designated faculty member.

3470:498/598 SENIOR HONORS PROJECT 1-3 credits
Prerequisite: 3450:489 (honors). Directed study for senior student in the Honors Program who has completed 3450:489 (honors). An introduction to research problems in the mathematical sciences under the guidance of selected faculty.

3470:251 DESCRIPTIVE STATISTICS AND PROBABILITY 1 credit
Prerequisite: one semester of college algebra or equivalent.

3470:252 DISTRIBUTIONS 1 credit
Prerequisite: 251.

3470:253 HYPOTHESIS TESTING (PARAMETRIC) 1 credit
Prerequisite: 252.

3470:254 HYPOTHESIS TESTING (NONPARAMETRIC) 1 credit
Prerequisite: 253.

3470:255 REGRESSION AND CORRELATION 1 credit
Prerequisite: 253.

3470:256 EXPERIMENTAL DESIGN 1 credit
Prerequisite: 253.

3470:257 TIME SERIES AND INDEX NUMBERS 1 credit
Prerequisite: 255.

3470:258 STATISTICAL COMPUTATIONS ON THE MICROCOMPUTER 1 credit
Prerequisites: 254.56 and 3450:128. The utilization and generation of computer programs in the BASIC language to implement algorithms for the solution of a variety of statistical problems.

3470:450/550 PROBABILITY 3 credits
Prerequisite: 450:221. Introduction to probability, random variables and probability distributions, expected value, sums of random variables. Markov processes.

3470:451.2/551.2 THEORETICAL STATISTICS I AND II 3 credits each
Prerequisite: 451 or 461. Fundamental principles: analysis of variance, regression and correlation, introduction to experimental designs.

3470:461/561 APPLIED STATISTICS 4 credits
Prerequisite: 3450:223 Applications of statistical theory to natural and physical sciences and engineering, including hypotheses tests, regression, correlation, analysis of variance, nonparametric statistics, sampling, quality control and other selected topics.

3470:463/563 EXPERIMENTAL DESIGN I 3 credits
Prerequisite: 451 or 461. Fundamental principles; analysis of variance, crossed, nested designs, multiple comparisons, power considerations, randomized blocks, repeated measure designs; applications.

3470:464/564 EXPERIMENTAL DESIGN II 2 credits
Prerequisite: 403/563. Principles of confounding, Latin squares, fractional designs, analysis of covariance, split plot designs, applications to problems in applied fields.

3470:465/565 STATISTICAL COMPUTER APPLICATIONS 3 credits
Prerequisites: 3450:223 and one semester course in statistics or permission. Utilization of statistical operations into computer languages, iterative procedures, generating data, Monte Carlo techniques. Use of statistical packages.

3470:466/566 TOPICS IN STATISTICS 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission. Selected topics in advanced statistics, including quality control, reliability, sampling techniques, decision theory, advanced inference, stochastic processes and others.

3470:491/591 WORKSHOP IN STATISTICS 1-3 credits
(May be repeated with change of topic)
Prerequisite: permission. Selected topics in special topics in statistics. May not be used to meet graduate or undergraduate requirements in mathematics and statistics. May be used for elective credit only.

3470:497 INDIVIDUAL READING 1-2 credits
(May be repeated for a total of four credits)
Prerequisites: senior standing and permission. Directed studies in statistics designed as introduction to research problems under guidance of selected faculty member.

3470:498 SENIOR HONORS PROJECT 1-3 credits
Prerequisite: 3450:489 (honors). Directed study for senior student in the University Honors Program who has completed 3450:489 (honors) An
Graduate Courses

3470:650 ADVANCED PROBABILITY AND STOCHASTIC PROCESSES 3 credits
Prerequisite: 651. Random walk, distributions, unlimited sequence of trials, laws of large numbers, convolutions, branching processes, renewal theory. Markov chains, time-dependent stochastic processes.

3470:651,2 MATHEMATICAL STATISTICS I AND II 3 credits each
Prerequisite: Permission. Probability theory, random variables, probability distributions, expectation, limit theorems, large and small sample theory, theory of tests of hypotheses, point and interval estimation, nonparametric statistics theory, regression and correlation.

3470:655 LINEAR MODELS 3 credits
Corequisite: 652. General linear hypothesis, regression models, experimental design models, analysis of variance and covariance, variance components

3470:661,2 ADVANCED BEHAVIORAL STATISTICS I AND II 3 credits each
Sequential. Prerequisite: college-level algebra or equivalent. Descriptive statistics, probability distributions, hypothesis testing, estimation, nonparametric statistics, correlation, simple and multiple regression, experimental designs, factorial experiments, comparisons, nested designs, repeat-measure designs, randomized blocks, analysis of covariance, applications.

3470:664 STATISTICS FOR THE HEALTH SCIENCES 4 credits
(May not be used to meet degree requirements for mathematical sciences majors.) Prerequisite: college-level algebra or equivalent. Descriptive statistics, probability and probability distribution, tests of hypotheses and confidence intervals, nonparametric statistics, regression and correlation.

3470:665 REGRESSION AND CORRELATION 3 credits
Prerequisite: four credits of sequential statistics courses or equivalent. Analytical theory: least squares — matrix notation, methodology, multiple regression, orthogonal polynomials, correlation, partial correlation, stepwise regression, model building, response surfaces.

3470:666 NONPARAMETRIC STATISTICS-METHODS 2 credits
Prerequisites: 565, 662 or permission. Theoretical bases and relationships among various nonparametric techniques compared with parametric ones.

3470:667 FACTOR ANALYSIS 2 credits
Prerequisite: 661 or permission. Theory and techniques in identifying variables through use of factor analysis.

3470:668 MULTIVARIATE STATISTICAL METHODS 3 credits
Prerequisites: 463, 563, 662. Multivariate techniques including distance concept, Hotelling T², multivariate ANOVA, regression and correlation, linear contrasts, factorial experiments, nested and repeat measure designs, Bonferroni X² tests, linear discrimination analysis, canonical correlation, application.

3470:669 ADVANCED TOPICS IN STATISTICS 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: 652. Selected topics in statistics including concepts in order statistics, advanced inference, sequential analysis, stochastic processes, reliability theory, Bayesian statistics and regression.

3470:670 INDIVIDUAL READING 1-2 credits
(May be repeated for a total of four credits)
Prerequisites: graduate standing and permission. Directed studies in statistics under guidance of selected faculty member.

3500: Modern Languages

PLACEMENT PROCEDURES FOR NEW STUDENT
Student who has taken one year or less of a foreign language in high school should enroll in 101. Those who have taken more than one year of a foreign language in high school should take the placement test (Counseling and Testing, Simmons Hall 161). For placement in third-year courses or higher, department permission is required.

3500:101,2 BEGINNING MODERN LANGUAGE I AND II 4 credits each
(May be repeated for a different language)
Sequential. Reading, speaking, writing and listening comprehension, intensive drill in pronunciation; short stories, outside reading and supplementary work in language laboratory.

3500:201,2 INTERMEDIATE MODERN LANGUAGE I AND II 3 credits each
(May be repeated for a different language)
Sequential. Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking and listening comprehension; short stories, plays, novels on intermediate level.

3500:490/590 WORKSHOP 2 credits
(May be repeated)
Group studies of special topics in modern languages.

3500:498 SENIOR HONORS PROJECT IN MODERN LANGUAGES 1-3 credits each
(May be repeated for a total of six credits)
Prerequisites: senior standing in Honors Program and approval of honors preceptor. Open only to language major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

3520: French

3520:101,2 BEGINNING FRENCH I AND II 3 credits each
Sequential. Thorough study of sound system and basic structural patterns of French language, vocabulary and idioms, development of oral and written skills. A placement test is required.

3520:201,2 INTERMEDIATE FRENCH I AND II 3 credits each
Sequential. Prerequisite: 102 or equivalent. Reading, writing, speaking and listening comprehension; grammar review, short stories, novels on intermediate level. A placement test is required.

3520:207,8 INTERMEDIATE FRENCH I AND II READING OPTION 3 credits each
Sequential. Prerequisite: 102 or equivalent. Reading and translation of texts dealing with contrasting French and American customs, values and attitudes.

3520:301,2 FRENCH COMPOSITION AND CONVERSATION 3 credits each
Prerequisite: 202 or equivalent. Free composition, special attention to vocabulary and idioms, development of oral expression and conversational ability.

3520:305,6 INTRODUCTION TO FRENCH LITERATURE 3 credits each
Prerequisite: 202 or equivalent. Survey of French literature from its origins to present, with lectures, readings and class discussion of representative works.

3520:309,10 FRENCH CULTURE AND CIVILIZATION 3 credits each
Prerequisite: 302 or 306 or permission. Audio-visual presentation with class discussions of French cultural heritage from its origins to present. Conducted in French.

3520:312 INDIVIDUAL SUMMER STUDY ABROAD 2 credits
Prerequisites: 202 or equivalent and permission of instructor.

3520:313 FRENCH CIVILIZATION AS SEEN IN THE MOVIES 3 credits
Study and discussion of various aspects of French culture and civilization as characterized in movies.
**Courses**

**3520:351,2 TRANSLATION: FRENCH** 3 credits each
- Prerequisite: Advanced French grammar with emphasis on syntax, morphology, grammatical structure, and phonetic principles.
- Prerequisite: Translation of French literature.

**3520:401 FRENCH PHONETICS** 3 credits
- Prerequisite: Course in pronunciation with correction and improvement of pronunciation.
- Prerequisite: Focus on articulation, intonation, rhythm, and emphasis.

**3520:403,4 ADVANCED FRENCH COMPOSITION AND CONVERSATION** 3 credits each
- Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles, and grammatical structure.
- Prerequisite: Translation of French literature.

**3520:417/517 SEVENTEENTH CENTURY FRENCH LITERATURE** 4 credits
- Prerequisite: 302 or 360 or permission. Reading and discussion of selected works in poetry, drama, and novels.
- Prerequisite: Conducted in French.

**3520:427/527 TWENTIETH CENTURY FRENCH LITERATURE** 4 credits
- Prerequisite: 302 or 360 or permission. Reading and discussion of the most representative works of period.
- Conducted in French.

**3520:450 EXPLICATION DE TEXTES** 2 credits
- Prerequisite: 302 or 360 or permission. Study of traditional French method of literary analysis based on passages of representative authors from selected periods of French literary history.

**3520:471/571 FRENCH LANGUAGE READING PROFICIENCY** 4 credits
- Designed to develop proficiency in reading comprehension.

**3520:497,8 INDIVIDUAL READING IN FRENCH** 1-3 credits each
- Prerequisite: Individual study and research.

**3520:561 FRENCH TEACHING PRACTICUM** 2 credits
- Prerequisite: Teaching assistantship or permission. Orientation and practice of particular aspects of teaching language and culture. Periodical review and evaluation.
- Credits may be applied toward degree requirement.

**3520:697,4 INDIVIDUAL READING AND RESEARCH SEMINAR** 1-4 credits each
- Prerequisite: Independent study and research in specific areas.
- Considerable reading and writing required.

**Graduate Courses**

**3520:601 ADVANCED FRENCH GRAMMAR** 4 credits
- Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure, and phonetic principles.

**3520:603,4 ROMANCE AND APPLIED LINGUISTICS** 4 credits each
- History of French language from 842 to present. Second semester deals with application of linguistic research to teaching of French.

**3520:607,8 SELECTED TOPICS IN THE MOVEMENT OF IDEAS IN FRENCH LITERATURE** 4 credits each
- Study of ideas instrumental in shaping French thought and culture.

**3520:616,20 FRENCH CULTURE EXPRESSED IN LITERATURE** 4 credits each
- Anthro-philological approach emphasizing social and civic institutions, education, music, and art, value systems, and national characteristics.

**3520:641 SEMINAR: FRENCH PHONE LITERATURE, CULTURE AND CIVILIZATION** 2 credits
- Study of various aspects of culture, civilization, and literature of French expression outside of France.

**3520:642 SEMINAR: THE IMAGE OF THE WOMAN IN FRENCH LITERATURE** 2 credits
- Study of the women as characterized in French literature from Middle Ages to present.

**3530:201,2 INTERMEDIATE GERMAN I AND II** 3 credits each
- Sequential. Prerequisite: 102 or equivalent. Grammar review, reading, writing, speaking, listening comprehension, short stories, plays, novels of intermediate level. Outside reading and supplementary work in language laboratory.

**3530:202,2 ADVANCED GERMAN I AND II** 3 credits each
- Sequential. Prerequisite: 102 or equivalent. Grammar review, reading, writing, speaking, listening comprehension, short stories, plays, novels of advanced level, outside reading and supplementary work in language laboratory.

**3530:250 TWENTIETH CENTURY GERMAN LITERATURE IN TRANSLATION** 2 credits
- Reading and discussion of works of Mann, Hesse, Kafka, Benn, Brecht, Frisch, Durrenmatt, Borcherl, Grass. May not be taken for credit toward the German major.

**3530:251 NINETEENTH CENTURY GERMAN LITERATURE IN TRANSLATION** 2 credits
- Reading and discussion of works in Kleist, Heine, Kiebner, Keller, Storm, Meyer, and Hauptmann. May not be taken for credit toward the German major.

**3530:252 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.

**3530:301,2 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.

**3530:305,6 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.

**3530:351,2 TRANSLATION: GERMAN** 3 credits each

**3530:403,4 ADVANCED GERMAN CONVERSATION AND COMPOSITION** 3 credits each
- Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles, and grammatical structure.

**3530:406,7 GERMAN CULTURE AND CIVILIZATION** 3 credits each
- Prerequisite: 302 or 306 or equivalent. Particular emphasis on customs, traditions, philosophies, and artistic tendencies that constitute Germany's contribution to Western Civilization.

**3530:419/519 THE AGE OF GOETHE I** 3 credits
- Prerequisite: 302 or 306 or permission. Enlightenment and generation of Sturm und Drang, including works of Lessing, Goethe, Kleist, Schiller, Herder, the younger Goethe and others. Conducted in German.

**3530:420/520 THE AGE OF GOETHE II** 3 credits
- Prerequisite: 302, 306 or permission. Feud, selections from parts I and II. Ballads of Goethe and Schiller. Conducted in German.
3530:43/53 200 YEARS OF GERMAN DRAMA 3 credits 
Prerequisite: 302 or 306 or permission. Representative works of major classical dramatists including Lessing, Goethe, Schiller, Kleist. Grillparzer. Conducted in German.

3530:432/532 200 YEARS OF GERMAN DRAMA 2 credits 
Prerequisite: 302 or 306 or permission. Representative works of the major dramatists, Buchner, Hebbel, Hauptmann, and Wedekind. Conducted in German.

3530:435/535 GERMAN SHORT STORY 3 credits 
Prerequisite: 302 or 306 or permission. Reading and discussion of representative works of German Romanticism, including those of Tieck, Kleist, E.T.A. Hoffmann, Brentano, Eichendorff. Conducted in German.

3530:432/532 GERMAN SHORT STORY 3 credits 
Prerequisite: 302 or 306 or permission. Reading and discussion of works representative of the period, including those of Droste-Hülshoff, Sittner, Keller, Meyer, Storm. Conducted in German.

200 YEARS OF A. HOTTMANN. BRENTANO. MEYER. GERMAN

3530:439/539 TWENTIETH CENTURY LITERATURE 3 credits 
Prerequisite: 302 or 306 or permission. Reading and discussion of works representative of the period, including those of Droste-Hülshoff, Sittner, Keller, Meyer, Storm. Conducted in German.

3530:431/531 200 YEARS OF A. HOTTMANN. BRENTANO. MEYER. GERMAN

3530:497,81NDIVIDUAL READING IN GERMAN
Prerequisite: permission. Representative works of the period, including those of Droste-Hülshoff, Sittner, Keller, Meyer, Storm. Conducted in German.

3550:1Italian
3550:101,2 BEGINNING ITALIAN I AND II 4 credits each 
Sequential. Reading, speaking, writing, and listening comprehension; intensive drill in pronunciation and supplementary work in language laboratory. 

3550:201,2 INTERMEDIATE ITALIAN I AND II 3 credits each 
Sequential. Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking, short stories, novels on intermediate level, outside reading and supplementary work in language laboratory.

3550:207,8 INTERMEDIATE ITALIAN I AND II READING OPTION 
Sequential. Prerequisite: 102 or equivalent. Reading of texts in Italian dealing with culture of Italian-speaking people. Discussion of content of these texts in English along with review of grammar to extent necessary for accurate understanding of texts. Not open to majors.

3570:101,2 BEGINNING RUSSIAN I AND II 4 credits each 
Reading, speaking, writing, and understanding; intensive drill in pronunciation and supplementary work in language laboratory.

3570:201,2 INTERMEDIATE RUSSIAN I AND II 3 credits each 
Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking, short stories, novels on intermediate level, outside reading and supplementary work in language laboratory.

3570:207,8 INTERMEDIATE RUSSIAN I AND II READING OPTION 
Sequential. Prerequisite: 102 or equivalent. Reading of texts in Russian dealing with culture of Russian-speaking people. Discussion of content of these texts in English along with review of grammar to extent necessary for accurate understanding of texts. Not open to majors.

3570:301,2 RUSSIAN COMPOSITION AND CONVERSATION 3 credits each 
Prerequisite: 202 or equivalent. Advanced composition using Russian models, special attention to words and idioms, development of oral expression and conversational ability.

3570:305,6 INTRODUCTION TO RUSSIAN LITERATURE 3 credits each 
Prerequisite: 202 or equivalent. Reading and class discussion in Russian of representative works.

3570:306,10 RUSSIAN CIVILIZATION AND CULTURE 3 credits each 
Prerequisite: 202 or equivalent. Reading and discussion of Russian texts relating to developments in Russian civilization and culture.

3570:351,2 TRANSLATION: RUSSIAN 3 credits each 
Advanced Russian composition and conversation 
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

3570:403,4 RUSSIAN SYNTAX, GRAMMAR AND CONVERSATION 3 credits each 
Prerequisite: 202 or equivalent. Reading and discussion of selected literary works from Gorky to Solzhenitsyn.

3570:407,8 RUSSIAN LITERATURE OF THE NINETEENTH CENTURY: ROMANTICISM AND REALISM 3 credits each 
Prerequisites: 101 or 102 permission. Readings from representative authors such as Pushkin, Lermontov, Gogol, Turgenev, Dostoevsky, Tolstoy, Goncharov and others.

3570:427,8 RUSSIAN LITERATURE OF THE TWENTIETH CENTURY 3 credits each 
Prerequisite: 202 or equivalent. Reading and discussion of selected literary works from Gorky to Solzhenitsyn.

3570:439 ADVANCED RUSSIAN SYNTAX, GRAMMAR AND CONVERSATION 3 credits each 
Prerequisite: 304 of equivalent. Advanced work in composition, translation into Russian and idiomatic use of the spoken language.

3570:457,8 INDIVIDUAL READING IN RUSSIAN 1-3 credits each 
Prerequisite: permission.

3570: Russian

3580: Spanish
3580:101,2 BEGINNING SPANISH 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.

3580:207,8 ADVANCED SPANISH I AND II READING OPTION 
Sequential. Prerequisite: 102 or equivalent. Reading of texts in Spanish dealing with culture of Spanish-speaking people. Discussion of content of these texts in English along with review of grammar to extent necessary for accurate understanding of texts. Not open to majors.

3580:301,2 SPANISH COMPOSITION AND CONVERSATION 3 credits each 
Prerequisite: 202 or equivalent. Advanced composition using Spanish models, special attention to words and idioms, development of oral expression and conversational ability.

3580:305,6 INTRODUCTION TO SPANISH LITERATURE 3 credits each 
Prerequisite: 202 or equivalent. Reading and class discussion in Spanish of representative works.

3580:306,10 SPANISH CIVILIZATION AND CULTURE 3 credits each 
Prerequisite: 202 or equivalent. Reading and discussion of Spanish texts relating to developments in Spanish civilization and culture.

3580:351,2 SPANISH TRANSLATION 3 credits each 
Advanced Spanish composition and conversation 
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

3580:403,4 SPANISH SYNTAX, GRAMMAR AND CONVERSATION 3 credits each 
Prerequisite: 202 or equivalent. Reading and discussion of selected literary works from Galdos to Azcuy.

3580:407,8 SPANISH LITERATURE OF THE NINETEENTH CENTURY: ROMANTICISM AND REALISM 3 credits each 
Prerequisites: 101 or 102 permission. Readings from representative authors such as Rimmer, Leopoldo, Almada, Pardo Bazán, Granados, and others.

3580:427,8 SPANISH LITERATURE OF THE TWENTIETH CENTURY 3 credits each 
Prerequisite: 202 or equivalent. Reading and discussion of selected literary works from Galdos to Azcuy.

3580:439 ADVANCED SPANISH SYNTAX, GRAMMAR AND CONVERSATION 3 credits each 
Prerequisite: 304 of equivalent. Advanced work in composition, translation into Spanish and idiomatic use of the spoken language.

3580:457,8 INDIVIDUAL READING IN SPANISH 1-3 credits each 
Prerequisite: permission.
3580:201,2 INTERMEDIATE SPANISH I AND II
Sequential; Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking and listening comprehension. Short stories, plays, novels on intermediate level. Outside reading and supplementary work in language laboratory. 3 credits each

3580:207,8 INTERMEDIATE SPANISH I AND II READING OPTION
Sequential; Prerequisite: 102 or equivalent. By permission only. Reading of texts in Spanish dealing with culture of Spanish-speaking people. Not open to majors. 3 credits each

3580:301,2 SPANISH COMPOSITION AND CONVERSATION
Prerequisite: 202 or equivalent. Advanced composition using Spanish models. Special attention to word order and syntax. Development of oral expression and conversational ability. 3 credits each

3580:306,6 INTRODUCTION TO HISPANIC LITERATURE
Prerequisite: 202 or equivalent. Reading and discussion of works written in Spanish with emphasis on the literature of contemporary authors. Conducted in Spanish. 4 credits each

3580:311 SPANISH/SPANISH-AMERICAN CULTURAL EXPERIENCE
Prerequisite: permission. Student's residence and/or independent study in a Spanish-speaking country which results in demonstrable assimilation of country's culture may earn a maximum of two credits. 1-2 credits

3580:350 CONTEMPORARY LATIN AMERICAN FICTION IN TRANSLATION
(May not be taken for credit toward the Spanish major.) Reading, discussion of novels, short stories of major Spanish American and Brazilian writers. Designed as an elective for upper-level students. Texts and discussion in English. 3 credits each

3580:351,2 TRANSLATION: SPANISH
Prerequisite: 301 or equivalent. Development of proficiency in speaking and writing Spanish at a level beyond that achieved in 301,2. Conducted in Spanish. 3 credits each

3580:400 ADVANCED GRAMMAR
Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure. 3 credits each

3580:407/501 MEDIEVAL AND RENAISSANCE SPANISH LITERATURE
Prerequisite: 302 or equivalent. Reading and discussion of representative works that mark beginnings of Spanish literature in poetry, prose, and drama. Students may substitute 3 credits for 3580:206 for permission. Conducted in Spanish. 4 credits each

3580:409,10 LINGUISTICS
Prerequisite: 302 or permission. Introduction to linguistics focusing on Spanish, includes phonetics, phonological principles, and grammatical structure. Conducted in Spanish. 3 credits each

3580:411/511 SPANISH LITERATURE OF THE GOLDEN AGE
Prerequisite: 302 or permission. Reading and discussion of representative novels and short stories with special emphasis on works of Miguel de Cervantes. Drama, poetry and essays of sixteenth and seventeenth centuries studied. Conducted in Spanish. 4 credits

3580:415/515 EIGHTEENTH AND NINETEENTH CENTURIES SPANISH LITERATURE
Prerequisite: 302 or permission. Reading, discussion and lectures. Study of neoclassicism, romanticism, realism, naturalism, and generation of 1898. Conducted in Spanish. 4 credits each

3580:419/519 TWENTIETH CENTURY SPANISH LITERATURE
Prerequisite: 302 or 306 or permission. Reading and discussion of the most representative writers of twentieth century Spain. Representative poetry, drama, novels and short stories studied. Conducted in Spanish. 4 credits each

3580:422/522 SPECIAL TOPICS IN HISPANIC CULTURE
(May be repeated) Reading and discussion of significant works in literature or culture in Spain and Latin America not studied in other courses. 1-4 credits

3580:423/523 SPANISH-AMERICAN LITERATURE
Prerequisite: 302 or permission. Reading and discussion of representative Spanish-American literature from discovery to present time. Oral and written reports. Conducted in Spanish. 4 credits each

3580:427/527 SPANISH AND SPANISH-AMERICAN CULTURE AND CIVILIZATION
Prerequisite: 302 or 306 or permission. Emphasis on customs, traditions, literary trends and artistic tendencies that constitute Spain's specific contribution to Western Civilization. Study of Spanish-speaking world. Conducted in Spanish. 4 credits each

3580:471/571 SPANISH LANGUAGE READING PROFICIENCY
Designed to develop proficiency in reading comprehension. 4 credits each

3580:497 INDIVIDUAL READING IN SPANISH
Prerequisite: permission. Conducted in Spanish. 1-3 credits

Graduate Courses

3580:401 SEMINAR ON MEDIEVAL SPANISH LITERATURE
(May be repeated) Reading and discussion of monumental medieval literary works of Spain such as Poema de mio Cid, El Cortejo Lucano, El Libro de Buen Amor. Conducted in Spanish. 4 credits

3580:405,8 SPANISH IN HISPANIC LINGUISTICS
Advanced topics in comparative, historical and descriptive Hispanic linguistics studied from contemporary theoretical perspectives; includes practical applications. 4 credits each

3580:409,10 SEMINAR ON SPANISH LITERATURE
Prerequisite: 302 or permission. Reading and discussion of representative writers from Renaissance to late baroque period. Studies in expository, novel, theatre, poetry and philosophic writings. Conducted in Spanish. 4 credits each

3580:413 SEMINAR ON SPANISH-AMERICAN LITERATURE
Studies in representative writers preceding the "Boom." Reading and discussion of various genres and authors representing significant literary developments. Conducted in Spanish. 4 credits

3580:417 SEMINAR ON TWENTIETH CENTURY SPANISH-AMERICAN LITERATURE
Reading and discussion of contemporary writers with emphasis on theatre, novel and short story. Conducted in Spanish. 4 credits

3580:521 SEMINAR ON TWENTIETH CENTURY SPANISH LITERATURE
Studies in representative present-day writers with emphasis on theatre, novel, poetry and short stories. Conducted in Spanish. 4 credits

3580:651 SPANISH TEACHING PRACTICUM
Preparation for teaching assistantship or permission. Orientation and practice of particular aspects of teaching Spanish language and culture. Student teaching experiences are periodically reviewed and evaluated. These credits may not be applied toward degree requirements. 2 credits

3580:697,8 INDIVIDUAL READINGS IN SPANISH
(May be repeated) Content of given individual reading program taken from course contents approved for graduate work in Spanish. 1-4 credits each

3580:699 THESIS WRITING
4 credits
3600: Philosophy

3600:101 INTRODUCTION TO PHILOSOPHY 3 credits
Introduction to philosophic problems and studies through acquaintance with thoughts of some leading thinkers of Western tradition.

3600:120 INTRODUCTION TO ETHICS 3 credits
Introduction to problems of moral conduct through readings from the tradition and class discussions, nature of "good," "right," "righteous" and freedom.

3600:170 INTRODUCTION TO LOGIC 3 credits
Introduction to logic and critical thinking, includes such topics as meaning, informal fallacies, propositional logic, predicate and syllogistic logic and nature of induction.

3600:211 HISTORY OF ANCIENT PHILOSOPHY 3 credits
History and development of ancient Greek philosophy from pre-Socratics to Aristotle. Readings of primary sources in translation.

3600:216 AMERICAN PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. Movement of ideas in America from Royce to present.

3600:223 VALUE THEORY 3 credits
Inquiry into man as an evaluator. Study of some principles and theories of value and their implications.

3600:232 PHILOSOPHY OF RELIGION 3 credits
Prerequisites: two philosophy courses. Discussion of problems of theology nature of religious experience, God's nature, existence, immortality, sin, faith, reason, holy revelation, redemption.

3600:280 SOPHOMORE TOPICS IN PHILOSOPHY 1-3 credits
Prerequisite: permission of instructor. Selected topics in philosophy at the sophomore level.

3600:312 HISTORY OF MEDIEVAL PHILOSOPHY 3 credits
History of Western philosophy from and of Roman Empire to Renaissance. Major philosophers studied include St. Augustine, St. Aquinas, Peter Abelard, St. Thomas Aquinas, Duns Scotus, and William of Ockham. Readings from primary sources.

3600:313 HISTORY OF MODERN PHILOSOPHY 3 credits
Analysis of major philosophical issues of Seventeenth and Eighteenth Centuries from Descartes through Kant. Readings of primary sources in translation.

3600:314 NINETEENTH CENTURY PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. Inquiry into philosophically significant ideas of Hegel, Marx, Schopenhauer, Mill, Nietzsche and Nietzsche.

3600:324 SOCIAL AND POLITICAL PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. Examination of the normative justification of social, political institutions and practices. Analysis of concepts such as rights, justice, equality, political obligation from historical as well as contemporary points of view. Application to particular social issues covered.

3600:332 DIALECTICAL MATERIALISM 3 credits
Prerequisite: 224 or permission of instructor. Includes Hegelian and other origins as well as its development in writings of Marx, Engels, Lenin and contemporary writers. Focus on metaphysics, social philosophy, philosophy of history, nature of man, ethics, aesthetics.

3600:350 PHILOSOPHY OF ART 3 credits
Prerequisite: one course in philosophy or permission of instructor. Examination of theories of the nature of art and the grounds of esthetic evaluation. Analysis of such concepts as representation, form, content, expression, institution, convention, meaning, truth as they apply to the context of the arts.

3600:374 SYMBOLIC LOGIC 3 credits
Prerequisite: 170 or permission of instructor. Detailed consideration of propositional and first-order predicate logic. Introduction to classical logic, modal logics and axiomatics.

3600:390 JUNIOR TOPICS IN PHILOSOPHY 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Selected topics in philosophy at the junior level.

3600:396 JUNIOR HONORS SEMINAR 1-3 credits
(May be repeated) Prerequisite: junior standing in Honors Program or junior honors standing as philosophy major or permission of instructor or nomination by department faculty member. Selected readings, research, writing, and defense of one or more philosophical projects. Preparation and presentation for Senior Honors Project in philosophy.

3600:411/L11 LATER DIALOGUES OF PLATO 3 credits
Prerequisites: one introductory course and 313 or permission of instructor. Readings of dialogues in translation, commencing with Theaetetus including Parmenides, Sophist, Statesman, Philebus.

3600:416/516 ANALYTIC PHILOSOPHY 3 credits
Prerequisites: 211,2 and 313 or permission of instructor. Study of ideal and ordinary language movements in Twentieth Century British and American philosophy. Deals with such figures as Russell, Carnap, Ayer, Moore, Wittgenstein, Ryle and Austin.

3600:418/519 BRITISH EMPICISM 3 credits
Prerequisites: one introductory course and 312 or permission of instructor. Intensive analysis of selected major writings of Locke, Berkeley and Hume.

3600:421/521 PHILOSOPHY OF LAW 3 credits
Prerequisite: one course in philosophy or permission of instructor. Philosophical inquiry into the nature of law and legal institutions.

3600:422/522 CONTINENTAL NATIONALISM 3 credits
Prerequisite: one introductory course and 313 or permission of instructor. Intensive analysis of selected major writings of Descartes, Spinoza and Leibniz.

3600:424/524 EXISTENTIALISM 3 credits
Prerequisite: one introductory course in philosophy. 314 or permission of instructor. In-depth inquiry into the thought of Kierkegaard, Jaspers, Heidegger, Sartre, Tillich and other existentialists with their concern for man and his human condition.

3600:425/526 PHENOMENOLOGY 3 credits
Prerequisites: one introductory course. 314 or permission of instructor. Inquiry into methodology of Husserl and Heidegger and their influence upon Western European and American thought.

3600:432/532 ARISTOTLE 3 credits
Prerequisites: 211,2 and 313 or permission of instructor. Detailed study of Aristotle's metaphysics, philosophy of nature, philosophy of man and ethics. Taught in alternate years.

3600:434/534 KANT 3 credits
Prerequisite: 313 or permission of instructor. Study of Kantian system of thought and its relation to history of philosophy. Includes thorough investigation of one or more of Kant's philosophic works.

3600:444/544 PROBLEMS IN PHILOSOPHY 3 credits
Prerequisites: two courses in philosophy or permission of instructor. Thorough, critical examination of one major philosophical problem.

3600:462/662 THEORY OF KNOWLEDGE 3 credits
Prerequisite: three courses in philosophy. Examination of nature of knowledge, theories of perception, conce Western and American thought.

3600:464/664 PHILOSOPHY OF SCIENCE 3 credits
Prerequisites: 101, 110, 110, or permission of instructor. Nature of scientific inquiry, types of explanation, laws and causality, theoretical concepts and reality. Also considers critics of hypothetico-deductive view of science. e.g., Hanson and Kuhn.

3600:471/571 METAPHYSICS 3 credits
Prerequisites: 211,2 and 313 or permission of instructor. Theory about ultimate nature and ultimate explanation of reality. Uses readings from classical and contemporary sources.

3600:480/580 SEMINAR 3 credits
(May be repeated) Prerequisite: permission of instructor.

211
3650:160 PHYSICS IN SPORTS 3 credits
An introduction to physics, particularly mechanics. Athletic activities utilized to illustrate principles.

3650:231 CONCEPTS OF PHYSICS I 4 credits
Prerequisites: High school algebra and trigonometry or 3450:149 as corequisite. General physics emphasizing underlying concepts of physics such as conservation laws and symmetry principles. Newtonian mechanics, oscillations, waves.

3650:232 CONCEPTS OF PHYSICS II 4 credits
Prerequisite: 231. Electricity and magnetism, interference and diffraction of waves, nature of heat, space and time in theory of relativity, quantum mechanics of atomic phenomena, recent developments in study of elementary particles.

3650:261 PHYSICS FOR THE LIFE SCIENCES I 4 credits
Prerequisites: High school algebra, trigonometry or 3450:149 as corequisite. Introductory course for professional work in biology and health professions and services. Emphasizes life science applications. Mechanics, laws of motion, force, torque, work, energy, power, properties of matter, gases, liquids, solids, fluid mechanics.

3650:262 PHYSICS FOR THE LIFE SCIENCES II 4 credits
Prerequisites: 261. Laws of thermodynamics, kinetic theory, wave phenomena, sound, light, optics, electricity and magnetism, atomic and nuclear physics, radioactivity.

3650:267,268 LIFE SCIENCE PHYSICS COMPUTATIONS I AND II 1 credit each
Corequisites: 261 (with 267), 262 (with 268). Optional companion courses to 261, 2 provides additional computational experience in applications of physics to life sciences, emphasizing use of algebra and trigonometry. Particularly recommended for student with modest mathematical preparation.

3650:291 ELEMENTARY CLASSICAL PHYSICS I 4 credits
Corequisite: 291.1. 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.

3650:292 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.

3650:293,294 PHYSICS COMPUTATIONS I AND II 1 credit each
Corequisites: 291 (with 293), 292 (with 294). Optional companion courses to 291, 2 provides experience in problem solving, and elaborates application of calculus to simple physical phenomena. Particularly recommended for a freshman, and for student with modest preparation in mathematics or physical sciences.

3650:301 ELEMENTARY MODERN PHYSICS 3 credits
Prerequisite: 292 or permission of instructor. Special relativity, introduction to quantum physics, hydrogen atom and complex atoms, atomic spectra, topics in nuclear and solid-state physics.

3650:321 PHYSICS LABORATORY TECHNIQUES 2 credits
Prerequisite: Permission of instructor. Design and fabrication of simple mechanical systems, photography and data collection, electronic chassis, construction, printed circuit techniques, optical measuring instruments.

3650:331,2 ASTROPHYSICS I AND II 3 credits each
Prerequisite: 232, 262 or 292. One-year comprehensive, qualitative course recommended for student majoring in physics or natural science, and for secondary school teachers and others desiring comprehensive survey of astronomy and astrophysics at intermediate level.

3650:390 UNDERGRADUATE RESEARCH 1-6 credits
(May be repeated)
Prerequisite: permission of instructor. Participation in current research project in department under supervision of faculty member.

3650:400/500 HISTORY OF PHYSICS 3 credits
Prerequisite: 232, 262 or 292. Study of origin and evolution of major principles and concepts characterizing contemporary physics.

3650:404/504 ENERGY AND THE ENVIRONMENT 3 credits
Prerequisites: 204, 262 or 292. Physics of macroscopic energy sources and techniques of use, emphasizes thermodynamic efficiencies, storage, transport, side effects, prospective availability.
3650:406/506 WAVES 3 credits
Prerequisite: 232, 262 or 292. Analysis of phenomena common to all waves, including free oscillations, forced oscillations, traveling waves, reflection, polarization, interference and diffraction. Water, sound, electromagnetic, seismic and DeBrogie waves examined.

3650:407/507 QUANTUM PHYSICS 3 credits
Prerequisite: 232, 262 or 292. Quantum physics at intermediate level. Energy levels, photons, material particles. Uncertainty principle, Schrodinger wave mechanics, theory of stationary states and elementary particles.

3650:410/510 ELECTRONICS 3 credits
Prerequisite: 232, 262 or 292. Electron tubes, semiconductors, their utilization in circuits. Introduction to mathematical analysis of circuits.

3650:411,2/511,2 INTERMEDIATE LABORATORY I AND II 2 credits each

3650:420/520 OPTICS 3 credits
Prerequisites: 332, 262 or 292 and 3450:223. Reflection, refraction, prisms, thin lenses, thick lenses, mirrors; waves and their propagation; interference and diffraction; diffraction gratings; polarization, emission of light; velocity of light, photometry, lasers.

3650:421/521 APPLIED PHYSICS LABORATORY 2 credits
Prerequisite: 411 or permission of instructor. Laboratory course stressing measurement and evaluation techniques as performed in industry and research. Mechanical, optical, thermal, electric and electronic measurements done; experimental design, calibration and reporting emphasized.

3650:430/530 STATISTICAL PHYSICS 3 credits
Prerequisite: 232, 262 or 292. Kinetic theory of gases; temperature; thermodynamic systems; work, ideal gases, real gases; laws of thermodynamics; entropy, reversibility and irreversibility; Carnot cycle, Kelvin temperature scale; change of phase.

3650:431/531 MECHANICS 3 credits
Prerequisite: 292: Newtonian mechanics, conservation laws, planar statics and dynamics, motion of a particle or rigid body, universal gravitation, planetary orbits, Kepler’s laws, true perturbations, vibrational motions, moving frames of reference.

3650:436/536 ELECTRICITY AND MAGNETISM 3 credits
Prerequisite: 292 or permission of instructor. Electricity and magnetism at intermediate level. Electric and magnetic fields, potential, vector potential, Gauss’s law, divergence theorem, Stokes’s theorem, introductory vector analysis. Development of Maxwell’s equations.

3650:438/538 METHODS OF APPLIED PHYSICS 3 credits
Prerequisite or corequisite: 421. Topics design, performance, interpretation, reporting of physical measurements; the scientific method, measurements, their uncertainties, principles of experimentation, measurement devices, data resolution and analysis, inference.

3650:445/545 THEORETICAL MECHANICS 4 credits
Prerequisite: 431. Introductory vector analysis, motion of a system of particles, mechanics of continuous media, Lagrange’s equations, Hamilton’s equations, inertia and stress tensors, rigid body rotation, Euler’s equations, classical mechanics, and vector, intensity, vibrational motion, wave mechanics, and quantum mechanics.

3650:446/546 ELECTROMAGNETIC THEORY 4 credits
Prerequisite: 436. Electromagnetic theory at advanced level including electrostatic fields, dielectrics, magnetic fields of steady currents, induction, magnetic energy, Maxwell’s equations, electromagnetic waves, electrostatic fields of moving charges, adiabatic.

3650:451,2/551,2 ADVANCED LABORATORY I AND II 2 credits each
Prerequisite: 411 or permission of instructor. Applications of electronic, solid-state devices, nuclear research techniques in contemporary physics research; introduction to resonance techniques; nuclear magnetic resonance; electron spin resonance; nuclear quadrupole resonance; sorption spectroscopy, Alpha- and beta-ray spectroscopy.

3650:458/558 LABORATORY DATA ANALYSIS 3 credits
Prerequisites: 411 or 421, and 4450:206. A selection of numerical methods for the processing of data collected in the physics laboratory. Use and develop calculator and computer methods, programs to obtain correct inferences and a maximum usefulness from laboratory data.

3650:459/559 DIGITAL DATA ACQUISITION 2 credits
Prerequisites: 410 or 411, and 4450:206. Designed to introduce physics students to the use of digital techniques, microprocessors in making physical measurements.

3650:470/570 INTRODUCTION TO SOLID-STATE PHYSICS 3 credits
Prerequisite: 407 or permission of instructor. Introduction to solid-state physics. Basic concepts and quantum mechanical treatments of NMR, Bloch equations, spin-spin and spin-lattice relaxation times, steady state and transient phenomena. General features of broadline and high-resolution NMR spectra. NMR instrumentation and operating principles. Quantum applications of broadline and high-resolution NMR spectra and determination of physical and chemical structures.

3650:481,2/581,2 METHODS OF MATHEMATICAL PHYSICS I AND II 3 credits each
Prerequisite: 232, 262 or 292. Kinetic theory of gases. Temperature, entropy and irreversibility, Carnot cycle, Kelvin temperature scale; change of phase.

3650:488/588 SELECTED TOPICS: PHYSICS 1-4 credits
(May be repeated) Prerequisite: permission. Consideration of selected topics, procedures, techniques, materials or apparatus of current interest in physics.

3650:490/590 WORKSHOP 1-4 credits
(May be repeated) Group studies of special topics in physics. May not be used to meet undergraduate or graduate major requirements in physics. May be used for elective credit only.

3650:497/597 INDEPENDENT STUDY 1-4 credits
(May be repeated) Prerequisite permission. Further investigations of various selected topics in physics, under guidance of faculty member.

Graduate Courses

3650:601 ATOMIC AND NUCLEAR PHYSICS I 3 credits
Prerequisites: 301 or 407 and 3450:235 or permission of instructor. Expository, analytical treatment of fundamental principles which operate to yield observed complex behavior of matter. Introductory quantum mechanics, free particle quantum mechanics, one-electron atom.

3650:602 ATOMIC AND NUCLEAR PHYSICS II 3 credits
Prerequisite: 601 or permission. Special theory of relativity, radiation and radiative transitions. Pauli principle and exchange symmetry. Atomic spectroscopy, quantum statistics, and theory of solids. Basic properties of nuclei. Particle scattering and nuclear forces.

3650:605 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS I 3 credits
Prerequisite: permission. Review of FORTRAN and basic topics in computer science. Numerical solutions to physics problems, including Newton’s and Schrodinger’s equations. Treatment and reduction of experimental data, plotting, simulation.

3650:606 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II 3 credits
Prerequisite: 605 or permission. Data reduction, Cacomp plotting, comparison

213
of theoretical models with data, linear and non-linear least squares curve-fitting. May accommodate scientific problems of individual interest.

3650:511 PHYSICAL PROPERTIES OF MATTER I
3 credits
Prerequisite: 293. Experimental stress-strain relations of real materials, simple stress-strain analysis, brittle and ductile fracture, phenomenological theories for fracture, discussion of mechanical properties in terms of atomic and molecular structure.

3650:515 PHYSICAL PROPERTIES OF MATTER II
3 credits
Prerequisite: 611 or permission. Measurement and analysis of friction and adhesion of real materials, surface tension of liquids and solids, thermodynamics of spreading and wetting, viscosity.

3650:621 ATOMIC AND MOLECULAR SPECTRA I
3 credits
Prerequisites: 301, 3450:235 or permission of instructor. Elements of atomic theory; line spectra, electron spin and multiplet structure; building-up principle and periodic system of elements; special intensities; hyperfine structure; isotope effect; nuclear spin.

3650:622 ATOMIC AND MOLECULAR SPECTRA II
3 credits
Prerequisite: 621 or permission of instructor. Molecular bands and development of theory: rotational, vibrational and electronic bands; Raman effect, isotopic effect, intensity of bands; methods of determining molecular constants from wave number measurements.

3650:831 PHYSICS OF POLYMERS I
2 credits
Prerequisite: 3450:235 or permission of instructor. Polymeric states of matter, crystalinity, rubber elasticity, viscoelasticity, transport and electrical properties, glassy state, fracture processes. Elasticity at large strains, phenomenological viscoelasticity, dielectric properties, diffusion. Introduction to NMR spectroscopy of polymers.

3650:832 PHYSICS OF POLYMERS II
2 credits
Prerequisite: 631 or permission. Phase transitions, temperature dependence of mechanical and electrical properties, crystalline polymers, kinetics of crystallization, fracture, adhesion, wear. Applications of NMR spectroscopy to polymers.

3650:835,8 PHYSICS OF POLYMERS LABORATORY
2 credits each
I and II

3650:651 THEORECTICAL CLASSICAL PHYSICS I
3 credits
Prerequisite: 445 or permission. Inertial reference frames, generalized coordinates, Lagrange's equations, theory of small vibrations, Hamilton-Jacobi methods and theory of relativity.

3650:652 THEORECTICAL CLASSICAL PHYSICS II
3 credits
Prerequisite: 651. Maxwell's equations, space-time symmetry of field equations, field vectors in moving systems, field energy, momentum, electrodynamic, electromagnetic forces on charges, currents.

3650:661 THERMODYNAMICS AND STATISTICAL MECHANICS I
3 credits
Prerequisites: 430 and 3450:235. Introduction to basic statistical concepts. Application of statistical ideas to systems of particles in equilibrium to develop basic notions of statistical mechanics.

3650:662 THERMODYNAMICS AND STATISTICAL MECHANICS II
3 credits
Prerequisite: 661. Illustration and discussion of macroscopic and microscopic aspects of the theory. Phase transitions and quantum gases. Nonequilibrium situations and transport theory.

3650:681 QUANTUM MECHANICS I
3 credits
Prerequisites: 340:235 and permission of instructor. Recommended: 602. Thorough development of ordinary wave mechanics; matrix formulation and unitization in the more abstract Dirac formulation.

3650:682 QUANTUM MECHANICS II
3 credits
Prerequisite: 681. Angular momentum, spin, Pauli matrices, Clebsch-Gordan coefficients, spin-orbit interaction, scattering theory. Born approximation, perturbation theory; time independent and time dependent, sudden and adiabatic approximations.

3650:684 ADVANCED NUCLEAR PHYSICS
3 credits
Prerequisites: 602, 682. Quantum mechanics applied to nuclei. Interaction of radiation with nuclei, nuclear scattering, nuclear reactions, energy levels of nuclei.

3650:685 SOLID-STATE PHYSICS I
3 credits
Prerequisites: 470, 681 or permission of instructor. Theory of physics of crystallized solids. Properties of rectilinear lattice and Bloch theorem, lattice dynamics and specific heat. Electron states; cellular method, light-binding method, Green's function method.

3650:686 SOLID-STATE PHYSICS II
3 credits

3650:691 SPECIAL PROBLEMS IN THEORETICAL PHYSICS
1-4 credits
(May be repeated)
Prerequisite: permission. Intended to facilitate expansion of particular areas of interest in theoretical physics, by consultation with faculty member and independent study beyond available coursework.

3650:693 SPECIAL PROBLEMS IN EXPERIMENTAL PHYSICS
1-4 credits
(May be repeated)
Prerequisite: permission. Intended to encourage development of experimental techniques in selected areas, under faculty supervision.

3650:697 GRADUATE RESEARCH I
1-3 credits
(May be repeated)
Prerequisite: permission. Intended to facilitate expansion of particular areas of interest in experimental physics, by consultation with faculty member and independent study beyond available coursework.

3650:699 SPECIAL PROBLEMS IN EXPERIMENTAL PHYSICS
1-4 credits
(May be repeated)
Prerequisite: permission. Intended to encourage development of experimental techniques in selected areas, under faculty supervision.

3700: Political Science

3700:100 GOVERNMENT AND POLITICS IN THE UNITED STATES
4 credits
Examination of American political system with emphasis on fundamental principles, ideas, institutions and processes of modern government. Lecture and discussion sections (day classes only).

3700:110 CIVIL LIBERTIES IN AMERICA
2 credits
Not open to political science majors and cannot be used for credit toward a major in political science. Study of civil liberties issues in the United States.

3700:120 CURRENT POLICY ISSUES
2 credits
Cannot be used for credit toward major in political science. Survey of major political issues and problems confronting nation, environment in which public policies are formulated and executed.

3700:200 COMPARATIVE POLITICS
4 credits
Introduction to comparative political analysis; description of political systems of Great Britain, France, Germany and Soviet Union; contrast between democracy and totalitarianism.

3700:201 INTRODUCTION TO POLITICAL SCIENCE
3 credits
Introduction to use of contemporary approaches and techniques employed in political analysis, required of a political science major and recommended for others with good social science backgrounds.
3700:210 STATE AND LOCAL GOVERNMENT AND POLITICS
3 credits
Examination of institutions, processes and intergovernmental relations at state and local levels.

3700:220 AMERICAN FOREIGN POLICY
3 credits
Examination of American foreign policymaking process; public opinion and other limitations on policy; specific contemporary problems in selected areas.

3700:302 AMERICAN POLITICAL IDEAS
3 credits
Study of major thinkers and writers of American political thought.

3700:303 INTRODUCTION TO POLITICAL THOUGHT
3 credits
Survey of major ideas and concepts of Western political theory from pre-Socratics through period of Enlightenment.

3700:304 MODERN POLITICAL THOUGHT
3 credits
Examination of concepts of political thought from Nineteenth Century to present. Modern liberalism, communism, fascism and totalitarianism emphasized.

3700:310 INTERNATIONAL POLITICS AND INSTITUTIONS
4 credits
Relations among nations examined in political context.

3700:320 BRITAIN AND THE COMMONWEALTH
3 credits
Description and analysis of government and politics of Great Britain and leading nations of the Commonwealth.

3700:321 WESTERN EUROPEAN POLITICS
3 credits
Description and analysis of government and politics of France, Germany, Italy and Switzerland, with appropriate references to Scandinavia and Low Countries.

3700:322 SOVIET AND EAST EUROPEAN POLITICS
3 credits
Theory and practice of government and politics in Soviet Union; comparison with selected communist systems of Eastern Europe.

3700:323 POLITICS OF CHINA AND JAPAN
3 credits
Examination of governmental structures and political processes of China and Japan.

3700:325 COMPARATIVE PUBLIC POLICY
3 credits
Considers the formulation, decisions, implementation, impact of public policies in a variety of countries; the relationship of different economic and political systems to policy outcomes is observed.

3700:326 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.

3700:327 AFRICAN POLITICS
3 credits
Examination of patterns of government and politics of nations south of Sahara.

3700:330 CANADIAN POLITICS
3 credits
An examination of the institutions and processes of Canadian government: a survey of some of the pressing issues confronting public decision makers in Canada.

3700:340 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.

3700:341 THE AMERICAN CONGRESS
3 credits
Examination of structure and function of Congress, with comparative materials on legislative process on all levels. Presidential and congressional conflict examined.

3700:342 MINORITY GROUP POLITICS
3 credits
Examination of political behavior of racial, religious and ethnic minority groups in the United States.

3700:355 THE AMERICAN PRESIDENCY
3 credits
The presidency as focal point of politics, policy and leadership in American political system.

3700:390 THE JUDICIAL PROCESS
3 credits
Role of police, lawyers, courts and judges in context of American political process. Structure and process of judicial policymaking and limitations on judicial power.

3700:370 THE AMERICAN BUREaucRACY
4 credits
Examination of implementation of public policy. Administrative organization and principles stressed.

3700:380 URBAN POLITICS AND POLICIES
4 credits
Examination of problems emerging from urban and regional complexes in the United States. Structure and processes of public decision making at this level analyzed.

3700:381 STATE POLITICS
3 credits
Analysis of the state political process in terms of its capacity to deal with a wide range of socioeconomic problems. Special emphasis on legislators, administrators, parties and interest groups.

3700:382 INTERGOVERNMENTAL RELATIONS
3 credits
An examination of the history, theory, contemporary activities of intergovernmental relations in the United States. Interactions of local, state, federal units of government will be considered.

3700:391 HONORS IN POLITICAL SCIENCE
3 credits
Prerequisite: at least 17 credits and a 3.25 average in political science and permission of adviser.

3700:392 SELECTED TOPICS IN POLITICAL SCIENCE
1-3 credits
(May be repeated, but no more than three credits can be applied to major in political science)
Topics of substantial current importance, specialized topics within political science or experimental courses.

3700:395 INTERNSHIP IN POLITICAL SCIENCE
1-3 credits
Prerequisite: senior standing, 3.00 grade point average and permission of adviser.

3700:402 POLITICS AND THE MEDIA
3 credits
Examination of relationship between the press, the media and political decision makers.

3700:405/505 POLITICS IN THE MIDDLEx
3 credits
The rise of the state system in the Middle East after World War I; an analysis of the socio-cultural, ideological forces influencing the political behavior of the people of the Middle East. In-depth study of selected political systems.

3700:415/515 COMPARATIVE FOREIGN POLICY
3 credits
Prerequisite: 310 or 220 or permission. Study of foreign policies of selected nations, with special attention to processes and instruments of decision making of the major powers.

3700:420/520 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.

3700:425/525 LATIN AMERICAN POLITICS
3 credits
Prerequisite: 200 or permission of instructor. Examination of patterns of government and politics in Latin American area.

3700:440/540 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.

3700:441/541 THE POLICY PROCESS
3 credits
Prerequisite: eight credits in political science. Intensive study of policy-making process, emphasizing roles of various participants in executive and legislative branches as well as private individuals and groups.

3700:442/542 METHODS OF POLICY ANALYSIS
3 credits
Prerequisite: 201. Examines variety of methods available for analyzing public policies. Techniques of cost benefit analysis, evaluation research quasi-
experimentation are covered as well as consideration of ethical questions in policy analysis. The practical problems facing policy analysts.

3700:561 THE SUPREME COURT AND CONSTITUTIONAL LAW 4 credits
Prerequisite: 100 or 201 or permission. Interpretation of the United States Constitution by Supreme Court; judicial review in democratic political process. Special emphasis on judicial policy making in areas of civil rights and liberties.

3700:480/580 POLICY PROBLEMS 3 credits
Prerequisite: 380 or permission. Intensive study of selected problems in public policy, may be repeated for up to six credits with permission of adviser.

3700:490/590 WORKSHOP 1-3 credits
(May be repeated)
Group studies of special topics in political science. May not be used to meet undergraduate degree requirements in political science. Elective credit only.

3700:497 SENIOR HONORS PROJECT IN POLITICAL SCIENCE 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program and approval of honors program. Independent study leading to completion of senior honors thesis or other original work.

### Graduate Courses

3700:600 SEMINAR IN POLITICAL THEORY 3 credits
Prerequisite: six credits of political science or permission. Selected topics in political theory investigated in depth.

3700:610 SEMINAR IN INTERNATIONAL POLITICS 3 credits
Prerequisite: six credits of political science or permission. Analysis of current problems in theory and practice of politics and organization.

3700:620 SEMINAR IN COMPARATIVE POLITICS 3 credits
Prerequisite: six credits of political science or permission. Comparative method.

3700:630 SEMINAR IN POLITICAL DEVELOPMENT 3 credits
Prerequisite: six credits of political science or permission. Emphasis on theories of political development.

3700:631 SEMINAR IN NATIONAL POLITICS 3 credits
Prerequisite: six credits of political science or permission. Reading and research on formulation, development, and implementation of national policy in one or more areas of contemporary significance.

3700:640 SEMINAR IN POLITICAL BEHAVIOR 3 credits
Prerequisite: six credits of political science, including 440, or permission. Techniques of quantitative research in political science, and limitations of quantitative analysis.

3700:641 SEMINAR IN INTERGOVERNMENTAL RELATIONS 3 credits
Prerequisite: six credits of political science or permission. Graduate-level examination of problems resulting from changing relations between levels of government in the United States; comparisons with other federal systems.

3700:660 SEMINAR IN CIVIL LIBERTIES AND THE JUDICIAL PROCESS 3 credits
Prerequisite: six credits of political science or permission. Civil liberties and judicial process viewed in political context. Readings and research on selected topics.

3700:670 SEMINAR IN THE ADMINISTRATIVE PROCESS 3 credits
Prerequisite: six credits of political science or permission. Intensive examination of administrative implementation of public policies. Readings and research on selected topics.

3700:680 SEMINAR IN URBAN AND REGIONAL POLITICS 3 credits
Prerequisite: six credits of political science or permission. Focus on processes of policy formulation and execution in modern metropolitan community, with emphasis on structural functional context.

3700:690 SPECIAL TOPICS IN POLITICAL SCIENCE 1-3 credits
Prerequisite: six credits or permission. Graduate-level examination of selected topics in American politics, comparative politics, international politics or political theory.

3700:695 INTERNSHIP IN POLITICAL SCIENCE 2 credits
Prerequisite: permission of graduate adviser. Field experience; student is placed with officeholders, government agencies or political groups for research or practical experience of relevance to program.

3700:697 INDEPENDENT RESEARCH AND READINGS 1-4 credits
(May be repeated, but no more than six credits toward the master's degree in political science)
Prerequisite: permission.

3700:699 THESIS 2-6 credits

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### 3750: Psychology

3750:100 INTRODUCTION TO PSYCHOLOGY 3 credits
Introduction to scientific study of behavior. Survey of physiological basis of behavior, sensation and perception, development, learning and cognition, personality, social interaction and other selected topics.

3750:110 QUANTITATIVE METHODS IN PSYCHOLOGY 3 credits
Prerequisite or corequisite: 100. Presentation of data, descriptive statistics, correlation, hypothesis testing and introduction to quantitative methodologies in psychology.

3750:120 INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY 4 credits
Prerequisites: 100 and 110. Lectures plus laboratory experience concerning problems in scientific bases of psychology such as experimental design, methods and apparatus, collection and analysis of data and interpretation of results.

3750:130 DEVELOPMENTAL PSYCHOLOGY 4 credits
Prerequisite: 100. Determinants and nature of behavioral changes from conception to death.

3750:140 INTRODUCTION TO INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY 4 credits
Prerequisite: 100. Survey of applications of psychology in industry, business and government. Emphasis on understanding employees and evaluation of their behavior.

3750:300 ADVANCED EXPERIMENTAL PSYCHOLOGY 4 credits
Prerequisite: 120. Scientific methods and design in experimental investigation of human and animal behavior. Emphasis on exposure to and performance on all aspects of a single, in-depth research project in which student applies the lecture information.

3750:310 SENSORY AND PERCEPTUAL EXPERIENCE 4 credits
Prerequisite: 100. Survey of basic sensory and perceptual phenomena covering physical and psychological bases of each. Overview of major theoretical treatments and empirical findings included, plus discussion of implications for behavior.

3750:320 PHYSIOLOGICAL PSYCHOLOGY 4 credits
Prerequisite: 100. Relationship between behavior of organisms and physiological processes mediating the behavior. Brain structure and function, motivation, etc., 3100:265 desirable as background.

3750:330 MOTIVATION AND THE DYNAMICS OF BEHAVIOR 3 credits
Prerequisite: 100. Survey of behavioristic, psychoanalytic, cognitive and consistency theories to explain arousal, direction and persistence of behavior, including empirical evidence for achievement, motivation, aggression and other behaviors.

3750:340 SOCIAL PSYCHOLOGY 4 credits
Prerequisite: 100. Examination of individual's response to social environment and social interaction process; Social perception, attitude formation and change, affiliation and attraction, altruism, group processes and nonverbal behavior.
Graduate Courses

3750:500 ADVANCED GENERAL PSYCHOLOGY 4 credits
Selective review of contemporary status in various subspecialty areas in
psychology. Emphasis on current problems, new developments and changing
concepts.

3750:610 INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY 4 credits
Application of industrial/organizational psychology to industry, business and
government including occupational theory, differential psychology, personal-
nel selection and training, consumer behavior and engineering psychology.

3750:620 METHODS AND THEORIES OF HUMAN DEVELOPMENT
Survey of current research methodology and theoretical approaches to
human development with a lifespan emphasis. Reviews of theoretical
perspectives include S-R behavior theory, cognitive-organismic, information
processing and psychoanalytic approaches.

3750:630 CLINICAL PSYCHOLOGY 4 credits
Clinical techniques and approaches to study, evaluation and treatment of
abnormal behavior.

3750:695 PRACTICUM IN PSYCHOLOGICAL ASSESSMENT AND INTERPRETATION
(May be repeated)
Prerequisite: 12 credits of graduate psychology and permission. Supervised work experience in application of psychological techniques to human
assessments and interpretations.

3750:699 THESIS RESEARCH
(May be repeated)
Prerequisite: departmental permission. Research analysis of data and pre-
paration of thesis for master’s degree.

3750:700 SURVEY OF PROJECTIVE TECHNIQUES 2 credits
Prerequisite: 420 or permission. Recommended: 410, 630. Introduction to
rational analysis, assumptions and ethics of projective testing. Elementary ad-
ministration, scoring and interpretation of Rorschach and survey of other
important contemporary projective instruments.

3750:701 ADVANCED PROJECTIVE TECHNIQUES 2 credits
Prerequisite: 700. Application of projective testing to problems of diagnosis
evaluation. Practical experience in administration, scoring and inter-
pretation. Integration of projective data with other assessment techniques in
variety of settings.

3750:702 PRINCIPLES AND PRACTICE OF INTELLIGENCE TESTING 4 credits
Prerequisite: permission of instructor. History, principles and methodology of
intelligence testing, practice in administration, scoring and interpretation of
individual intelligence tests for children and adults.

3750:703 THEORIES OF PSYCHOTHERAPY 3 credits
Prerequisite: 630 recommended. Contemporary theories of psychotherapy
including Freudian, Jungian, Adlerian, Rogerian and other major systems.
Consideration given to research evaluation and ancillary therapeutic
techniques.

3750:704 THEORIES OF PERSONALITY 3 credits
Prerequisite: 630 recommended. Historical consideration of personality.
Psychoanalysis and deviations from it. Contemporary theoretical formulations,
personality dynamics, structure and organization.

3750:705 VOCATIONAL BEHAVIOR 4 credits
Prerequisite: permission. Theories and research on vocational behavior and
vocational counseling. Topics include major theories of vocational behavior,
empirical research on these theories, applied work in vocational counseling
and applied research.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3750:706</td>
<td>Counseling Psychology</td>
<td>4</td>
<td>630 and permission. Study of the background, theoretical foundations, techniques, research and application of counseling psychology as an applied science.</td>
</tr>
<tr>
<td>3750:725</td>
<td>Developmental Psychology: Prenatal, Infant, and Early Experience</td>
<td>4</td>
<td>620 or permission. Survey of psychological aspects of prenatal period, infancy and early experience. Emphasis on understanding how early experience structures adult behavior.</td>
</tr>
<tr>
<td>3750:728</td>
<td>Experimental Child Psychology</td>
<td>4</td>
<td>620 or permission. Current research in child psychology covered with some emphasis on cognitive development. Topics include language, memory, intelligence, hyperactivity and selected aspects of social development.</td>
</tr>
<tr>
<td>3750:727</td>
<td>Psychology of Adulthood and Aging</td>
<td>4</td>
<td>620 or permission. Aspects of development, aging with emphasis on life-span methodology and research design including age-related changes in intelligence, personality, sensation, perception, learning, memory and socialization and intervention approaches.</td>
</tr>
<tr>
<td>3750:728</td>
<td>Social Developmental Psychology</td>
<td>4</td>
<td>620 or permission. Examination of selected theoretical and methodological issues in study of social psychology from developmental perspective. Topics include attitude formation, sex roles, moral development, altruism, aggression, attraction, attribution processes, nonverbal behavior and cultural effects.</td>
</tr>
<tr>
<td>3750:728</td>
<td>Functional Analysis of Behavior</td>
<td>4</td>
<td>620 or permission. Behavioral approaches to treatment of maladaptive behavior. Emphasis on application of learning theory to specific topics such as development of self-control, enuresis and self-destructive behavior.</td>
</tr>
<tr>
<td>3750:730</td>
<td>Theories of Learning</td>
<td>4</td>
<td>600 or permission. Includes a comparative discussion of major traditional theories of learning, as well as analysis of contemporary issues and developments as reflected in review of selected areas of recent research.</td>
</tr>
<tr>
<td>3750:731</td>
<td>Cognitive Development</td>
<td>4</td>
<td>730 or permission. Theory and research concerning development of cognitive activities including concept formation, problem solving and thinking. Topics include major theories, research paradigms and methods of investigation and reviews of empirical findings.</td>
</tr>
<tr>
<td>3750:732</td>
<td>Human Memory and Language</td>
<td>4</td>
<td>600 or permission. Contemporary review of research and theory in language and memory. Process-oriented approach adopted with emphasis on developmental issues.</td>
</tr>
<tr>
<td>3750:733</td>
<td>Developmental Biopsychology</td>
<td>4</td>
<td>600 and 620 recommended. Survey of behavioral changes over life span with emphasis on physical, biological and physiological correlates of such change. Topics include central nervous system, skeletal and circulatory changes, metabolic and nutritional processes and endocrine mechanisms.</td>
</tr>
<tr>
<td>3750:734</td>
<td>Environmental Psychology</td>
<td>4</td>
<td>600 and 620 recommended. Study of major questions concerned with environmental management and control and relationship of these areas to developmental psychology, motivation, learning and animal behavior.</td>
</tr>
<tr>
<td>3750:735</td>
<td>Perceptual Development</td>
<td>4</td>
<td>600 or permission. Analysis of developmental characteristics of perceptual and sensory processes. Topics include major theories of perception, methods of investigation and review of empirical findings.</td>
</tr>
<tr>
<td>3750:740</td>
<td>Industrial Gerontology</td>
<td>4</td>
<td>610 and 620. Study of age-related issues in work involving adult and older adult workers. Topics include personnel selection, training, motivating and appraising older employees, health and safety, job design, vocational guidance, and retirement.</td>
</tr>
<tr>
<td>3750:750</td>
<td>Advanced Psychological Tests and Measurements</td>
<td>4</td>
<td>610. Analysis of test construction techniques and statistical analyses of tests with a review of published tests and measurements used in psychology. Study of psychometric theory and principles.</td>
</tr>
<tr>
<td>3750:751</td>
<td>Organizational Psychology</td>
<td>4</td>
<td>610. Study of relationships between organizational characteristics and human behavior.</td>
</tr>
<tr>
<td>3750:753</td>
<td>Training and Organizational Development</td>
<td>4</td>
<td>610. Review of industrial training methods and techniques in terms of learning theory, with consideration of techniques to evaluate these training and organizational development programs.</td>
</tr>
<tr>
<td>3750:754</td>
<td>Research Methods in Psychology</td>
<td>2-4</td>
<td>610, 620. Scientific method and its specific application to psychology. Topics include data collection, validity, reliability, use of general linear model and its alternatives and power analysis.</td>
</tr>
<tr>
<td>3750:755</td>
<td>Computer Applications in Psychological Research</td>
<td>4</td>
<td>610. Practicum in application of computers to psychological research including data collection, analysis and interpretation. Also covers computer simulation of decision making including use of different models.</td>
</tr>
<tr>
<td>3750:756</td>
<td>Role of Attitudes and Values in Industrial/Organizational Psychology</td>
<td>4</td>
<td>610. Consideration of role of attitudes and values on cross-cultural issues of comparative management, selection, training, work motivation and consumer behavior.</td>
</tr>
<tr>
<td>3750:757</td>
<td>Organizational Motivation and Leadership</td>
<td>4</td>
<td>610. Identification, description, analysis and techniques for implementation of intrinsic and extrinsic incentives during work activity. Leadership process and its relation to motivation and group performance also analyzed.</td>
</tr>
<tr>
<td>3750:758</td>
<td>Engineering Psychology and Job Design</td>
<td>4</td>
<td>610. Survey of field of engineering psychology. Covers such topics as job design, task analysis, man-machine systems analysis, working conditions and accidents.</td>
</tr>
<tr>
<td>3750:780</td>
<td>Graduate Seminar in Psychology</td>
<td>1-4</td>
<td>610. May be repeated. Supervised research on a topic deemed suitable by the dissertation committee.</td>
</tr>
<tr>
<td>3750:795</td>
<td>Advanced Counseling Practicum</td>
<td>4</td>
<td>610. May be repeated for a total of eight credits. Prerequisites: 606, two semesters (eight credits) of 695 and permission. This course provides graduate student in counseling with actual client contacts under supervisor.</td>
</tr>
<tr>
<td>3750:797</td>
<td>Independent Reading and/or Research</td>
<td>1-3</td>
<td>610. May be repeated. Individual readings and/or research on a topic under supervision of faculty member with whom specific arrangements have been made.</td>
</tr>
<tr>
<td>3750:899</td>
<td>Dissertation Research</td>
<td>1-12</td>
<td>610. Open to a properly qualified student. Required minimum 12 credits; maximum subject to departmental approval. Supervised research on topic deemed suitable by the dissertation committee.</td>
</tr>
</tbody>
</table>

3850: Sociology

3850:100 Introduction to Sociology | 4 credits |
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<tr>
<td>Basic terminology, concepts and approaches in sociology, including introduction to analysis of social groups and application of sociological concepts to the understanding of social systems. Required of majors. Lecture/Discussion.</td>
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</table>

3850:104 Social Problems | 3 credits |
<table>
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<tr>
<td>Prerequisite: 100 or permission. Analysis of selected contemporary problems.</td>
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</tbody>
</table>
3850:301 METHODS OF SOCIAL RESEARCH I 3 credits
Prerequisite: 100 and 3450.111, 112, 113 or permission. Combination lecture and a laboratory course requiring at least five laboratory hours per week. Research design, data gathering techniques and statistical procedures. Required of majors. Lecture/Laboratory.

3850:302 METHODS OF SOCIAL RESEARCH II 3 credits
Prerequisite: 301. Continuation of 301. Required of majors. Lecture.

3850:315 SOCIOLOGICAL SOCIAL PSYCHOLOGY 3 credits
Prerequisite: 100. The reciprocal influence of individuals and groups. How interpersonal processes produce and affect group structure. How groups affect the development and behavior of the social person.

3850:320 SOCIAL INEQUALITY 3 credits
Prerequisite: 100 or permission. Study of the way social rankings occur in societies and how particular rankings affect individual behavior, group relations and social structures. Lecture.

3850:321 POPULATION 3 credits
Prerequisite: 100 or permission. An introduction to world and national population trends, related demographic and social characteristics. Topics include fertility, mortality, morbidity, migration, abortion, birth control, population policy in relation to societal problems. Lecture.

3850:322 SOCIAL CHANGE 3 credits
Prerequisite: 100 or permission. Introduction to theories and processes of social change, dimensions of change in contemporary, traditional and urban-industrial societies; projection and prediction of selected trends and forms. Lecture.

3850:324 SOCIAL MOVEMENTS 3 credits
Prerequisite: 100 or permission. Social movements as distinguished from other forms of collective behavior; analysis of social situations which produce social movements; focus on development of social movements and their role in social change. Lecture.

3850:333 SOCIAL BEHAVIOR IN ORGANIZATIONS 3 credits
Prerequisite: 100 or permission. Analysis of the structure of such complex organizations as voluntary associations, business organizations and public bureaucracies, in relation to issues including organizational effectiveness, organizational design and change, job satisfaction and quality of work experience. Lecture.

3850:336 SOCIOLOGY OF WORK AND OCCUPATIONS 3 credits
Prerequisite: 100 or permission. Survey of theory and empirical research in areas such as the structure of occupations and professions, occupational attainment, workforce characteristics, work values and orientations; the nature of work. Lecture.

3850:340 THE FAMILY 3 credits
Prerequisite: 100 or permission. Analysis of family as a social system; historical, comparative and contemporary sociological approaches examined in relation to family structure and functions. Lecture.

3850:341 POLITICAL SOCIOLOGY 3 credits
Prerequisite: 100 or permission. Survey of theory and empirical research dealing with relationship between political phenomena and the larger network of social processes in human societies. Lecture.

3850:342 SOCIOLOGY OF HEALTH AND ILLNESS 3 credits
Prerequisite: 100 or permission. General survey of sociological perspectives, concepts and research on health, illness and health care delivery systems. Lecture.

3850:343 THE SOCIOLOGY OF AGING 3 credits
Prerequisite: 100 or permission. Examination of process of aging from perspective of behavioral and sociological aspects. Lecture.

3850:344 THE SOCIOLOGY OF SEX ROLES 3 credits
Prerequisite: 100 or permission. Examination of differentiation in roles, behaviors in women, men including theory, evidence on origins and determinants of differences, on stability and change in sex roles.

3850:355 SPECIAL TOPICS IN SOCIOLOGY 1-3 credits
(May be repeated)
Prerequisite: permission. Special topics of interest to sociology major and nonmajor not covered in regular course offerings.

3850:397 SOCIOLOGICAL READINGS AND RESEARCH 1-3 credits
Prerequisite: individual study of problem area of specific interest to individual student under guidance of department member. Preparation of a research paper.

3850:401/501 HISTORY OF SOCIOLOGICAL THOUGHT 3 credits
Prerequisite: 100 or permission. Examination of major scholars in the classical sociological tradition. Lecture.

3850:404/504 CONTEMPORARY SOCIOLOGICAL THEORIES 3 credits
Prerequisite: 403 or permission. Examination and critical evaluation of works of modern sociological theorists, emphasizing current theoretical approaches to issues of social order and social change. Lecture.

3850:411/511 SOCIAL STRUCTURES AND PERSONALITY 3 credits
Prerequisite: 100 or permission. Interrelationships between position in society, personality characteristics. Personality treated as both result and determinant of social structure and process. Lecture.

3850:412/512 SOCIALIZATION: CHILD TO ADULT 3 credits
Prerequisite: 100 or permission. Theoretical and empirical analyses of process by which infant, child, adolescent and adult learn social and cultural requirements necessary to function in new roles, changing roles and society in general.

3850:421/521 RACIAL AND ETHNIC RELATIONS 3 credits
Prerequisite: 100 or permission. Analysis of structure and dynamics of race and ethnic relations from a variety of perspectives emphasizing both historical and contemporary issues. Lecture.

3850:425/525 SOCIOLOGY OF URBAN LIFE 3 credits
Prerequisite: 100 or permission. Emergence and development of urban society. Examination of urban social structure from neighborhood to metropolis, the problems and prospects. Emphasis on various life-styles of urban subcultures. Lecture/Discussion.

3850:430/530 JUVENILE DELINQUENCY 3 credits
Prerequisite: 330 or 430. Analysis of social structure and process from which delinquency develops. Emphasis on current and past research. Lecture/Discussion.

3850:431/531 CORRECTIONS 3 credits
Prerequisite: 330 or 430. Theories, belief systems, correctional practices and effectiveness as related to offender groups. Lecture.

3850:432/532 PROBATION AND PAROLE 3 credits
Prerequisite: 330 or 430 or permission. Analysis of how probationers and parolees are selected, supervised and then released into private life. Emphasis on current and past research. Lecture/Discussion.

3850:433/533 SOCIOLOGY OF DEVIANT BEHAVIOR 3 credits
Prerequisite: 100 and at least six additional credits of sociology courses or permission. Survey of theories of deviant behavior and relevant empirical research. Special emphasis given to interaction processes and social control. Lecture.

3850:440/540 SOCIOLOGY OF RELIGION 3 credits
Prerequisite: 100 or permission. Study of forms of religion and their social functions with emphasis on religion in American society. Lecture.

3850:441/541 SOCIOLOGY OF LAW 3 credits
Prerequisite: 100 and at least six additional credits of sociology courses or permission. Social origins and consequences of law and legal processes. Emphasis on uses of law, social change and aspects of legal professions. Lecture.
3850:442/452 SOCIOLOGY OF EDUCATION 3 credits
Prerequisite: 100 or permission. Analysis of education from an organizational and social psychological perspective. Topics include desegregation, busing, neighborhood schools, impact of family, peers and teachers on learning, school organization, lecture.

3850:443/453 INDUSTRIAL SOCIOLOGY 2 credits
Prerequisite: Six credits of sociology or industrial management. Comparison of formal and informal structures in industrial organizations; analysis of work roles and status systems, communication processes, relation of work plants, community and society, lecture.

3850:444 ISSUES IN SOCIAL GERONTOLOGY 2 credits
Prerequisite: 343 or permission. A look into the major issues and problems facing older persons. Special attention is given to the unmet needs of the elderly as well as an examination of current societal policy and programs to meet these needs.

3850:454/554 WORKSHOP IN SOCIOLOGY 1-3 credits
(May be repeated)
Group studies of special topics in sociology. May not be used to meet departmental undergraduate or graduate major requirements. May be used for elective credit only.

3850:495 RESEARCH INTERNSHIP 2-4 credits
(May be repeated for credit)
Prerequisite: 302, 321; 3.00 average in sociology and overall; or permission. Placement in selected community organization for supervised experience in all phases of a social research project. Student must receive permission from instructor during semester prior to enrollment.

3850:496 SENIOR HONORS PROJECT 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: enrollment in Honors Program and senior standing, and major in sociology and sociology/anthropology. Thesis or original creative work appropriate to student’s area of interest. Requirements and evaluation of project determined by departmental honors preceptor and student’s honors project adviser.

Graduate Courses

3850:600 FUNDAMENTALS OF SOCIOLOGY 3 credits
Accelerated introduction to sociology for the graduate student deficient in sociological background or from other disciplines who intends to take further graduate courses in sociology. Lecture.

3850:603 SOCIOLOGICAL RESEARCH METHODS 3 credits
Advanced research methods, including advanced statistical techniques. (Same as KSU 7221) Lecture/Laboratory.

3850:604 SOCIAL RESEARCH DESIGN 3 credits
Intensive analysis of problems in research design, i.e., those encountered in thesis preparation. (Same as KSU 7221) Seminar or dissertation.

3850:607 COMPUTER APPLICATIONS IN SOCIAL SCIENCES 3 credits
Prerequisite: elementary statistics course or permission of instructor. Introduction to computers and their applications in social sciences. (Same as KSU 7214) Seminar.

3850:613 SOCIOLOGY OF PROGRAM EVALUATION AND PROGRAM IMPROVEMENT 3 credits
Prerequisite: permission. Program evaluation as it occurs in different social programs. Topics include history of evaluation, value assumptions, political dimensions, ethical issues, social change, use of experimentation and alternatives and the use for program development. (Same as KSU 82119) Seminar.

3850:615 EPIDEMIOLOGIC METHODS IN HEALTH RESEARCH 3 credits
Prerequisite: permission. Designed to introduce the student to methods of developing and understanding information concerning the distribution of illness and injury in society and evaluations of interventions to reduce the burden.

3850:617 SOCIOLOGICAL THEORY 3 credits
Examination of major theoretical frameworks, concepts that form the foundation of sociological thought. Emphasis on contemporary sociological theory, its debt to classic works. (Same as KSU 72106) Seminar.

3850:618 ADVANCED CONCEPTUAL ANALYSIS 3 credits
Critical examination of concepts held fundamental in sociological diagnoses. Evaluation of them from logical, semantical and operational perspectives. Assessment of their utility to development of sociological theories. (Same as KSU 82106) Seminar.

3850:630 GENERAL SYSTEMS THEORY 3 credits
Prerequisite: 618. Analysis of general systems theory as basis for model of society and as heuristic framework for theory and research. (Same as KSU 82107) Seminar.

3850:631 SOCIAL PSYCHOLOGY 3 credits
Intensive examination of social psychological theory and research, both classical and contemporary. Provides student with background and working knowledge of social psychological aspects of social phenomena. (Same as KSU 72430) Seminar.

3850:632 SMALL GROUP THEORY 3 credits
Prerequisite: permission. Theoretical and applied aspects of small group dynamics. Topics include leadership emergence, effective group development and functioning, power, norms and individual behavior, among others. (Same as KSU 72432) Seminar.

3850:633 PERSONALITY AND SOCIAL SYSTEMS 3 credits
Examination of contemporary theory and research on linkages between personality and society. Some applications in studies of modernization, social class and occupations and sex roles. (Same as KSU 72433) Seminar.

3850:635 SOCIOLOGY OF COMMUNICATION 3 credits
Examination of communication media, content, audiences and impact within sociological context. (Same as KSU 72434) Seminar.

3850:636 CRITIQUE OF MASS COMMUNICATIONS RESEARCH 3 credits
Prerequisite: permission. Systematic evaluation of theoretical, methodological and empirical aspects of significant studies of mass communication. (Same as KSU 72546) Seminar.

3850:639 SOCIOLOGY OF SEX ROLES 3 credits
Prerequisite: permission. Advanced review of theories and research on origins, characteristics and changes in sex roles. Emphasis on recent empirical research on sex role patterns and processes in Western industrial societies. Seminar.

3850:645 SOCIAL ORGANIZATION 3 credits
General survey of major theories, concepts and problems pertaining to creation, alteration and dissolution of social organization at various levels of size and complexity. (Same as KSU 72446) Seminar.

3850:646 SOCIAL STRATIFICATION 3 credits
Prerequisite: permission. Seminar dealing with social class and status with special reference to American social structure. (Same as KSU 72545) Seminar.

3850:648 COMPLEX ORGANIZATIONS 3 credits
Prerequisite: permission. Organizations as social systems; their effect on individuals. Properties of professionals in bureaucracies. (Same as KSU 72545) Seminar.

3850:649 SOCIOLOGY OF WORK 3 credits
Examination of work as a behavior phenomenon in human societies; contrasts with network and leisure; significance of occupations, professions and work types in organization of work. (Same as KSU 72442) Seminar.

3850:651 SEMINAR IN RELATION RELATIONS 3 credits
Prerequisite: permission. Analysis of the structure and dynamics of race and ethnic relations with attention given to both historical and contemporary issues. (Same as KSU 72470) Seminar.

3850:653 CONFLICT 3 credits
Prerequisite: permission. Current conceptions of human conflict. Discussion of vital concepts and principles for understanding conflict phenomena. Power, values, ideology, riots, revolution and war. (Same as KSU 72575) Seminar.

3850:657 URBAN HEALTH CARE 3 credits
Prerequisite: permission. Relationships between urban social structures and processes and organization and funding of health care delivery systems in urbanized nations. Seminar.

3850:658 FIELD RESEARCH IN URBAN LIFESTYLES 3 credits
Prerequisite: permission. Examination of various lifestyles in contemporary urban society. Explores issues of theory and methodology in urban lifestyles research through evaluation of both classic and contemporary studies. Includes application of concepts and techniques in actual field research.

3850:663 DEVIANCE AND DISORGANIZATION 3 credits
Prerequisite: permission. Examination of nature and types of deviance. Problems and issues in theory and research. (Same as KSU 72570) Seminar.
SOCIOL0GY OF CRIMINAL BEHAVIOR 3 credits
Analysis of the development of crime and deviancy to social structure and social processes. Responses to criminal justice agencies. (Same as KSU 7255) Seminar.

JUVENILE DELINQUENCY: THEORY AND RESEARCH 3 credits
Prerequisite: permission. Analysis of theories of delinquency, ecological, class structural, subcultural, etc. Review of relevant research also presented. (Same as KSU 7262) Seminar.

SOCIOL0GY OF CORRECTIONS 3 credits
Prerequisite permission. Analysis of correctional institutions as social systems. Its formal structure and informal dynamics. Analysis of present state of corrections research. (Same as KSU 7264) Seminar.

FAMILY ANALYSIS 3 credits
Analysis and evaluation of sociological theory and research in the family. Concentration on techniques of theory construction and research design in sociological study of the family. (Same as KSU 7254) Seminar.

SOCIAL GERONTOLOGY 3 credits
Prerequisite: permission. Impact of aging upon individuals and society. Reactions of individuals and society to aging. (Same as KSU 7257) Seminar.

POLITICAL SOCIOLoGY 3 credits
Description, analysis and interpretation of political behavior through application of sociological concepts. (Same as KSU 7254) Seminar.

SOCIOLOGY OF EDUCATION 3 credits
Selected problems in sociological analysis of educational systems. Emphasis on such social determinants as class, race, family, and peer subcultures. (Same as KSU 7254) Seminar.

CROSS CULTURAL PERSPECTIVES IN AGING 3 credits
Prerequisite permission. A comparison of aging in various cultures and societies around the world.

POPULATION 3 credits
Analysis of basic population theory and methods. Trends and differentials in fertility, mortality, migration and selected social demographic variables also considered. (Same as KSU 7253) Seminar.

SOCIAL CHANGE 3 credits
Advanced seminar in theories of social change. (Same as KSU 7232) Seminar.

HUMAN ECOLOGY 3 credits
Selected problems in analysis of social behavior in relation to physical environment. Overview of theory, methods and applications of human ecology. (Same as KSU 7255) Seminar.

URBAN SOCIOLOGY 3 credits
Seminar in theory and measurement of social ecology of urban areas. Emphasis on trends and differentials in distribution of social and organizational behavior in urban America. Seminar.

READINGS IN CONTEMPORARY SOCIOLOGICAL LITERATURE 1-3 credits
Prerequisites: 6 credits of sociology and permission of adviser, instructor and head of department. Intensive reading and interpretation of written material in student’s chosen field of interest. Regular conferences with instructor.

DIRECTED RESEARCH 1-3 credits
(May be repeated.) Prerequisite: permission. Empirical research to be conducted by the student under graduate faculty supervision.

THESIS 2-6 credits
(May be repeated for a total of six credits.) Prerequisite: permission. Supervised thesis writing.

COLLEGE TEACHING OF SOCIOLOGY 2 credits
Prerequisite: teaching assistant or permission. Training and experience in college teaching of sociology Not approved as credit toward a degree. Seminar.

THEORY AND MEASUREMENT OF SOCIAL ATTITUDES 3 credits
Prerequisites: 603 and 604, or permission. Seminar in theories of social attitudes and techniques for their measurement. (Same as KSU 7213) Seminar.

MULTIVARIATE TECHNIQUES IN SOCIOLOGY 3 credits
Prerequisites: 603 and 604, or permission. A sociology graduate student only. Methodological problems using advanced multivariate techniques in analysis of sociological data. Topics include nonexperimental causal analyses such as recursive and nonrecursive path analysis. (Same as KSU 82120.)

MEASUREMENT IN SOCIOLOGY 3 credits
Prerequisite: permission. Theory and measurement of social attitudes and techniques for their measurement. (Same as KSU 7221) Seminar.

SURVEY RESEARCH METHODS 3 credits
Prerequisites: 603 and 604, or permission. In-depth study of design and administration of social surveys. (Same as KSU 8212) Seminar.

EXPERIMENTAL AND QUASI-EXPERIMENTAL RESEARCH IN SOCIOLOGY 3 credits
Prerequisites: 603 and 604, or permission. Application of experimental and quasi-experimental methods in sociological research with special attention given to appropriate designs, statistical analyses and empirical literature. Seminar.

QUALITATIVE METHODOLOGY 3 credits
Prerequisites: 603, 604, or permission. Theory building and theory testing through the application of such techniques as participant observation, open-ended interviewing, content analysis, historiography (diaries, records from churches, schools, social agencies, and other contemporary sources) and qualitative statistics. (Same as KSU 8212) Seminar.

THEORY CONSTRUCTION 3 credits
Study of rules and methods for constructing scientific theory. Emphasis on writings of scientists and philosophers of science and application of these ideas to development of sociological theories. (Same as KSU 72101) Seminar.

SPECIAL TOPICS IN SOCIOLOGICAL THEORY 1-3 credits
Open course to cover content area not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 82109) Seminar.

EARLY SOCIOLOGICAL THOUGHT 3 credits
Prerequisite: 617 or permission. Two to four major sociological thinkers prior to 1930 examined in depth. Specific persons considered will be chosen by instructor but will be announced well in advanced of beginning of class. (Same as KSU 72431) Seminar.

SCHOOLS OF SOCIOLOGICAL THOUGHT 3 credits
(May be repeated once for credit.) Prerequisite: 617 or permission. Two distinct schools of sociological thought will be selected by the instructor for in-depth reading and comparative analysis. (Same as KSU 82105) Seminar.

SMALL GROUP RESEARCH TECHNIQUES 3 credits
Prerequisite: 632. Application and implications of research in small groups. Focus on both laboratory and field studies. Seminar/Laboratory.

CONTEMPORARY TRENDS IN SOCIAL PSYCHOLOGY 1-3 credits
Selected topics on significant contemporary issues, theories and methodological development in social psychology. (Same as KSU 82439) Seminar.

RESEARCH IN SOCIAL PSYCHOLOGY 1 credit
Prerequisite: 631. Design and development of a research project oriented to empirically examining selected concepts in social psychology or to testing selected propositions in social psychology. (Same as KSU 72431) Research Seminar.

URBAN SOCIOLOGY 3 credits
Analysis of theories of urban process and review of major contributions to empirical analysis of urban life. (Same as KSU 72672) Seminar.

RESEARCH IN COMMUNITY AND AREA PROBLEMS 3 credits
Prerequisite permission. Special investigation of community area or regional problems: design and execution of small projects. (Same as KSU 72656) Seminar.
3850:753 SPECIAL TOPICS IN SOCIAL ORGANIZATION 1-3 credits
Open course to cover content area not readily subsumable under other headings. Content of course to be determined by instructor. (Same as KSU 82549) Seminar.

3850:754 ISSUES IN URBAN ANALYSIS 1-3 credits
Special topics seminar dealing with current and special topics in urban process and its analysis. (Same as KSU 82059) Seminar.

3850:755 RESEARCH IN SOCIAL ORGANIZATION 1 credit
Prerequisite 615. Design and development of a research project oriented to empirically examining selected concepts in social organization or to testing selected propositions in social organization. (Same as KSU 72541) Research.

3850:756 SEMINAR IN URBAN PROCESSES 3 credits
Prerequisite: Th.D. standing in sociology of permission. Critical examination of current research and theory related to urban life, special emphasis on social change in urban environment. (Same as KSU 82650) Seminar.

3850:767 SPECIAL TOPICS IN DEVIANCE AND DISORGANIZATION 1-3 credits
Designed to meet needs of student with interest in selected topics in deviance and disorganization. (Same as KSU 82769) Seminar.

3850:768 RESEARCH IN DEVIANCE AND DISORGANIZATION 1 credit
Prerequisite: 663. Provides for analysis of research problems in deviance and disorganization and for development of research projects in above area. (Same as KSU 82239) Seminar.

3850:790 CONTEMPORARY ISSUES IN SOCIAL CHANGE 1-3 credits
Prerequisite 687 or permission. Varying topics focusing on current research and theory in field of social change. Advanced notice in specific content will be provided by instructor. (Same as KSU 72321) Research.

3850:791 RESEARCH IN SOCIAL CHANGE 1 credit
Prerequisite: 687 Continuation of 681. Student prepares a major research paper based on theoretical material covered in 680 and presents it for discussion to the seminar. (Same as KSU 72321) Research.

3850:792 RESEARCH IN HUMAN ECOLOGY 1 credit
Prerequisite: 688. Intensive research on selected aspect of human ecology by individual student with previous training in the area. Topic to be arranged between student and instructor. (Same as KSU 72651) Research.

3850:797 SPECIAL INDIVIDUAL INVESTIGATION 1-3 credits each
Prerequisites: one semester of graduate work, permission of instructor, adviser and head of department. Readings and/or research supervised by member of graduate faculty. (Same as KSU 72651) Research.

3850:899 DISSERTATION 1-10 credits
(Must be repeated for a minimum of 30 credits) Dissertation. (Same as KSU 82659) Dissertation.

3870:150 CULTURAL ANTHROPOLOGY 4 credits
Introduction to study of culture: cross-cultural view of human adaptation through technology, social organization and ideology. Lecture.

3870:151 PHYSICAL ANTHROPOLOGY 3 credits

3870:257 INDIANS OF SOUTH AMERICA 3 credits
Prerequisite: 150 or 3850:101 or permission. Survey of aboriginal peoples of South America, with emphasis on culture areas and continuity of culture patterns. Lecture.

3870:258 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.

3870:356 NEW WORLD PREHISTORY 3 credits
Prerequisite: 150 or 3850:102, or permission. Survey of prehistoric cultures of North America, beginning with peopling of Western Hemisphere and ending with European contact. Lecture.

3870:357 MAGIC, MYTH AND RELIGION 3 credits
Prerequisite: 150 or 3850:100. Evolutionary transformations of magic and ritual into science and technology. Examination of animism, totemism and other forms of prehistoric religions. Mana, totem and other religious and social symbols. Lecture.

3870:397 ANTHROPOLOGICAL RESEARCH 1-3 credits
Prerequisite: permission. Individual study of problem areas of specific interest to an individual student under guidance of a faculty member.

3870:455/555 CULTURE AND PERSONALITY 3 credits
Prerequisite: 150 or permission. Examination of functional and causal relationships between culture and individual cognition and behavior. Lecture.

3870:461/561 LANGUAGE AND CULTURE 3 credits
Prerequisite: 150 or permission. Examination of language structure and interaction of language, cognition and culture. Lecture.

3876:463/563 TYPES OF KINSHIP AND SOCIAL ORGANIZATION 3 credits
Prerequisite: 150 or permission. Comparative structural analysis of non-Western systems of kinship and social organization in terms of status, role, reciprocal expectation, nomenclature, nuclear and extended households and other kinship groupings. Lecture.

3870:472/572 SPECIAL TOPICS: ANTHROPOLOGY 3 credits
(May be repeated)
Prerequisites: 150 and permission. Designed to meet needs of student with interests in selected topics in anthropology. Offered irregularly when resources and opportunities permit. May include archaeological field schools, laboratory research or advanced coursework not presently offered by department on regular basis.

3870:491/591 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

3870:551 SEMINAR IN ANTHROPOLOGICAL THEORIES AND METHODS 3 credits

3870:597 INDIVIDUAL INVESTIGATION 1-3 credits
Prerequisite: permission of instructor and head of department. Intensive reading and/or research in student's chosen field of interest. Regular conferences with instructor. Preparation of a research paper.

3940: Polymer Science

3940:301 INTRODUCTION TO ELASTOMERS 3 credits
Prerequisite: one year of organic chemistry or permission. History and preparation of natural rubber. Methods utilized for production of synthetic rubbers outlined. Laboratory experiments include compounding, processing, vulcanization and testing of rubber products.

3940:302 INTRODUCTION TO PLASTICS 3 credits
Prerequisite: 301 or permission. Plastics industry and its manufacturing methods discussed. Plastics compounding for both thermoplastic and thermosetting materials discussed with emphasis on processing and testing as illustrated by laboratory experiments.

3940:303 SPECIAL PROJECTS IN POLYMER SCIENCE 1-2 credits
Prerequisite: 302. Research projects at a limited scope for student desiring experience with a professor working in a specific field. The course would be designed to give the student the processes involved in outlining projects, setting up equipment, collecting and recording research data in a scientific manner.
3940:407 POLYMER SCIENCE 4 credits
Prerequisite: 3150:314 or 3650:301 or permission. Principles of polymerization processes and relationships between molecular structures and physical behavior of polymers, Molecular weight distributions of macromolecules discussed and methods of determining molecular weights utilized.

3940:411/511 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS I 3 credits
Prerequisite: 301 or 302 or permission. Interdisciplinary course involving the principles of chemistry and physics are brought to bear on relationships between molecular structure and chemical composition of macromolecules and their physical properties.

3940:412/512 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS II 2 credits
Prerequisite: 411/511 or permission. Mechanical characterization of polymeric materials, the Boltzmann superposition principle and fracture. Experimental techniques involving stress-strain behavior, stress relaxation, creep, forced and free vibrations discussed.

3940:413/513 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS III 2 credits
Prerequisite: 412/512 or permission. Deformation of bounded rubber units. Interdisciplinary view of molecular structure and composition of macromolecules and their properties.

3940:414 SEMINAR IN POLYMER SCIENCE 1-2 credits
New and unsolved problems of polymer science discussed from interdisciplinary view of materials sciences. A student prepares one or more formal technical presentations related to chemical aspects of field.

3940:415 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS LABORATORY 2 credits
Prerequisite: 413 or permission. Laboratory experiments involving the topics covered in the prerequisite courses.

3940:416 EXTRUSION AND MOLDING 3 credits
Prerequisite: 302 or permission. Principles of polymer science discussed from interdisciplinary view of materials sciences. A student prepares one or more formal technical presentations related to chemical aspects of field.

3940:417 ADHESIVES AND COATING 2 credits
Prerequisite: 302 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.

3940:418 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.

3940:490/590 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

3940:604 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.

3940:610 INORGANIC POLYMERS 2 credits
Prerequisite: 3150:472 or 601 or permission. Survey course designed to broaden outlook of typical graduate student beyond chemistry and physics of carbon chains.

3940:613 POLYMER SCIENCE LABORATORY 2 credits
Prerequisite or corequisite: 701, 3150:501 or permission of instructor. Laboratory experiments in synthesis, characterization, physical properties and processing and testing of polymers.

3940:899 MASTER'S RESEARCH 1-6 credits
Prerequisite: permission. For properly qualified candidate for master's degree. Supervised original research in polymer science, under direction of faculty member, followed by submission of thesis.

3940:701 POLYMER TECHNOLOGY I 2 credits
Prerequisites: either 3150:314, 3650:301, or 4200:305 or permission. Chain-like structure of large molecules; fundamental theories of chemical conformation and statistical mechanics developed to degree that their applications to polymeric problems can be discussed.

3940:708 MACROMOLECULAR CHAIN STRUCTURE 2 credits
Prerequisites: either 3150:314, 3650:301, or 4200:305 or permission. Chain-like structure of large molecules; fundamental theories of chemical conformation and statistical mechanics developed to degree that their applications to polymeric problems can be discussed.

3940:711 SPECIAL TOPICS: POLYMER SCIENCE 2 credits
Prerequisite: permission. Study of topics of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular substances and including laboratory work where applicable.

3940:712 SPECIAL TOPICS: POLYMER SCIENCE 2 credits
Prerequisite: permission. Study of topics of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular science.

3940:713 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.

3940:899 DOCTORAL RESEARCH IN POLYMER SCIENCE 1-6 credits
Prerequisite: permission. Study of topics of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular substance.

3980: Urban Studies

Graduate Courses

3980:590 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.

3980:600 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.

3980:601 ADVANCED RESEARCH AND STATISTICAL METHODS 3 credits
Prerequisite: 600. Extends study of social science to include more advanced research designs and multivariate statistical techniques.

3980:602 AMERICAN URBAN DEVELOPMENT 3 credits
Exploration of major literature on processes of urbanization in United States and selected facets of urban institutional development.

3980:610 URBAN POLITICS 3 credits
Prerequisite: permission. Empirical analysis of urban political structure and major political problems.

3980:811 URBAN ADMINISTRATION 3 credits
Prerequisite: permission. Organization and management characteristics of various types of governmental units examined within framework of organization and management theory.
31180:841 URBAN ECONOMIC GROWTH
Prerequisite: permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.

31180:843

Prerequisite: permission. Examination of 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 (government) and private (business and the professions) sphere are studied in relation to classical literature in ethical theory.

3908520 SOCIAL SERVICES PLANNING
Prerequisite: permission. In-depth analysis of total social service requirements and various ways in which social service planning function is carried out in urban communities.

3980:631 URBAN SOCIETY AND SERVICE SYSTEMS
Prerequisite: permission. Analysis of social service of urban society, hierarchies, social problems, relationships to planning, public services.

3980:630 PLANNING CONCEPTS AND METHODS
Prerequisite: permission. Examination of types, forms, approaches and nature of planning at various levels and critical appraisal of development and redevelopment process.

3980:631 FACILITIES PLANNING
Study of need, process and limitation of urban facilities planning.

3980:632 LAND USE CONTROL
Prerequisite: permission. Acquaint student with past and present approaches to land use control in the United States and examine the political, economic, social and legal forces which have shaped existing land use legislation.

3980:633 URBAN PLANNING THEORY AND INNOVATION
Prerequisite: permission. Acquaint student with the theories, premises and assumptions upon which present urban planning and innovation are based so as to provide student with a greater understanding of the intellectual bases of the field.

3980:634 URBAN DESIGN PLANNING
Prerequisites: 630 and permission. The purpose of the course is to acquaint student with the history, theory and general practice of urban design activity in a variety of settings including the neighborhood, the community and the region.

3980:635 FIELD METHODS IN URBAN AND REGIONAL PLANNING
Prerequisites: 630, 631, 632, 634, 3350:542 or 3350:544 or equivalent. Provides student with a detailed practical experience in conceptualizing and implementing a solution to an issue or problem in urban or regional planning using the planning process model.

3980:636 PARKS AND RECREATION
Prerequisite: permission. Deals with theory, practice, evaluation of recreational administration, planning parks planning.

3980:640 FISCAL ANALYSIS
Prerequisite: permission. Study of revenue and expenditure patterns of the city's government.

3980:641 URBAN ECONOMIC GROWTH AND DEVELOPMENT
Prerequisite: permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.

3980:642 MUNICIPAL BUDGETING
Prerequisite: permission. Theories, premises, assumptions, methodologies upon which municipal budgeting are based.

3980:643 URBAN POLICY ANALYSIS
Prerequisite: permission. Develop and apply conceptual, technical capabilities to the emphasis of public policy in American cities. Identification of major policy issues, measurement techniques and analytical models of public policy, analysis of policy formulation and choice making process, analysis of policy impact, the problems and processes of public implementation.

3980:650 COMPARATIVE URBAN SYSTEMS
Prerequisite: permission. Conceptual schemes and methodology for comparative urban analysis among a number of major cities selected from each continent.

3980:670 PLANNING RESEARCH
Prerequisites: statistical methods and completion of eight credits of core curriculum or permission. Emphasizes advanced work in problems of definition, conceptual logic or urban research, sampling, questionnaire design, planning report development and writing and advanced quantitative procedure.

3980:671 PROGRAM EVALUATION IN URBAN STUDIES
Prerequisite: 650 or equivalent. Major considerations appropriate for conducting evaluations of a wide variety of human service programs and policies affecting urban and metropolitan areas.

3980:680, 1 SELECTED TOPICS IN URBAN STUDIES
Prerequisite: permission. Selected topics in specific areas of urban planning, in various developmental processes of cities, or in various urban policy and administrative issues. (A maximum of 27 credits may be earned in 680 and 691.)

3980:690 URBAN STUDIES SEMINAR
Prerequisite: permission. Concepts of urban studies core plus quantitative methods. Urban research methods applied to specific urban research area. Comprehensive paper required.

3980:695 INTERNSHIP
(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.

3980:697 INDIVIDUAL STUDIES
(May be repeated for a total of four credits)
Directed individual readings or research on specific area or topic.

3980:700 ADVANCED RESEARCH METHODS
Prerequisite: demonstrated use of statistical techniques at master's level or permission. Statistical methodologies used in doctoral and postdoctoral research. Examples drawn from both social and natural scientific methodologies with emphasis on urban problems, independent and original research leading to better understanding of our complex urban environment. Attempts to develop new theories of urbanization encouraged.

3980:701 URBAN THOUGHT
Prerequisite: permission. Critical examination of major ideas about the city from Aristotle to Twentieth Century and of impact of urbanization on society and public policy.

3980:702 BUREAUCRACY AND THE PUBLIC INTEREST
Prerequisite: permission. Seminar designed to analyze public bureaucracy and public interest as central phenomena of contemporary public administration in urban America.

3980:703 PROGRAM EVALUATION
Prerequisite: permission. Provides concepts for student in evaluation of programs, both external and internal, to work settings.

3980:704 IMPLEMENTATION OF PUBLIC POLICY
Analysis of administrative process within public organizations, federal, state and local, in United States; emphasis on urban community.

3980:705 PLANNING STRATEGIES AND EVALUATION OF PLANS
Prerequisite: permission. Analysis of urban planning issues and strategies for implementation in public policy formulation. Emphasis on use of planning process as integrative mechanism.

3980:706 URBAN TUTORIAL
Prerequisite: permission. Intensive study of a particular approved field or topical area of urban studies with tutor. Student enrolls in a total of 12 hours of tutorial credit and more than 12 only if tutorial field is changed, as approved by Committee on Doctoral Studies. In no case will a student enroll in more than three credits per term.

3980:899 DISSERTATION RESEARCH
(May be repeated)
Often to properly qualified student accepted as candidate for Doctor of Philosophy degree. Student must register for at least three credits each semester until dissertation is accepted. Minimum of 15 credits required.
College of Engineering

4100: General Engineering

4100:100 ENGINEERING DESIGN 1 credit
Introduction of freshman engineering student in problem-solving techniques in engineering design. Required of all entering engineering freshmen in Evening College.

4100:201 ENERGY AND ENVIRONMENT 2 credits
Interactions between energy production, consumption and environment. Case studies. Not for engineering, chemistry or physics majors.

4100:202 ATMOSPHERIC POLLUTION 2 credits

4100:300 COOPERATIVE EDUCATION WORK PERIOD 0 credit
Elective for Cooperative Education Program student who has completed sophomore year. Practice in industry and comprehensive written reports of this experience.

4100:301 COOPERATIVE EDUCATION WORK PERIOD 0 credit
Required for Cooperative Education Program student only. Practice in industry and comprehensive written reports of this experience. Offered spring semester of third year.

4100:302 COOPERATIVE EDUCATION WORK PERIOD 0 credit
Required for Cooperative Education Program student only. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year.

4100:403 COOPERATIVE EDUCATION WORK PERIOD 0 credit
Required for Cooperative Education Program student only. Practice in industry and comprehensive written reports of this experience. Offered summer after fourth year.

4200: Chemical Engineering

4200:120 ENGINEERING FUNDAMENTALS 1 credit
Prerequisite: 3150:133. Introduction to problem solving and format, computational exercises, dimensions, units physical measurements.

4200:200 MATERIAL AND ENERGY BALANCES 4 credits
Prerequisites: 3450:221 and 3150:134. Introduction to material, energy balance calculations applied to solution of chemical problems.

4200:305 MATERIALS SCIENCE 2 credits
Prerequisites: 3150:133 and 3650:292 and junior standing. Structure, processing and properties of metals, ceramics and polymers. Special topics, such as composites, corrosion and wear.

4200:321 FLUID, THERMAL TRANSFER THEORY 3 credits
Prerequisite: 200. Constitutive equations for momentum and energy transfer. Development of microscopic and macroscopic momentum and energy equations. Analogy and dimensions corrections. Problems and applications in unit operations of chemical engineering.

4200:322 THERMAL, MASS TRANSFER THEORY 3 credits
Prerequisite: 301. Constitutive equations for mass transfer. Development of microscopic and macroscopic momentum, energy and mass transfer equations for binary systems. Problems and applications in unit operations of chemical engineering.

4200:325 EQUILIBRIUM THERMODYNAMICS 4 credits
Prerequisite: 200. Second law of thermodynamics, entropy, applications, comprehensive treatment of pure and mixed fluids. Phase and chemical equilibria, flow processes, power production and refrigeration processes covered.

4200:351 FLUID AND THERMAL OPERATIONS 3 credits
Prerequisite: 321. Applications of fluid mechanics including piping, pumping, compression, metering, agitation and separations. Applications of heat transfer by conduction, convection and radiation to design of process equipment.

4200:352 TRANSPORT LABORATORY 2 credits
Prerequisite: 322. Experiments in fluid, heat and mass transfer. Data collection, analysis and reporting in various formats. Relationships to theory emphasized.

4200:353 MASS TRANSFER OPERATIONS 3 credits
Prerequisites: 322, 325. Theory and design of stage operations including distillation, extraction, absorption. Theory and design of continuous mass transfer devices.

4200:354 OPERATIONS LABORATORY 1 credit
Prerequisite: 353. Comprehensive experiments and analysis in combined heat and mass transfer, thermodynamics and reaction kinetics. Comprehensive reports.

4200:408 POLYMER ENGINEERING 3 credits
Prerequisite: permission or senior standing. Commercial polymerization, materials selection and property modification, polymer processing, applied rheology and classification of polymer industry.

4200:430 CHEMICAL REACTION ENGINEERING 3 credits
Prerequisite: 325. Nonequilibrium processes including chemical reaction mechanisms, rate equations and ideal reactor design applied to homogeneous and heterogeneous systems.

4200:435 PROCESS ANALYSIS AND CONTROL 3 credits
Prerequisite: 353 or 430. Response of simple and chemical processes and design of appropriate control systems.

4200:441 PROCESS ECONOMICS AND DESIGN 4 credits
Prerequisite: 353. Economic evaluation of chemical plants including justification, profitability, capital investment and operating costs. Design of chemical process equipment.

4200:442 PLANT DESIGN 4 credits
Prerequisite: 441. Integration of process and equipment design for a total plant including justification, site selection and plant layout. Culminates with a case study or A.I.Ch.E. Student Contest Problem.

4200:451/561 SOLIDS PROCESSING 3 credits
Prerequisites: 321 and 353 or permission. Air and water pollution sources and problems. Engineering aspects and methodology.

4200:452/552 POLLUTION CONTROL 3 credits
Prerequisite: 353 or permission. Air and water pollution sources and problems. Engineering aspects and methodology.

4200:453/553 DIGITIZED DATA AND SIMULATION 3 credits
Prerequisite: Permission. Data acquisition and analysis by digital devices, digital control applications and design.

4200:460 TOPICS IN CHEMICAL ENGINEERING 1-3 credits
Prerequisite: permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, bioengineering, instantaneous heat and mass transfer phenomena and new separation techniques.

4200:470 HONORS PROJECT 1-3 credits
Prerequisite: special permission. Individual creative project pertinent to chemical engineering culminating in undergraduate thesis, supervised by faculty member of the department.

4200:499 RESEARCH PROJECT 1-3 credits
Prerequisite: permission. Individual research project pertinent to chemical engineering under faculty supervision. Report required.

Graduate Courses

4200:800 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 analogies.
4200:605 CHEMICAL REACTION ENGINEERING 3 credits
Prerequisite: 430 or permission. Kinetics of homogeneous and heterogeneous systems. Reactor design for ideal and nonideal flow systems.

4200:610 CLASSICAL THERMODYNAMICS 3 credits
Prerequisite: 325. Discussion of laws of thermodynamics and their application. Prediction and correlation of thermodynamic data. Phase and reaction equilibria.

4200:630 CHEMICAL PROCESS DYNAMICS 3 credits
Prerequisite: 600. Development and solutions of mathematical models for chemical processes including models based on transport phenomena principles, population balances, and systems analysis.

4200:635 ADVANCED POLYMER ENGINEERING 3 credits
Prerequisite: 322 or 600 or permission. Reactors for polymerization, polymer characterization, polymer processing, and polymer rheology.

4200:640 ADVANCED PLANT DESIGN 3 credits
Prerequisite: permission. Topical treatment of process and equipment design. Scale-up, optimization, process syntheses, process economics. Case problems.

4200:698 TOPICS IN CHEMICAL ENGINEERING 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, bioengineering, simultaneous heat and mass transfer phenomena and new separation techniques.

4200:699 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. or Ph.D. or E. degree. Designed to expand an area of interest by consultation with a faculty member and independent study with a faculty beyond available coursework. Credit dependent upon nature and extent of project as determined by faculty member and independent study head.

4200:699 MASTERS THESIS 1-6 credits
(May be repeated to a maximum of six credits)
For properly qualified candidate for master's degree. Supervised original research in specific area of chemical engineering selected on basis of availability of staff and facilities.

4200:701 ADVANCED TRANSPORT PHENOMENA 2 credits
Prerequisite: 600. Advanced theory of transport phenomena such as applied tensor analysis, constitutive equations, multicomponent reactive transport and multiphase transport. Illustrative practical examples presented.

4200:706 ADVANCED REACTION ENGINEERING 2 credits
Prerequisite: 605. Kinetics of heterogeneous systems, fluidized reactors, immobilized enzymes, etc., with additional topics drawn from current literature.

4200:711 NONEQUILIBRIUM THERMODYNAMICS 2 credits
Prerequisite: 610. Thermodynamic-phenomenological theory of irreversible processes and its applications.

4200:715 MOTIONAL TRANSPORT 3 credits
Prerequisite: 600. Discussion of potential flow, boundary layer formation and turbulent flow phenomena for Newtonian fluids.

4200:718 NON-NEWTONIAN FLOW 3 credits

4200:720 ENERGY TRANSPORT 3 credits
Prerequisite: 600. Conduction, natural and forced convection, and radiation heat transfer starting with equations of continuity, motion and energy.

4200:721 TOPICS IN ENERGY TRANSPORT 2 credits
Prerequisite: 720. Advanced analytical and graphical methods for solving complex heat transfer problems found in chemical engineering.

4200:725 MASS TRANSFER 3 credits
Prerequisite: 600. Theory of mass transfer with applications to adsorption, distillation and heterogeneous catalysis.

4200:731 PROCESS CONTROL 3 credits
Prerequisite: 630. Introduction to modern theory of chemical processes including cascade control, multivariate control and data sampled control.

4200:736 POLYMER ENGINEERING TOPICS 2 credits
Prerequisite: permission. Selected topics of current interest in polymer engineering, such as modeling of reactors or processes, multiphase materials, multiphase flow, artificial fiber engineering, etc.

4200:750 POLLUTION CONTROL ENGINEERING 2 credits
Prerequisite: 463 or permission. Advanced waste treatment methods as applied to chemical process industries.

4200:794 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. Intended for student seeking Ph.D. in Engineering degree.

4200:898 PRELIMINARY RESEARCH 1-15 credits
(May be repeated for a total of 15 credits)
Prerequisite: approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

4200:899 DOCTORAL DISSERTATION 1-15 credits
(May be taken more than once)
Prerequisite: completion of preliminary examination and approval of Advisory Committee. Original research by Ph.D. candidate.

4300: Civil Engineering

4300:130 INTRODUCTION TO ELEMENTARY DYNAMICS 1 credit
Introduction to industrial engineering for freshman engineering student. Tasks and opportunities of civil engineering. Introduction to engineering problem-solving techniques. Required of all civil engineering freshmen.

4300:201 STATICS 3 credits
Corequisites: 3450:222 and 3650:291. Forces, resultants, couples, equilibrium of force systems; distributed forces; centers of gravity, analysis of simple structures; moments of inertia, kinetics.

4300:222 INTRODUCTION TO MECHANICS OF SOLIDS 3 credits
Prerequisite: 201. Axial force, bending moment diagrams, axial stress and deformation; stress-strain diagrams; torsion; flexural stress; flexural shear; compound stresses.

4300:230 SURVEYING 4 credits

4300:308 THEORY OF STRUCTURES 3 credits
Prerequisite: 202. Stability and determinacy; statically determinate trusses and frames; approximate frame analysis influence lines; moving loads; virtual work analysis; moment area theorem; theorem of three moments; moment distribution for continuous beams and frames.

4300:313 SOIL MECHANICS 3 credits
Prerequisite: 202 or permission. Physical properties of soils. Soil and groundwater flow. Stresses, displacements, volume changes, consolidation within a soil mass. Soil strength, Compaction.

4300:314 GEOTECHNICAL ENGINEERING 3 credits
Prerequisite: 313. Limiting equilibrium within a soil mass. Design of retaining walls, bulkheads, shallow, deep foundation systems. Slope stability. Laboratory study of soil properties, behavior.

4300:323 WATER SUPPLY AND WASTEWATER DISPOSAL 3 credits

4300:341 HYDRAULIC ENGINEERING 2 credits

4300:361 TRANSPORTATION ENGINEERING 2 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.

4300:380 ENGINEERING MATERIALS LABORATORY 1 credit
Prerequisite: 202. Study of laboratory instrumentation and standard techniques in testing of engineering materials. Data analysis.

4300:401 STEEL DESIGN 3 credits
Prerequisite: 365. Tension, compression members; gusset joints; beams; bearing plates; beam-columns; bolted, welded connections.
4300:403 REINFORCED CONCRETE DESIGN 3 credits
Prerequisite: 306. Ultimate strength analysis and design; compression steel; diagonal tension; stirrups; development length; one-way slab; T-beams; two-way slabs; columns; isolated and combined footings.

4300:404 ADVANCED STRUCTURAL DESIGN 3 credits
Prerequisites: 401 and 403. Composite design, plate girders; plastic design; cantilever retaining walls; torsion in R/C members; deflection of R/C members; continuous girder bridge design.

4300:407 ADVANCED MECHANICS OF SOLIDS 3 credits
Prerequisite: 202. Inelastic torsion analysis twisting of noncircular bar and hollow members; bending of unsymmetrical sections; inelastic beam bending; beams of two materials: curved beams; shear center; strain transformation; yield criteria; skew bending; Castigliano's theorem; conjugate beam.

4300:414 DESIGN OF EARTH STRUCTURES 3 credits

4300:418/518 SOIL AND WATER ENGINEERING 3 credits
Prerequisites: 323. Introduction to hydrologic simulation, reservoir planning and water supply studies. Analysis of precipitation and flood control. Hydrologic analysis, reservoir planning and water supply studies. Analysis of rainfall and floods.

4300:423/523 WAVE AND CURRENT ENGINEERING 3 credits
Prerequisite: 341 or permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysics and geophysical methods including seismic, electrical resistivity, gravity, magnetic and electro-magnetic measurements. Air photo interpretation.

4300:425/525 ROCK EXPLORATION 3 credits

4300:426/526 ENVIRONMENTAL ENGINEERING DESIGN 2 credits
Analysis of environmental control systems for water and wastewater treatment. Use of computer programming for evaluation of various regional, metropolitan and urban areas to determine most economical system for water supply and pollution control.

4300:427 HYDRAULIC DESIGN 3 credits
Prerequisite: 341. Collection and critical evaluation of hydraulic data related to actual design problem selected by instructor. Development and analysis of design alternatives. Preparation of reports.

4300:433/533 APPLIED AERODYNAMICS 3 credits
Prerequisite: 341. Review of design principles: aerodynamics, steam channel mechanics, sedimentation, civil engineering.

4300:435 HYDROLOGY 3 credits

4300:436 HYDRAULICS LABORATORY 1 credit
Prerequisite: 401. Introduction to laboratory and field devices for hydraulic measurements. Reduction and presentation of hydraulic data. Individual assignments of model studies of hydraulic structures.

4300:450 URBAN PLANNING 2 credits
Prerequisites: 401, 402. Comprehensive review of urban planning techniques and patterns; comprehensive master planning studies; planning regulations; design problems; class projects; class project presentation.

4300:451, 551 MATRIX ANALYSIS OF STRUCTURES 3 credits
Prerequisite: 306 or equivalent. Use of matrix algebra, structural analysis concepts. Stiffness formulation of bars, beams, frames. Solution of linear algebraic equations. Computer program implementation, application.

4300:452 STRUCTURAL VIBRATIONS AND EARTHQUAKES 3 credits

4300:463 TRANSPORTATION PLANNING 2 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.

4300:464 HIGHWAY DESIGN 3 credits
Prerequisite: 361. Step-by-step study of modern highway design techniques and construction practice.

4300:471 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.

4300:472 CONSTRUCTION ENGINEERING 3 credits
Prerequisite: senior standing or permission. Construction engineering techniques and management. Techniques of various engineering construction operations including blasting, tunneling, concrete framework and dewatering.

4300:473 CONSTRUCTION MATERIALS 2 credits
Prerequisites: 380. Composition, structure and mechanical behavior of structural materials such as concrete, wood, masonry, plastics and composite materials. Discussion of applications and principles of evaluating material properties.

4300:474/574 UNDERGROUND CONSTRUCTION 2 credits
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.

4300:482 SPECIAL PROJECTS 1-2 credits
Prerequisites: senior standing and permission. Directed individual or group research or study in student's field of interest. Topic subject to approval by adviser.

4300:497 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

4300:601 ADVANCED MECHANICS OF MATERIALS 3 credits

4300:604 DYNAMICS OF STRUCTURES 3 credits

4300:605 STRUCTURAL STABILITY 3 credits

4300:606 ENERGY METHODS AND ELASTICITY 3 credits

4300:607 PRESTRESSED CONCRETE 3 credits
Prerequisite: 404. Basic concepts. Design of double-tee roof girder; shear; development length; column; piles; design of highway bridge girder; pre-cast.
tensioned, posttensioned; continuous girders; corbels; volume-change forces; connections.

4300:908 MULTISTORY BUILDING DESIGN 3 credits
Prerequisite: 401. Floor systems; staggered truss system; braced frame design; unbraced frame design; drift indices; monocoque (tube and slender tube) systems; earthquake design; fire protection. Analysis by STRUDL.

4300:809 FINITE ELEMENT ANALYSIS I 3 credits
Prerequisite: 602. Introductory development of finite element method as applied to various topics from continuum mechanics. Such areas as plane, axisymmetric and 3-D stress analysis; conduction, fluid mechanics; transient problems and geometric and material nonlinearity.

4300:811 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 or continuous media. Principles of stress, strain, deformation, shear strength and pore water pressure as applied to mechanical behavior of soil masses.

4300:812 ADVANCED SOIL MECHANICS 3 credits
Prerequisite: 314. Study of mechanics of behavior of soil as continuum. Analysis and interpretation of field and laboratory test results. Interpretation of in-situ and laboratory soil testing. Testing procedures, applicability, limitations. General evaluation of geotechnical parameters for routine and special site conditions. One lecture, two laboratories per week.

4300:914 FOUNDATION ENGINEERING I 3 credits
Prerequisite: 311 or permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundation systems. Pile driving and load test procedures and analysis. Theory and design of earth-retaining structures including retaining walls, sheet and bulkheads.

4300:915 FOUNDATION ENGINEERING II 3 credits
Prerequisite: 814 or permission. Soil-structure interaction theory and applications to underground structures including conduits, tunnels and shafts. Advanced foundation construction methods and problems including deepening methods, soil stabilization, underpinning and cofferdams. Slope stability analysis.

4300:818 ROCK MECHANICS 3 credits
Prerequisite: 602 or permission. Mechanical nature of rocks; linear elasticity and application to rock problems; inelastic behavior or rocks; time dependence and effects of pore pressure; experimental characterization of rock properties; failure theory and crack propagation.

4300:820 SANITARY ENGINEERING PROBLEMS 2 credits
Prerequisite: 323. Application of both laboratory methods and theory to solution of sanitary engineering problems involving water pollution, stream regeneration, special industrial wastes, detergents and other substances.

4300:822 WATER TREATMENT PLANT DESIGN 3 credits
Prerequisite: permission. Design of water treatment plants for potable, industrial and commercial uses. Development of water sources, treatment methods and financing used to design best practical methods in terms of cost-benefits.

4300:823 WASTEWATER TREATMENT PLANT DESIGN 3 credits
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 water quality criteria. Economic analyses made to determine best practical designs to be utilized.

4300:824 ENGINEERING MANAGEMENT OF WATER UTILITIES 2 credits
Prerequisite: permission. Comprehensive study of various functions of water utility and engineering management operations pertaining to intake and treatment processes. Fundamentals of operation and studies offered to a student seeking engineering fundamentals applicable to water utility systems.

4300:825 WATER AND WASTEWATER PROCESSES I 3 credits
Prerequisite: 423. Theory, current research associated with physical/chemical processes, the impact on design-coagulation/flocculation, sedimentation, filtration, absorption processes emphasized.

4300:828 WATER AND WASTEWATER PROCESSES II 3 credits
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.

4300:940 ADVANCED FLUID MECHANICS 3 credits
Prerequisite: 4600:310 or permission. Basic equations, Navier-Stokes equations, Analysis of potential flow, turbulence, hydraulic transients, Solution of typical fluid mechanics problems. Analysis of water hammer in pipe networks by method of characteristics.

4300:944 OPEN CHANNEL HYDRAULICS 3 credits
Application of basic principles of fluid mechanics to flow in open channels. Criteria for analysis of uniform, gradually varied and rapidly varied flows. Study of movement and transportation of sediments. Design problems utilizing numerical techniques.

4300:945 APPLIED HYDROLOGY 3 credits
Discussion of water cycle such as precipitation, evaporation, stream flows, floods, infiltration. Methods of analysis and their application to studies of water demand, storage, transportation including mathematical modeling of urban runoff and statistical hydrology.

4300:846 COASTAL ENGINEERING 3 credits
Characteristics of linear and nonlinear wave theories. Interaction of structures, waves; design analysis of shore, offshore structures. Movement, transportation of sediments in lake shore areas.

4300:881 ADVANCED ENGINEERING MATERIALS 3 credits
Selected topics on principles governing mechanical behavior of materials with respect to elastic, plastic and creep responses. Stress rupture, low and high cycle and thermal fatigue. Failure theories and fracture phenomena in brittle and ductile materials. Crack propagation and life prediction of engineering materials.

4300:682 ELASTICITY 3 credits
Prerequisite: 602. Plane stress, plane strain. Two-dimensional problems in rectangular, polar coordinates. Stress-energy methods. Stress, strain in three dimensions; Torsion; Bending Thermal stresses.

4300:883 PLASTICITY AND VISCOELASTICITY 3 credits

4300:684 ADVANCED REINFORCED CONCRETE DESIGN 2 credits

4300:885 ADVANCED STEEL DESIGN 3 credits

4300:697 SPECIAL PROBLEMS 1-2 credits
Prerequisite: Supervised research or directed individual study in student's major field. Topic selected by student, subject to approval by adviser.

4300:698 SPECIAL PROBLEMS 1-2 credits
Prerequisite: 697 and permission. Continuation of 697. Individual research should lead to final report of publishable quality.

4300:699 MASTER'S THESIS 1-6 credits
Prerequisite: permission. Research and thesis on some suitable topic in civil engineering as approved by department. Defense of thesis is by final examination.

4300:701 EARTHQUAKE ENGINEERING 3 credits

4300:702 PLATES AND SHELLS 3 credits

4300:703 APPLICATION IN PLASTICITY AND VISCOELASTICITY 3 credits
Prerequisite: 602. Formulation of boundary value. Problems in plasticity and viscoelasticity. Correspondence principle. Solution approaches to practical problems, e.g., problems with cylindrical and spherical symmetry, torsional and two-dimensional problems.

4300:704 FINITE ELEMENT ANALYSIS II 3 credits

4300:717 SOIL DYNAMICS 3 credits
Prerequisite: 614 or permission. Vibration and wave propagation theory relating to soils, soil-structures and foundations. Dynamic behavior of soils. Design of foundations for dynamic loading impact, pulsating and blast loads.
4400:100 ENGINEERING DESIGN 1 credit
Introduction of freshman engineering student to problem-solving techniques. Required of all entering electrical engineering freshmen.

4400:231 CIRCUITS I 3 credits
Prerequisite: 4502:291, corequisite: 3450:223. Fundamentals of circuit analysis, including loop and nodal methods, phase techniques, resonance, polyphase circuits, and magnetic coupling in circuits.

4400:332 CIRCUITS II 3 credits

4400:320 BASIC ELECTRICAL ENGINEERING 4 credits

4400:333 CIRCUITS III 3 credits

4400:334 CIRCUITS IV 3 credits
Prerequisite: 333. Network topology, node, mesh, loop cut-set, and state variable analysis and solutions, matrix formulations, and transform theory and techniques. Computers in network design and analysis.

4400:343 ELECTRICAL MEASUREMENTS 4 credits

4400:344 INSTRUMENTATION 3 credits
Prerequisites: 343, 362. Analysis and characteristics of transducers, indicating instruments, and recorders used in electrical measurements.

4400:363 ELECTROMAGNETIC FIELDS I 4 credits
Prerequisite: 3450:223. Static and dynamic fields treated on vector basis with Maxwell's equations in point and integral forms. Dynamic electromagnetic fields with applications, including particle dynamics and propagation equations.

4400:359 TRANSMISSION LINES AND NETWORKS 3 credits
Prerequisites: 333, 362. Steady state and transient analysis of distributed parameter circuits, low and high frequency applications. Networks for transmissions.

4400:382 ELECTRONIC CIRCUITS 4 credits
Prerequisites: 363, 333. Equivalent circuits for electronic devices. Time and frequency domain analysis. Rectification, voltage and power amplification, feedback, oscillators, linear and IC's.

4400:383 SWITCHING AND LOGIC 4 credits
Prerequisites: 232, 343. Analysis of computer circuits. Introduction to Boolean algebra and mapping techniques in analyzing switching circuits. Sequential circuits.

4400:371 CONTROL SYSTEMS I 3 credits
Prerequisites: 333. Introduction to servomechanisms and feedback. Modeling and response of feedback control systems. Stability of linear systems. Experiments include analog simulation and basic servomechanism.

4400:380 ILLUMINATION 2 credits
Fundamentals of illumination and principles underlying specifications and design for adequate electrical lighting.

4400:381 ENERGY CONVERSION I 3 credits
Prerequisites: 231, 353. Sources of energy, principles of energy conversion, thermodynamic limitations. Electric energy from fossil fuel, MHD, nuclear energy, solar energy, hydro, wind and geothermal energy. Transfomers.

4400:382 ENERGY CONVERSION II 4 credits
Prerequisite: 381. Transformers, induction, synchronous machines, single-phase machines.

4400:383 APPLICATION OF MOTORS 3 credits
Prerequisite: 367. Apparatus and circuits for control of electric motors. Calculation of accelerating time and duty cycles. Selection of motors for various applications.

4400:384 ADVANCED MACHINERY 3 credits

4400:391 PROBLEMS 1-3 credits
(May be taken more than once) Prerequisite: permission of department head. Select comprehensive problems, supervised discussions and computation periods.

4400:421/521 ENGINEERING ECONOMY 3-2 credits
(May be taken more than once) Prerequisite: 3250:244 and senior standing in engineering. Presents engineering economics as distinguished from classical economic theory.

4400:445 COMMUNICATION SYSTEMS 3 credits
Prerequisites: 333, 353, 362. Communications systems, equipment, noise, modulation, antennas, propagation, electronic communication circuits, frequency standards, communication satellites.

4400:446 ELECTRONIC SYSTEMS 3 credits
Prerequisites: 445. Study of specific state-of-the art electronic systems: primary and secondary radar, telemetry systems, video systems, data communications, navigational systems.

4400:447 RANDOM SIGNALS 3 credits
Prerequisite: 333. Applications of set theory, discrete and continuous sample space, probability, random variables, distribution functions, density functions, stochastic processes, random signals, system function, power spectrum, and correlation functions.

4400:448 COMMUNICATION THEORY 3 credits
Prerequisite: 447. Spectral analysis and Fourier transforms, random variables and processes: amplitude, frequency and phase modulation; representations of noise in modulation; threshold in frequency modulation; data transmission; communication system and noise calculations.

4400:452 INTRODUCTION TO LASERS 3 credits
Prerequisites: 333, 363. Introduction to basic concepts of maser (laser) action, emission processes and their roles in laser action, types of lasers, presentation of general operating criteria.

4400:454 ELECTROMAGNETIC FIELDS II 3 credits
Prerequisite: 367 or permission. Advanced field theory including boundary value problems and nonlinear fields. Applications of Maxwell's equations, antennas.

4400:455 MICROWAVES 4 credits
Prerequisites: 353, 359. Dynamic fields, Maxwell's equation and wave equations. Field analysis of waveguides, microwave components, techniques and systems.

4400:461 PHYSICS OF ELECTRONIC DEVICES 3 credits

4400:746 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.

4400:794 ADVANCED SEMINAR IN CIVIL ENGINEERING 1-3 credits
(May be repeated for a total of nine credits) Prerequisite: permission of department head. Advanced projects, reading and other studies in various areas of civil engineering. Instructor seeking Ph.D. in engineering degree.

4400:898 PRELIMINARY RESEARCH 1-15 credits
(May be repeated for a total of 15 credits) Prerequisite: completion of preliminary examination and approval of Advisory Committee. Original research by Ph.D. candidate.

4400:899 DOCTORAL DISSERTATION 1-15 credits
(May be repeated for a total of 15 credits) Prerequisite: approval of Advisory Committee and corequisite: 232. Study of topics in electrical engineering and other studies in various areas of civil engineering. Intended for student seeking Ph.D. in engineering degree.
BJT and FET devices, electron emission and ballistic, gaseous discharge, dielectric and magnetic materials. Device modeling.

4400:444 PULSE ELECTRONICS 4 credits

4400:445/446 COMPUTER CIRCUITS 4 credits
Prerequisite: 363. Electronic circuit analyses in logic circuits; methods of sequential, threshold logic analysis, synthesis, development of computer arithmetic elements; memory, storage devices.

4400:467/468 SOLID-STATE DEVICES 2 credits
Prerequisite: 362. Static and dynamic behavior of p-n junction and junction transistors. Theory of avalanche and Zener breakdown, FET, pinch diode and Gunn effect oscillator.

4400:489 INDUSTRIAL ELECTRONICS 3 credits
Prerequisite: 362, 382. Application of electronic devices at power levels intended for those specializing in power area of electrical engineering rather than electronic areas.

4400:475/476 CONTROL SYSTEMS II 4 credits
Prerequisite: 371. State variable analysis, design of control systems, discrete systems analysis, digital computer control. Experiments include hybrid, AC control system, digital computer control.

4400:489/490 SYMMETRICAL COMPONENTS 3 credits
Prerequisite: 382. Per unit method as applied to power system calculations. Fundamental principles of symmetrical components as applied to analysis of electrical circuits and machines.

4400:491 ELECTRICAL POWER SYSTEMS I 3 credits
Prerequisite: 382. Introduction to electricity utility load flow, faulty analysis, stability, surge protection and relaying.

4400:492 ELECTRICAL POWER SYSTEMS II 3 credits
Prerequisite: 382. Introduction to industrial power systems. Local generation, power factor correction, conductor selection, code requirements, coordination of protective devices.

4400:497 HONORS PROJECT 1-3 credits
May be repeated for a total of (at least) six credits. Prerequisite: Senior standing in Honors Program. Individual creative project of design relevant to electrical engineering, supervised by faculty member of the department.

4400:499/495 TOPICS IN ELECTRICAL ENGINEERING 1-2 credits
(May be taken more than once). Prerequisite: permission of department head. Special topics in electrical engineering.

**Graduate Courses**

4400:631 CIRCUIT ANALYSIS 3 credits
Prerequisite: graduate standing. Operational methods, time domain analysis, state variable methods and matrix techniques applied in circuit analysis. Realizability and synthesis of driving point impedance and transfer functions.

4400:641 RANDOM SIGNAL ANALYSIS 3 credits
Prerequisite: 447. Analysis, interpretation and smoothing of engineering data through application of statistical and probability methods.

4400:642 STATISTICAL COMMUNICATIONS 3 credits
Prerequisite: 448 or 641. Detection and estimation of signals in communication systems, linear and nonlinear systems, random inputs, narrow band systems, mean squared error filter, modulation and information theory.

4400:651 ELECTROMAGNETIC FIELDS 3 credits
Prerequisite: graduate standing in electrical engineering. Introduction to advanced electromagnetic concepts at graduate level.

4400:652 ADVANCED ELECTROMAGNETICS 3 credits

4400:681 DESIGN OF DIGITAL SYSTEMS 3 credits
Prerequisite: 465. Applications of logic circuits in modern digital electronic computer and in digital communication systems. Computer organization and control, input/output devices and interface standards, advanced topics in computers.

4400:682 TOPICS IN ELECTRONICS 3 credits
Prerequisite: permission of department head. Discussions of recent advances in electronics.

4400:687 DISCRETE CONTROL SYSTEMS 3 credits
Prerequisite: 472/572 or permission. Theory, techniques for analysis, design of discrete control systems. Z-transform technique, stability analysis, frequency response. Optimization. Digital computer control.

4400:687 CONTROL SYSTEM THEORY 3 credits
Prerequisite: 472/572. Advanced modern control theory for linear, nonlinear systems. Controllability, observability, state variable feedback, estimator, control nonlinear system analysis, stability problem.

4400:688 RANDOM PROCESS ANALYSIS 3 credits
Prerequisite: 672. Analysis of the design of control systems with stochastically defined input. Introduction to estimation filters.

4400:689 POWER SYSTEM ANALYSIS 3 credits
Prerequisite: 490. Short circuit and load flow analysis of power systems with emphasis on computer solution. Transient machine analysis.

4400:690 ELECTRONICS IN POWER SYSTEMS 3 credits
Prerequisite: 691. Analysis of power system of transient stability of power systems.

4400:692 ADVANCED TOPICS IN ELECTRONICS 3 credits
Prerequisite: 490. Principles and application of electronics as applied to protection of power systems.

4400:695 SURGE PROTECTION 3 credits
Prerequisite: 480. Phenomena of lightning and switching surges on electrical systems. Protection of power systems with system protection and insulation coordination.

4400:696 SPECIAL PROBLEMS 3 credits
(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 nature and extent of project.

4400:709 MASTER'S THESIS 1-6 credits
Prerequisite: permission of department head. Research and thesis on some suitable topic in electrical engineering.

4400:753 TOPICS IN ELECTROMAGNETICS 3 credits
Prerequisite: 651. Introduction to advanced techniques in fields. Topics include application of Green's functions and related boundary value problems.

4400:776 OPTIMAL CONTROL I 3 credits
Prerequisite: 674. Formulation of the optimization problem, application of variational calculus, maximum principle and optimality principle to control problems. Computational techniques in optimization.

4400:777 OPTIMAL CONTROL II 3 credits
Prerequisite: 776. Sensitivity problem in optimal control, system identification, implementation and the application of adaptive control.

4400:778 ADVANCED TOPICS IN CONTROL 3 credits
Prerequisite: 775. Discussions of recent advances in control systems.

4400:794 ADVANCED SEMINAR 1-3 credits
(May be taken more than once). Prerequisite: permission of department head. Advanced level coverage of specialized topics. For students seeking Ph.D. in engineering.

4400:999 PRELIMINARY RESEARCH 1-15 credits
(May be repeated). Prerequisite: completion of Qualifying Examination and approval of Student Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.
4450: Engineering Computer Science

4450:206 FORTRAN (SCI/ENGR) 2 credits
Prerequisite: 3450:231 or 2020:334. Introduction to use of digital computers in scientific and engineering applications. For student majoring in engineering or physical sciences. No credit for person having completed 3460:201.

4450:207 USER LANGUAGES 2 credits
Prerequisite: 206 or equivalent. Comparative study of features of high-level computer languages from standpoint of user.

4450:306 ASSEMBLER PROGRAMMING 3 credits
Prerequisite: 206 or equivalent. Introduction to computer organization and programming at machine language level. Assembler syntax, subroutine linkage conventions, macrolanguage.

4450:407 SYSTEMS PROGRAMMING 3 credits
Prerequisite: 306. Introduction to operating systems. Data structures and algorithms in assemblers, macroprocessors, loaders and compilers. Program and memory management, procedure and data sharing.

4450:410 COMPUTER METHODS 3 credits
Prerequisites: 206 or equivalent in Fortran, and 3450:235. Numerical methods and techniques in use of central computer to solve problems in science and engineering. Plotting and other Fortran library routines. Job Control Language. Interactive computing.

4450:422 SYSTEM SIMULATION 3 credits
Prerequisite: 410. Principles of modeling and simulation of discrete and continuous time models. Using Fortran and S/360 CSMP. Discrete event models and GPSS, SIMSCRIPT.

4450:497/597 SPECIAL TOPICS: COMPUTER SCIENCE 1-2 credits
(May be taken more than once)
Prerequisite: permission of department head. Special topics in computer engineering.

4600: Mechanical Engineering

4600:125 ENGINEERING GRAPHICS 2 credits
Freehand sketching techniques. Orthographic projection and pictorial representation of typical machine elements.

4600:160 ENGINEERING DESIGN: MECHANICAL ENGINEERING 1 credit
Introduction to engineering profession. Engineering curriculum and programs of study. Introduction to the use of the digital computer.

4600:203 DYNAMICS 3 credits
Prerequisite: 4300:201. Kinematics and kinetics of particles and rigid bodies. Principles of work, energy, momentum and impulse.

4600:300 THERMODYNAMICS I 4 credits
Prerequisites: 3450:221 and 3650:291. Basic concepts of thermodynamics. The pure substance, the system and first and second laws of thermodynamics. Entropy, availability, power cycles.

4600:301 THERMODYNAMICS II 3 credits

4600:305 THERMAL SCIENCE 2 credits
Prerequisites: 3450:222 and 3650:291. Credit not allowed for both 301 and 305. Introduction to first and second laws of thermodynamics, perfect gas relationships, equations of state, cycle analysis. Introduction to conduction, convection and radiation heat transfer.

4600:310 FLUID MECHANICS 3 credits

4600:315 HEAT TRANSFER 3 credits
Prerequisites: 300, 310, 160 or 4450:206. Fundamentals of heat transfer by conduction, convection and radiation.

4600:321 KINEMATICS OF MACHINES 3 credits
Prerequisites: 125, 203. Displacements, velocities, accelerations and introduction to forces in plan motion mechanisms. Introduction to design of gears, gear trains and cams.

4600:336 ANALYSIS OF MECHANICAL COMPONENTS 3 credits

4600:337 DESIGN OF MECHANICAL COMPONENTS 3 credits

4600:360 ENGINEERING ANALYSIS 3 credits

4600:364 MECHANICAL METALLURGY 2 credits
Prerequisite: 336. Structures of common metallic materials and study of their macroscopic mechanical behavior. Phase changes and heat treatment. Theories of failure.

4600:393 INTERNAL COMBUSTION ENGINES LABORATORY 1 credit
Prerequisite: 301. Study of application and performance in reciprocating and rotary engines.

4600:396 COMPUTER METHODS LABORATORY 1 credit
Prerequisites: 3450:235, 4450:206 or 4600:160. Application of digital computers to solution of typical problems in heat transfer, fluid dynamics, machine design, kinematics, strength of materials, elasticity and vibrations and dynamics.

4600:400 THERMAL SYSTEM COMPONENTS 3 credits
Prerequisites: 301, 310, 315. Performance analysis and design of basic components of thermal energy exchange and conversion systems. Components studied include heat exchangers, pumps, compressors, turbines and expansion engines.

4600:401 DESIGN OF ENERGY SYSTEMS 2 credits
Prerequisites: 400, 460. Analysis and design of systems for energy exchange.
Performance of energy system components and their integration into complex practical systems. Design project required.

4800:410/510 HEATING AND AIR CONDITIONING 3 credits
Prerequisites: 301, 315: Thermodynamics of gas mixtures. Design and selection of air conditioning equipment: Control of gas mixtures, heating, cooling and humidity.

4800:411/511 COMPRESSIBLE FLUID MECHANICS 3 credits
Prerequisites: 301, 310: Subsonic and supersonic flow in nozzles, diffusers and ducts. One-dimensional reactive gas dynamics. Prandtl-Meyer theory. Applications to design and analysis of compressors, turbines and propulsion devices.

4800:415/515 ENERGY CONVERSION 3 credits
Prerequisites: 301, 315: Topics from fields of internal combustion engines. Cycle analysis, modern conversion devices.

4800:418/518 HEAT TRANSFER PROCESSES 3 credits
Prerequisite: 315: Analysis, design of extended surfaces. Natural convective, combined modes of heat transfer and heat transfer with a change of phase. Heat transfer in magnetohydrodynamic systems.

4800:422/522 EXPERIMENTAL STRESS ANALYSIS I 3 credits
Prerequisites: 336 or 4300.202: Experimental methods of determining stress or strain brittle lacquer, strain gages, photoelasticity.

4800:428/528 INDUSTRIAL NOISE CONTROL 3 credits
Prerequisite: 431 or permission. Theory of propagation, transmission and reflection of sound waves. Psychophysical acoustics. Noise control regulations and criteria. Techniques of identification, instrumentation and control of noise sources.

4800:430/530 MACHINE DYNAMICS 3 credits
Prerequisite: 321: Static and dynamic forces in machines, products of inertia, dynamic equivalence, flywheels. Balancing of rotating, reciprocating, cyclic plane motion. Computer simulation of transient mechanism dynamics, other topics in advanced dynamics.

4800:431/531 MECHANICAL VIBRATIONS I 3 credits
Prerequisites: 203 and 3450.235: Undamped and forced vibrations of systems having one or two degrees of freedom.

4800:440/540 CONTROL SYSTEMS 3 credits

4800:442/542 INDUSTRIAL AUTOMATIC CONTROL 3 credits
Prerequisite: 440 or equivalent. Operation of basic control mechanisms. Study of mechanical, hydraulic, pneumatic, fluidic control systems, including application areas. Tuning of control devices for optimum performance of system. Case studies on control applications from industry, e.g., boilers, furnaces, process heaters.

4800:443/543 OPTIMIZATION METHODS IN MECHANICAL ENGINEERING 3 credits
Prerequisite: 360: Development and method of solution of optimization problems in mechanical engineering. The use of dynamic programming and operational research methods for optimization including computer utilization and applications.

4800:456 CONCEPTS OF DESIGN 3 credits
Prerequisite: 337, corequisite: 400: Design process. Creativity and inventiveness. Topics of decision making, engineering economics, reliability, optimization. Case studies.

4800:461 DESIGN OF MECHANICAL SYSTEMS 2 credits
Prerequisites: 321, 431, 460: Detailed mechanical design project and case studies.

4800:462/562 PRESSURE VESSEL DESIGN 3 credits
Prerequisite: 336 or 4300.202: Introduction to modern pressure vessel technology. Topics include basic structural considerations, materials and their environment and design construction features.

4800:483 MECHANICAL ENGINEERING MEASUREMENTS LABORATORY 2 credits
Prerequisites: 203, 300, 310: Development of methods to measure temperature, pressure, flow rate, viscosity and motion. Includes both lecture and laboratory experience and emphasizes calibration and accuracy of appropriate instruments.

4800:484 MECHANICAL ENGINEERING LABORATORY 2 credits
Prerequisite: 483, corequisites: 315 and 431: Laboratory experiments in area of dynamics, vibrations, thermodynamics, fluids, heat transfer and controls.

4800:485 MECHANICAL ENGINEERING PROBLEMS 1-2 credits
Prerequisite: Permission. Investigation of a project by individual or small student groups. Detailed formal report required.

4800:486 SPECIAL TOPICS 1-3 credits
Prerequisite permission. Brief description of current content to be announced in schedule of classes.

4800:487 HONORS PROJECT 1-2 credits
Prerequisite: senior standing in Honors Program. Individual creative project in thermal science, mechanics or design relevant to mechanical engineering. Supervised by faculty member of the department.

4800:498 EXPERIMENTAL INVESTIGATION IN MECHANICAL ENGINEERING 1-2 credits
Individual independent laboratory investigations in areas relevant to mechanical engineering. Student suggests a project and makes appropriate arrangements with faculty for supervision.

Graduate Courses

4600:500 GAS DYNAMICS 3 credits

4600:508 THERMODYNAMICS 3 credits
Prerequisite: 301 or equivalent. Extension and generalization of basic laws of thermodynamics with application to a variety of physical and biological systems. Introduction to irreversible thermodynamics, the third law and statistical thermodynamics.

4600:509 FINITE ELEMENT ANALYSIS I 3 credits
Prerequisite: 422: Introductory development of finite element method as applied to various topics from continuum mechanics. Areas covered include plane, axisymmetric and 3-D stress analysis, fluid mechanics, transient problems and geometric and material nonlinearity.

4600:510 DYNAMICS OF VISCOS FLOW I 3 credits
Prerequisites: 301, 310 or equivalent. Derivation and solution of equations governing laminar viscous flow. Applications include unsteady flows, slow viscous flows, parallel flows, lubrication theory and laminar boundary layers.

4600:515 CONDUCTION HEAT TRANSFER 3 credits
Prerequisite: 315 or equivalent. Study of one-, two- and three-dimensional heat conduction. Development of analytical techniques for analysis and design.

4600:516 CONVECTION HEAT TRANSFER 3 credits
Prerequisite: 315 or equivalent. Heat transfer from laminar, turbulent exterior, internal flows. Convective heat transfer at high velocities. Heat transfer to liquid metals, high Prandtl number fluids.

4600:517 RADIATION HEAT TRANSFER 3 credits
Prerequisite: 315 or equivalent. Study of governing radiation laws. Black and real systems, geometric factors, gray enclosures, non-gray systems, plesso radiation, radiation equipment.

4600:518 BOILING HEAT TRANSFER AND TWO-PHASE FLOW 3 credits
Prerequisites: 301, 315 or equivalent. Current technique to determine heat transfer and pressure drop in components such as boilers, heat exchangers, and steam generators, with boiling. Boiling mechanism, slip ratio, critical heat flux and instabilities in boiling flow systems.

4600:520 EXPERIMENTAL STRESS ANALYSIS II 2 credits
Prerequisite: 422/522: Dynamic strain gage methods, transducer design, Moire fringe techniques and topics in photoelasticity.

4600:521 INTRODUCTION TO TIRE MECHANICS 3 credits
Prerequisite permission. Topics include tire as vehicle component, tire traction and wear, laminated structures, tire stress and strains and advanced tire models.
4600:897 SPECIAL TOPICS
Prerequisite: 623. Continuation of 623. Development of approximate solution techniques including finite elements, method of weighted residuals (Rayleigh-Ritz, Galerkin, Trefftz, colocation, least squares, etc.) and finite differences. 3 credits

4600:728 NONLINEAR CONTINUUM MECHANICS
Prerequisite: 622. Finite deformation and strain, stress, constitutive equations, strain energy functions. Solution of finite deformation problems in hyperelasticity, coupled thermoelasticity and plasticity, electroelasticity and micropolar theories. 3 credits

4600:730 MECHANICAL VIBRATIONS III
Prerequisite: 630. Continuation of 630. Analysis of continuous vibrating systems, using separation of variables, energy, variational, Rayleigh-Ritz and other approximate techniques. Concepts and solutions of integral equations as applied to continuous systems. 3 credits

4600:731 RANDOM VIBRATIONS
Prerequisite: 630 or equivalent. Stationary random processes and their transmission through linear time-invariant discrete and continuous vibrating systems. Analysis of random data and interaction between mechanisms of failure. 3 credits

4600:741 OPTIMIZATION THEORY AND APPLICATIONS
Prerequisite: permission. Theory of optimization in engineering systems, development and method of solution optimization problems for physical processes, large systems. Use of dynamic programming, operational research methods for system optimization, control. 2 credits

4600:763 ADVANCED METHODS IN ENGINEERING ANALYSIS
Prerequisite: 3450:235 or equivalent. Applications of finite difference and finite element methods, variational methods, integral methods and similarity transforms to engineering problems in heat transfer, fluid mechanics and vibrations. 3 credits

4600:790 ADVANCED SEMINAR IN MECHANICAL ENGINEERING
(May be repeated for a total of nine credits) Prerequisite: permission of department head. Advanced projects and studies in various areas of mechanical engineering. Intended for student seeking Ph.D. in engineering degree. 1-4 credits

4600:898 PRELIMINARY RESEARCH
Prerequisite: approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject. 1-15 credits

4600:899 DOCTORAL DISSERTATION
(May be taken more than once) Prerequisite: approval of Advisory Committee. Original research by Ph.D. candidate. 1-15 credits

4700: Polymer Engineering

4700:601 POLYMER ENGINEERING SEMINAR
Presentations of recent research on topics in polymer engineering by internal and external speakers. 1 credit

4700:611 STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTROMAGNETIC RADIATION
Characterization of orientation, morphology, superstructure in polymers using x-ray, light scattering, birefingence, dichroism, Crystallography, unit cell determination. 2 credits

4700:621 RHEOLOGY AND POLYMER PROCESSING
Experimental methods of determination of rheological properties of polymer melts, solutions, elastomers. Structure - flow behavior relationships, viscoelastic fluid theory, application to extrusion, fiber, film processing molding. Structure development in processing. 3 credits

4700:622 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS
Prerequisite: 621. Mathematical modeling and engineering design analysis of polymer processing operations including extruder screws, injection molds, dies, fibers, film formation. 3 credits
4700:831 ENGINEERING PROPERTIES OF SOLID POLYMERS
2 credits
Transitions as a function of polymer structure, optical characteristics, mechanical including ultimate properties, viscoelastic behavior of elastomers and plastics, large strain behavior - emphasis on experimental methods.

4700:851 POLYMER ENGINEERING LABORATORY
2 credits
Laboratory experiments on the rheological characterization of polymer melts, fabrication of engineering products, structural investigation of polymeric parts.

4700:881 POLYMERIZATION REACTOR ENGINEERING
3 credits
Polymerization kinetics, classical reactor design, comparison of polymerization in batch and continuous stirred tank reactors, flow patterns around agitators, tubular reactors, reactor stability.

4700:899 MASTER'S THESIS
1-6 credits
(May be repeated)
Supervised original research in specific area of polymer engineering.

4700:711 ADVANCED ELECTROMAGNETIC AND OPTICAL PROPERTIES AND INVESTIGATIONS OF POLYMERS
2 credits
Maxwell's equations with application to anisotropic dielectrics, birefringence and dichroism and representation of orientation, optical instruments, piezoelectricity, scattering and diffraction of x-rays and light, Mie scattering, applications.

4700:351 CONSTRUCTION QUALITY CONTROL
2 credits
Prerequisites: 2980:237 and 238 or permission. Designed for owners, contractors or consultant personnel directly concerned with quality control in construction industry.

4980:352 FIELD MANAGEMENT
2 credits
Prerequisites: 2980:222, 245, 133 or permission. Planning, scheduling and controlling of field work within time and cost constraints.

4980:354 FOUNDATION CONSTRUCTION METHODS
3 credits
Prerequisite: 2980:234. Soil mechanics and soils exploration as related to construction. Foundation construction methods and practice in the interest of safety and suitable economy.

4980:356 SAFETY IN CONSTRUCTION
2 credits
The purpose of this course is to explain what creates hazards and why, and to suggest where to anticipate trouble in each phase of the work as it progresses.

4980:453 LEGAL ASPECTS OF CONSTRUCTION
2 credits
Study of business of contracting and sub-contracting and legal problems therein such as breach, partial performance, payment, insolvency, subsurface. Review of AIA standard contracts and construction industry rules of arbitration.

4980:462 MECHANICAL SERVICE SYSTEMS
3 credits
Introduction to materials and equipment used in mechanical heating, ventilating, air conditioning, water and waste systems.

4980:463 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.

4980:465 HEAVY CONSTRUCTION METHODS
3 credits
Prerequisite: 2980:232 or 4300:472. Management techniques in planning, estimating and directing heavy construction operations.
5000: Cooperative Education

5000:301 Cooperative Education (May be repeated for a total of three credits)
For Cooperative Education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

5100: Educational Foundations

5100:150 INTRODUCTION TO PROFESSIONAL EDUCATION 3 credits (6 clinical hours, 10 field hours)
Nature and purpose of education in United States. Emphasis on social, historical and philosophical foundations of public education and roles of professional educator.

5100:250 HUMAN DEVELOPMENT AND LEARNING 3 credits (15 clinical hours)
Prerequisite: sophomore standing. Study of principles underlying intellectual, emotional, social and physical growth and development of human organism, and of learning process with implications for instructional procedures.

5100:258 SMALL GROUP INSTRUCTION 1-3 credits
Prerequisite: sophomore standing. Study of principles underlying small group leadership skills for facilitating classroom cognitive learning. Student exposed to basic literature related to student-centered style, trained in appropriate observational techniques and provided practice in leading small instructional groups.

5100:320 LEARNING AND INDIVIDUALIZED INSTRUCTION 2 credits
Prerequisite: 250. Behavioral approach to learning and the management of students. Emphasizes design of instructional sequences using behavioral analysis of objectives in both cognitive and psychomotor domains.

5100:350 EDUCATIONAL MEASUREMENT AND EVALUATION 2 credits (8 clinical hours)
Prerequisite: junior standing. Methods of measurement and evaluation applied to learning and instruction. Emphasis on development and coordination of instructional objectives and measurement techniques with instructional procedures.

5100:410 AUDIO-VISUAL EDUCATION 2 credits
Prerequisite: 410. Behavioral approach to learning and the management of students. Emphasizes design of instructional sequences using behavioral analysis of objectives in both cognitive and psychomotor domains.

5100:412/512 DESIGN AND PRODUCTION OF INSTRUCTIONAL MATERIALS 3 credits
Prerequisite: 410. Behavioral approach to learning and the management of students. Emphasizes design of instructional sequences using behavioral analysis of objectives in both cognitive and psychomotor domains.

5100:414/514 ORGANIZING AND SUPERVISING EDUCATIONAL MEDIA PROGRAMS 3 credits
Prerequisite: 410 or permission of the instructor. Procedures for planning, organizing and evaluating educational media programs including media facilities and services.

5100:420/520 INTRODUCTION TO COMPUTER BASED EDUCATION 3 credits
Prerequisite: graduate or senior standing. Techniques for developing and implementing and evaluating computer-based education. Participants will work with instructional paradigms and instructional computing languages. Both the hardware and software considerations associated with current applications examined.

5100:430 SENIOR HONORS PROJECT: FOUNDATIONS 1-6 credits
Prerequisite: senior standing in Honors Program and permission of department head and instructor. Specific area of study determined in accordance with program and professional goals.

Graduate Courses

5100:600 PHILOSOPHIES OF EDUCATION 3 credits
Examination of basic philosophical problems underlying broad educational questions that confront society. Provides foundation for understanding of questions of modern society and education.

5100:601 COMPARATIVE AND INTERNATIONAL EDUCATION 3 credits
Comparative study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated.

5100:604 TOPICAL SEMINAR IN THE CULTURAL FOUNDATIONS OF EDUCATION 3 credits
Prerequisite: 600. Advanced study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated.

5100:616 SEMINAR: EDUCATIONAL PSYCHOLOGY 3 credits
Prerequisite: 600. Advanced study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated.

5100:624 SEMINAR: ADULT EDUCATION 3 credits
Prerequisite: 600. Advanced study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated.

5100:628 BEHAVIORAL BASES OF EDUCATION 3 credits
Prerequisite: 600. Advanced study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated.

5100:630 TOPICAL SEMINAR IN COMPUTER BASED EDUCATION 3 credits
Prerequisite: 600. Advanced study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative education also investigated.

5100:636 SEMINAR: EDUCATIONAL TECHNOLOGY 3 credits
Practices and trends in educational communications and technology, including computers, learning stations, programmed learning, educational television and computer-assisted instruction.
5100:340 TECHNIQUES OF RESEARCH
Research methods and techniques commonly used in education and behavioral sciences, preparation of research reports including library, historical, survey and experimental research and data analysis. 3 credits

5100:342 TOPICAL SEMINAR IN MEASUREMENT AND EVALUATION
(May be repeated for a total of six credits)
Prerequisite: 350 or 3750:410/510. Topics of current interest and need will be emphasized. The student will develop extended competence in contemporary measurement and evaluation techniques. 3 credits

5100:349 FIELD EXPERIENCE: MASTER'S
Prerequisite: permission of department head, instructor. Area determined in accordance with student's program and professional goals. 1-3 credits

5100:387 INDEPENDENT STUDY
Prerequisite: permission of department head, instructor. Specific area of study determined in accordance with student's program and professional goals. (May be repeated for a total of six credits) 1-3 credits

5100:388 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 problems in educational foundations. 2-4 credits

5100:399 THESIS RESEARCH
Prerequisite: permission of department head, instructor. In-depth study of research problem within humanistic and behavior foundation. 4-6 credits

5100:401 HISTORY OF EDUCATION IN AMERICAN SOCIETY
Historical development of education in American social order, with special emphasis on social, political and economic setting. 3 credits

5100:403 SEMINAR: HISTORY AND PHILOSOPHY OF HIGHER EDUCATION
Prerequisite: 600. History and philosophy related to genesis and development of higher education in the Western world, with special emphasis given to higher education's development in United States. 3 credits

5100:405 SEMINAR: SOCIAL-PHILOSOPHICAL FOUNDATIONS OF EDUCATION
Prerequisite: 600. History and philosophy related to genesis and development of higher education in the Western world, with special emphasis given to higher education's development in United States and other countries. (May be repeated for a total of six credits) 3 credits

5100:471 LEARNING PROCESSES
Study of principles underlying classroom learning processes with particular emphasis on teaching as means of modifying pupil behavior, cognitive, motor, social and affective. 3 credits

5100:473 TEACHER BEHAVIOR AND INSTRUCTION
Prerequisite: 600. Intensive survey of theoretical and empirical literature involving teacher and conceptions of instruction. A student reports on theory, empirical research and applications in areas of individual interests. 3 credits

5100:474 STATISTICS IN EDUCATION
Statistical methods and techniques used in field of measurement and by research workers in education. 3 credits

5100:475 ADVANCED EDUCATIONAL STATISTICS
Prerequisite: 474. A second course on quantification in behavioral sciences. Includes testing of statistical hypotheses, experimental design, analysis of variance and nonvariance, factor analysis and introduction to nonparametric statistics. 3 credits

5100:478 RESEARCH PROJECT IN SPECIAL AREAS
Prerequisite: permission of department head and instructor. Critical and in-depth study of specific problem in educational foundations. 1-3 credits

5100:481 RESEARCH SEMINAR
(May be repeated for a total of six credits)
Prerequisites: 640 and 741. Permission of department head and instructor. Intensive study of research methods applicable to education. Emphasis on developing a dissertation proposal. 3 credits

5100:487 INDEPENDENT STUDY
Prerequisite: permission of department head and instructor. Specific area of inquiry within humanistic and behavioral foundations of education determined in advance by student and faculty adviser. (May be repeated for a total of eight credits) 1-4 credits

5200:100 STUDENT PARTICIPATION: OBSERVATION
Planned field experience emphasizing tutorial settings in reading and other curricular areas. 1 credit (30 field hours) (credit/noncredit)

5200:141 HANDICRAFTS IN THE ELEMENTARY SCHOOL
Prerequisite: 7100:191. Broad range of experiences through manipulations of various craft mediums which enriches curriculum. 2 credits (15 clinical hours)

5200:200 STUDENT PARTICIPATION
Prerequisite: 100. Planned field experience emphasizing field settings where student works with small groups in classroom. 1 credit (30 field hours) (credit/noncredit)

5200:208 CHILDREN'S LITERATURE
Prerequisite: 140. Curriculum and instructional techniques in language arts education. Old and modern types of bedside literature, their influence on children and the role of the teacher. Emphasis on application critically examined. 3 credits (15 clinical hours)

5200:300 STUDENT PARTICIPATION
Prerequisite: 200. Planned field experience where student works in both small and large group settings in elementary school. 1 credit (30 field hours) (credit/noncredit)

5200:310 INTRODUCTION TO EARLY CHILDHOOD EDUCATION
Prerequisite: 7400:265. Core course for early childhood education. Provides background information, defines roles and goals when field of early childhood education. 2 credits

5200:311 CURRICULUM FOR PRESCHOOL LEARNING CENTERS
Prerequisite: 310. Curriculum and instructional techniques in early childhood education. Emphasis on development of early childhood education as an integrated, planned and developed curriculum. 2 credits

5200:312 INTRODUCTION TO EARLY CHILDHOOD EDUCATION — LABORATORY
Corequisite: 310. Provides an opportunity for teacher education student to implement techniques developed in accompanying methods course with learner in the field. Learner on campus, or to develop materials for use by learner. 1 credit

5200:313 CURRICULUM FOR PRESCHOOL LEARNING CENTERS — LABORATORY
Corequisite: 310. Provides an opportunity for teacher education student to implement techniques developed in accompanying methods course with learner in the field. Learner on campus, or to develop materials for use by learner. 1 credit

5200:321 ART FOR THE GRADES
Prerequisite: 141. Art requirements in elementary grades; laboratory work to give teachers knowledge of materials and mediums and skills in handling them. 2 credits (15 clinical hours)

5200:330 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

5200:331 EARLY ELEMENTARY EDUCATION II
Prerequisite: 330. Curriculum needs of primary-aged child. 3 credits

5200:333 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. 2 credits

5200:334 TEACHING ART IN THE ELEMENTARY SCHOOL
Prerequisites: art education major, junior standing; elementary education majors, 141 and 321. Visual arts in elementary schools. Art education concepts with studio orientation including history of art education, developmental stages, curriculum and organization, methods, evaluation and research and practical participation. 2 credits

5200:335 TEACHING THE LANGUAGE ARTS
Prerequisites: 286 and 5100:250. Course for elementary teacher stressing
methods and materials for skills development, and trends in various
languages.

5200:336 TEACHING OF ELEMENTARY SCHOOL MATHEMATICS
3 credits (15 clinical hours)
Prerequisite: 5100:250. Trends in instruction in elementary schools. Procedures
and materials employed in development of mathematical concepts and skills.

5200:337 TEACHING OF READING
3 credits (15 clinical hours)
Prerequisites: 335 and 5100:250. Elementary reading program, together with
modern methods of teaching reading at various levels.

5200:338 THE TEACHING OF SOCIAL STUDIES
3 credits (15 clinical hours)
Prerequisite: 5100:250. Social studies in elementary school and varied means
of implementing program.

5200:339 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING
3 credits (15 clinical hours)
Prerequisite: 337. Nature of reading problems in classroom setting. Methods
and materials employed in corrective reading program by classroom teacher.

5200:340 EARLY ELEMENTARY EDUCATION I — LABORATORY
1 credit
Corequisite: 330. Provides an opportunity for teacher education student to
implement techniques described in accompanying methods course with
learner in the field, learner on campus or to develop materials for use by
learner.

5200:341 EARLY ELEMENTARY EDUCATION II — LABORATORY
1 credit
Corequisite: 339. Provides an opportunity for teacher education student to
implement techniques described in accompanying methods course with
learner in the field, learner on campus or to develop materials for use by
learner.

5200:343 SCIENCE FOR THE ELEMENTARY GRADES — LABORATORY
1 credit
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.

5200:344 TEACHING ART IN THE ELEMENTARY SCHOOL — LABORATORY
1 credit
Corequisite: 334. Provides an opportunity for art education student to
implement techniques described in accompanying methods course with
learner in the field, learner on campus or to develop processes for use by
learner.

5200:346 TEACHING ELEMENTARY SCHOOL MATHEMATICS — LABORATORY
1 credit (2 clinical hours)
Corequisite: 336. Provides an opportunity for teacher education student to
implement techniques described in accompanying methods course with
learner in the field, learner on campus or to develop processes for use by
learner.

5200:347 TEACHING OF READING — LABORATORY
1 credit (2 clinical hours)
Corequisite: 337. Provides an opportunity for teacher education student to
implement techniques described in accompanying methods course with
learner in the field, learner on campus or to develop materials for use by
learner.

5200:348 TEACHING OF SOCIAL STUDIES — LABORATORY
1 credit (2 clinical hours)
Corequisite: 338. Provides an opportunity for teacher education student to
implement techniques described in accompanying methods course with
learner in the field, learner on campus or to develop materials for use by
learner.

5200:349 PRINCIPLES OF DIAGNOSTIC TEACHING OF READING — LABORATORY
1 credit (2 clinical hours)
Corequisites: 337 and 347. 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.

5200:350 MULTICULTURAL EDUCATION: CONCEPTS, PROGRAMS AND PRACTICES
3 credits
Designed to provide teacher education student with knowledge, skills and
attitudes which will enable them to model behavior and implement curricular
programs consistent with the concept of cultural pluralism.

5200:360 NURSERY SCHOOL LABORATORY
3 credits
Prerequisite: 7400:265. Concentrated study and experience in nursery school
programming under direction of supervising teacher.

5200:365 COMPREHENSIVE MUSICIANSHIP FOR THE ELEMENTARY CLASSROOM TEACHER
3 credits (25 clinical hours)
Designed to afford a prospective classroom teacher the opportunity to
develop individual musical skills in creativity, performance and listening as
means of enhancing teaching through use of music.

5200:366 FIELD EXPERIENCE
1-3 credits
Prerequisite: permission of advisor, department head. Independent field work
in area selected by student’s advisor, based on student’s needs.

5200:403 STUDENT TEACHING SEMINAR
1 credit (15 clinical hours)
Prerequisite: senior standing. In conjunction with Student Teaching. Synthesis
of contemporary problems encountered during student teaching experience.
Exchange of ideas regarding role of new teacher entering profession.

5200:411/511 CREATIVE TECHNIQUES FOR EXPLORING CHILDREN’S LITERATURE
2 credits
Corequisite: 334. Provides an opportunity for teacher education student to
explore children’s literature including storytelling, creative dramatics, reader’s theatre
and choral speaking.

5200:429 SENIORS HONORS PROJECT: ELEMENTARY 1-6 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program and permission of student’s
preceptor. Carefully defined individual study demonstrating originality and
sustained inquiry.

5200:435/535 ACTIVITIES TO INDIVIDUALIZE SOCIAL STUDIES
2 credits
Prerequisite: 338. Development of materials and activities (learning games,
simulation games, simulations, learning stations, programmed field trips and
map activities) to provide teacher with variety of techniques in order to
develop an individualized, student-involved social studies program.

5200:453/553 GEOMETRY AND MEASUREMENT IN ELEMENTARY SCHOOL MATHEMATICS
3 credits
Prerequisite: 335. Trends in geometry and measurement instruction in
elementary school. Procedures for development of important geometric
concepts and measurement skills.

5200:473/573 STRUCTURE OF THE NUMBER SYSTEM IN ELEMENTARY SCHOOL MATHEMATICS
3 credits
Prerequisite: 336. Applied and advanced topics in mathematics education in
elementary school. Thorough investigation of number system presently being
taught in elementary school.

5200:492/592 PROPERTIES OF NUMBERS IN ELEMENTARY SCHOOL MATHEMATICS
3 credits
Prerequisite: 336. Exploration of those number properties that help explain
how laws of arithmetic work. Procedures for development of important
arithmetic concepts and computational skills.

5200:490/540 CONTEMPORARY ELEMENTARY SCHOOL SCIENCE PROGRAMS
2 credits
Prerequisite: 335. Contemporary elementary science programs critically
analyzed and their procedure developed and implemented in university
classroom.

5200:491 ELEMENTARY EDUCATION
3 credits
Evaluation of recent trends and practices in elementary education. Required
for those converting from other certifices.
### Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>520:620</td>
<td>LITERATURE FOR YOUNG CHILDREN</td>
<td>2</td>
</tr>
<tr>
<td>520:630</td>
<td>ELEMENTARY SCHOOL CURRICULUM AND INSTRUCTION</td>
<td>2</td>
</tr>
<tr>
<td>520:631</td>
<td>TRENDS IN ELEMENTARY EDUCATION</td>
<td>2</td>
</tr>
<tr>
<td>520:640</td>
<td>THEORY AND PRACTICE IN ELEMENTARY SCHOOL MATHEMATICS</td>
<td>2</td>
</tr>
<tr>
<td>520:641</td>
<td>DIAGNOSIS AND TREATMENT OF PERFORMANCE DIFFICULTIES IN ELEMENTARY</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SCHOOL MATHEMATICS</td>
<td></td>
</tr>
<tr>
<td>520:645</td>
<td>PROBLEMS IN ELEMENTARY SCIENCE EDUCATION</td>
<td>2</td>
</tr>
<tr>
<td>520:650</td>
<td>EDUCATION AND THE YOUNG CHILD</td>
<td>2</td>
</tr>
<tr>
<td>520:668</td>
<td>INDIVIDUALIZED INSTRUCTION: LEARNING STYLE IDENTIFICATION AND</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RESOURCE PRESCRIPTION</td>
<td></td>
</tr>
<tr>
<td>520:695,6</td>
<td>FIELD EXPERIENCE: MASTER'S</td>
<td>1-2</td>
</tr>
<tr>
<td>520:697</td>
<td>INDEPENDENT STUDY</td>
<td>1-3</td>
</tr>
<tr>
<td>520:699</td>
<td>THESIS RESEARCH</td>
<td>4-6</td>
</tr>
<tr>
<td>520:700</td>
<td>SEMINAR IN ELEMENTARY EDUCATION</td>
<td>2</td>
</tr>
<tr>
<td>520:709</td>
<td>RESEARCH PROJECTS IN ELEMENTARY EDUCATION</td>
<td>1-2</td>
</tr>
<tr>
<td>520:732</td>
<td>SUPERVISION OF INSTRUCTION IN THE ELEMENTARY SCHOOL</td>
<td>2</td>
</tr>
<tr>
<td>520:750</td>
<td>RESIDENCY SEMINAR</td>
<td>2</td>
</tr>
<tr>
<td>520:898</td>
<td>INDEPENDENT STUDY</td>
<td>1-3</td>
</tr>
<tr>
<td>520:899</td>
<td>DISSERTATION</td>
<td>1-20</td>
</tr>
</tbody>
</table>

### 5200: Reading

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5250:341</td>
<td>LABORATORY PRACTICUM IN READING</td>
<td>3</td>
</tr>
<tr>
<td>5250:441/541</td>
<td>MATERIALS AND ORGANIZATIONS FOR READING INSTRUCTION</td>
<td>3</td>
</tr>
<tr>
<td>5250:440/540</td>
<td>DEVELOPMENTAL READING IN THE CONTENT AREAS — ELEMENTARY</td>
<td>3</td>
</tr>
<tr>
<td>5250:441/441</td>
<td>LANGUAGE AND ITS RELATIONSHIP TO READING IN THE ELEMENTARY SCHOOL</td>
<td>3</td>
</tr>
<tr>
<td>5250:442/442</td>
<td>TEACHING READING TO CULTURALLY DIFFERENT LEARNERS</td>
<td>3</td>
</tr>
</tbody>
</table>

### 5250: Reading

- **5250:341** LABORATORY PRACTICUM IN READING
  - Prerequisite: 5200:339. Laboratory experience with classroom, small groups and individual situations. A student diagnoses, implements procedures and follows prescribed reading improvement practices.

- **5250:441/541** MATERIALS AND ORGANIZATIONS FOR READING INSTRUCTION
  - Prerequisite: 5200:339. Professional problems of selection and evaluation of reading materials and classroom organizations explored.

- **5250:442/540** DEVELOPMENTAL READING IN THE CONTENT AREAS — ELEMENTARY
  - The content areas are selected from among reading, language and social studies, mathematics, science, social studies, and music.

- **5250:441/441** LANGUAGE AND ITS RELATIONSHIP TO READING IN THE ELEMENTARY SCHOOL
  - Prerequisite: 5200:337 or permission of the instructor. An overview of the linguistic field in the teaching of reading in the elementary school. A discussion of major linguistic principles for classroom application in grades K-8.

- **5250:442/442** TEACHING READING TO CULTURALLY DIFFERENT LEARNERS
  - Prerequisite: 5200:337 or by permission of the instructor. The course is designed to provide a student with knowledge, skills and attitudes which will enable employment of effective methods of teaching reading to culturally different learners, and/or learners whose language patterns are non-standard.
Graduate Courses

5250:490 TRENDS IN READING INSTRUCTION 2 credits
Prerequisite: 5200:335 or 5300:425. Survey course designed to update reading background of student who has not had a recent course in reading.

5250:481 DIAGNOSIS AND CORRECTION OF READING PROBLEMS 5 credits
Prerequisite: 680. Relation of growth to reading development and reasons for retardation. Implementation of diagnostic and corrective techniques by developing case studies in supervised setting.

5250:482 CLINICAL PRACTICES IN READING 5 credits
Prerequisite: 681. Nature and etiology of reading difficulties experienced by selected children. Supervised practices and independent work with children in conjunction with staff from other disciplines.

5250:483 READING DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS AND SUPPORT PERSONNEL 3 credits
Prerequisite: 5200:630 or permission of instructor. This course will survey developmental reading and its relationship to reading difficulties. Formal and informal procedures for diagnosing disabled readers and a discussion of prescriptive strategies will be included.

5250:492 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION 3 credits
Survey of research comparison and evaluation of programs, design and development of projects in reading through group individual study.

5250:493 SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION 2 credits
Relative to total curriculum procedures for developing reading program in all curriculum areas: examination of children's literature and related instructional reading by supervisors and consultants.

5300:406 ORIENTATION TO SECONDARY EDUCATION 1 credit (10 clinical hours)
Prerequisite: 275. An orientation to the goals and objectives of the department's teacher preparation program. Student should gain a clear understanding of the purpose and nature of teaching in secondary post-secondary education.

5300:275 EXPLORATORY EXPERIENCES IN SECONDARY EDUCATION (SOPHOMORE) 1 credit (6 clinical hours, 30 field hours)
Corequisite: 265. Field work with secondary school pupils, teachers and other professional personnel.

5300:296 EXPLORATORY EXPERIENCE IN SECONDARY SCHOOLS/MAINSTREAMING 1-5 credits
Field work for the special education major.

5300:310 PRINCIPLES OF TEACHING IN THE SECONDARY SCHOOL 3 credits (30 clinical hours)
Prerequisites: 275 and 5100:250. Designed to familiarize the pre-service teacher with the nature of secondary education and teaching in secondary schools. Microteaching laboratory participation is required.

5300:316 METHODS IN TEACHING ART 2 credits
Prerequisite: completion of required course for art teachers and grade-point average of 2.00 in the field. Study of trends and procedures in teaching and supervision, relation of art to home, school and community; observation in selected schools required.

5300:327 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 it to other educators, parents and pupils.

5300:325 CONTENT READING IN SECONDARY SCHOOLS 3 credits (30 clinical hours)
Instructional principles and practices for helping secondary school youth and adults learn subject matter through application of reading and study skills.

5300:330 TEACHING OF ADOLESCENT LITERATURE 3 credits
Prerequisite: permission of advisor. Student develops skills for selection of literature that is well suited for secondary students. Student develops, uses and experiences methods for teaching adolescent literature in secondary schools.

5300:345 HUMAN RELATIONS IN SECONDARY EDUCATION 1 credit (3 clinical hours, 7 field hours)
Prerequisite: 310. Develops competencies essential to effective teaching in a culturally pluralistic society. Includes teaching exceptional children, and handling multicultural differences and socioeconomic differences in the classroom.

5300:355 MANAGING CLASSROOM BEHAVIOR AT THE SECONDARY LEVEL 1 credit (3 clinical hours, 7 field hours)
Prerequisite: 310. Helps prospective teacher cope with the various of student behaviors they may encounter in various educational settings.

5300:374 PRINCIPLES OF SHORTHAND INSTRUCTION 2 credits
Prerequisite: 2540:173 and grade point average of 2.00 in the field. Methods of presentation in shorthand and transcription. Demonstration and observations required. Theory test in the field must be passed before credit given for course.

5300:375 EXPLORATORY EXPERIENCE IN SECONDARY EDUCATION 1 credit (6 clinical hours, 30 field hours)
Prerequisite: 310. Field work with secondary school pupils, teachers and other school personnel.

5300:385 FIELD EXPERIENCE 1-3 credits
Prerequisite: upper college standing. Supervised work with youngsters, individually and in groups in school and/or community settings.

5300:403 STUDENT TEACHING SEMINAR 1 credit (15 clinical hours, 10 field hours)
Corequisite: 495.

5300:411 INSTRUCTIONAL TECHNIQUES IN SECONDARY EDUCATION 4 credits (30 clinical hours, 20 field hours)
Prerequisites: 310, 325, 345, 355 and 5100:350. Open to student who has completed certification requirements in all content fields. Techniques of planning, instruction and evaluation in various secondary teaching fields.

5300:425/525 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.

5300:430 SENIOR HONORS PROJECT: SECONDARY 1-6 credits
May be repeated for a total of 6 credits.
Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

5300:455 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.

5300:456 MINICOMPUTER APPLICATIONS IN SECONDARY SCHOOLS 1 credit (10 clinical hours)
Prerequisites: 310 and senior status. Provides an orientation to applications of minicomputer in secondary classrooms. A knowledge of BASIC programming is recommended.

5300:455 CAREER OPTIONS IN SECONDARY EDUCATION 1 credit (8 clinical hours, 2 field hours)
Prerequisites: 310 and senior status. Helps prospective teacher prepare for searching for employment in education and to find alternative careers for which an education degree would be a suitable background.
5300:478/576 Vocational Cooperative Office Education

Principles of program construction, organization, implementation, evaluation, improvement and development of program guides in cooperative office education.

5300:477/577 Intensive Vocational Office Education

Principles of program construction, organization, implementation, evaluation and development of program guides.

5300:480 Special Topics: Secondary Education

May be repeated with a change in topic
Prerequisite: Permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

5300:476/576 Vocational Cooperative Office and development of program guides. Principles of program construction, organization, implementation, evaluation, improvement and development of program guides.

5300:495 Student Teaching

5300:494/594 Educational Institutes

Provides student with the support of individual and group study of special topics of critical concern in professional education.

5300:497 Independent Study

Prerequisite: Permission of instructor and supervisor of independent study. Area of study determined by student's needs.

5300:630 Secondary Schools in Bookkeeping—Accounting Business Subjects

Intensive study of research to curriculum building and procedures in teaching.

5300:625 Reading Programs in Secondary Schools

For all subject teachers both with and without previous study in the teaching of reading. Materials, class organization and procedures for developing reading improvement programs for all secondary school and college students.

5300:630 Advanced Instructional Techniques in Bookkeeping—Accounting and Basic Business Subjects

Prerequisite: 311 or equivalent and permission of adviser. Directed teaching under supervision of director and university supervisor.

5300:497 Independent Study

Prerequisite: Permission of adviser and supervisor of independent study. Area of study determined by student's needs.

5300:695 Field Experience: Master's

Prerequisite: Permission of adviser and director of independent study. Area of study determined by student's needs.

5300:696 Research Project in Special Areas

5300:699 Dissertation

Prerequisite: Permission of adviser. Critical and in-depth study of specific problem in secondary education.

5400:301 Occupational Employment Experience and Seminar

Provides student with knowledge of current industrial or business practice at level commensurate with that associated with employment expectations of graduates of technical programs.

5400:351 Consumer Homemaking Methods

5400:395 Field Experience

Prerequisite: Upper college standing. Supervised work with individuals and in groups in educational institutions, training and/or community settings.

5400:403 Technical Education Practicum Seminar

Corequisite: 495.

5400:405/505 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.

Graduate Courses

5300:619 Secondary School Curriculum and Instruction

Application of findings of recent research to curriculum building and procedures in teaching.

5300:625 Reading Programs in Secondary Schools

For all subject teachers both with and without previous study in the teaching of reading. Materials, class organization and procedures for developing reading improvement programs for all secondary school and college students.

5300:630 Advanced Instructional Techniques in Bookkeeping—Accounting and Basic Business Subjects

Intensive examination of teaching-learning strategies for improvement of instruction. Emphasis on teacher coordination of methods, preplanned objectives, and evaluation to ensure maximum student competency in subject knowledge and skill.

5300:632 Advanced Instructional Techniques in Typewriting and Typewriting-Related Subjects

Intensive examination of teaching-learning strategies for improvement of instruction. Emphasis on teacher coordination of methods, preplanned objectives and evaluation to ensure maximum student competency in subject knowledge and skill.

5300:695 Field Experience: Master's

May be repeated for a total of six credits
Prerequisite: Permission of adviser and supervisor of field experience. On-the-job experience related to student's program of studies.

5300:697 Independent Study

May be repeated for a total of six credits
Prerequisite: Permission of adviser and supervisor of independent study. Area of study determined by student's needs.

5300:698 Master's Problem

Prerequisite: Permission of adviser. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

5300:899 Thesis Research

Prerequisite: 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.

5300:721 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.

5300:780 Seminar in Secondary Education

5300:781 Residency Seminar

One-hour weekly meeting for secondary education doctoral student in residence.

5300:782 Residency Seminar

One-hour weekly meeting for secondary education doctoral student in residence.

5300:785 Field Experience: Doctoral

May be repeated for a total of six credits
Prerequisite: 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.

5300:897 Independent Study

May be repeated
Prerequisite: Permission of adviser and director of independent study. Area of study determined by student's needs.

5300:899 Dissertation

Prerequisite: Permission of adviser. Specific research problem that requires student to apply research skills and techniques pertinent to problem being studied.

5400:301 Occupational Employment experience and Seminar

Provides student with knowledge of current industrial or business practice at level commensurate with that associated with employment expectations of graduates of technical programs.

5400:351 Consumer Homemaking Methods

5400:395 Field Experience

Prerequisite: Upper college standing. Supervised work with individuals and in groups in educational institutions, training and/or community settings.

5400:403 Technical Education Practicum Seminar

Corequisite: 495.

5400:405/505 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.
5400:410/510 THE TWO-YEAR COLLEGE 3 credits
Designed to introduce student to nature, purpose and philosophy of the two-year college. Includes examination of types of institutions offering two-year programs.

5400:415/515 VOCATIONAL AND TECHNICAL TRAINING IN BUSINESS AND INDUSTRY 3 credits
Examines the role and mission of the training function in the modern industrial setting. Provides a foundation for a student planning to become an industrial trainer or training supervisor of technicians and other occupational skill development levels.

5400:421/521 INSTRUCTIONAL TECHNIQUES IN TECHNICAL EDUCATION 4 credits
Selected topics in instructional techniques appropriate to post-secondary technical education. Emphasis on instructional methods, techniques in classroom, laboratory, including tests, measurements.

5400:430/530 COURSE CONSTRUCTION IN CLASSROOM, LABORATORY INCLUDING TESTS, MEASUREMENTS 2 credits
Procedure of breaking down an occupation to determine curriculum for classroom and laboratory, developing this content into an organized sequence of instructional units.

5400:440 LIFE-SPAN AND COMMUNITY EDUCATION 2 credits
Designed for a person engaged in providing educational services in the community, includes examination of community education concepts and roles of various personnel and agencies.

5400:441/541 EDUCATIONAL GERONTOLOGY SEMINAR 3 credits
Designed for persons practicing in field of gerontology or preparing for a specialization in educational gerontology, including person responsible for development and implementation of courses, seminars, occupational training programs and workshops for older people.

5400:451/551 HOME ECONOMICS JOB TRAINING 3 credits
Prerequisite: senior standing or permission of instructor. Concept development in vocational home economics, job training, program development, operational procedures, skill and knowledge identification, training profiles, job description and analysis. Individualized study guides. In-school and on-the-job observations.

5400:480 SPECIAL TOPICS: VOCATIONAL EDUCATION 1-4 credits
(5 May be repeated with a change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

5400:481 SPECIAL TOPICS: TECHNICAL EDUCATION 1-4 credits
(5 May be repeated with a change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

5400:490, 1,2,590, 1,2 WORKSHOP 1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

5400:494/594 EDUCATIONAL INSTITUTES 1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

5400:496 TECHNICAL EDUCATION PRACTICUM 1-4 credits
Prerequisites: 410, 421, 430 or equivalent and permission of advisor. Directed teaching experience under supervision of directing teacher and University supervisor.

5400:497 INDEPENDENT STUDY 1-3 credits
Prerequisite: permission of adviser and supervisor of independent study. Area of study determined by student's need.

5400:890 INTERNSHIP: TEACHING VOCATIONAL EDUCATION
5400:891 INTERNSHIP: TEACHING TECHNICAL EDUCATION
5400:892 INTERNSHIP: POST-SECONDARY EDUCATION
5400:895 FIELD EXPERIENCE: MASTER'S
5400:896 MASTER'S PROBLEM
5400:897 INDEPENDENT STUDY
5400:898 THESIS
5400:899 RESEARCH
Examination of many current problems and issues in institutions of higher education; adult education, technical institutes, community colleges, proprietary schools, undergraduate, graduate and professional education.

5550: 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.

5550:102 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.

5550:103 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.

5550:104 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.

5550:105 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.

5550:106 RECREATIONAL ACTIVITIES FOR THE HANDICAPPED 1 credit
Acquisition of skills and knowledge of rules for participation in, and organization of, recreational activities for handicapped. Includes ways of adapting common activities for participation by handicapped.

5550:115 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.)

5550:120 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.
5550:130 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.

5550:140 PHYSICAL EDUCATION ACTIVITIES I 3 credits
Acquisition of performance skills and knowledge of rules and techniques of gymnastics and tumbling, team sports and conditioning activities. Six class periods per week.

5550:141 PHYSICAL EDUCATION ACTIVITIES II 3 credits
Acquisition of performance skills and knowledge of techniques and development of dance activities, swimming and individual lifetime sports. Six class periods per week.

5550:150 ORGANIZATION AND ADMINISTRATION OF RECREATION 2 credits
General administrative procedures common. Analysis, discussion and visits of various types of recreational programs.

5550:183 METHODS OF TEACHING PHYSICAL EDUCATION 3 credits
Investigation and application of various methods for teaching elementary and secondary physical education. Preparation of lesson and unit plans, observations made in schools. Two lectures and one laboratory per week.

5550:194 SPORTS OFFICIATING 2 credits
Knowledge of rules for interscholastic sports and officiating techniques. Successful completion of course permits taking of state examination for officiating. Two lectures and one laboratory per week.

5550:201 KINESIOLOGY 2 credits
Prerequisites: 3100:206.7. Application of principles of anatomy to movement of human body.

5550:202 PHYSIOLOGY OF EXERCISE 3 credits
Prerequisites: 3100:206.7. Study of physiological effects of exercise relative to physical education activities and athletics. Two hours lecture, two hours laboratory.

5550:211 FIRST AID 2 credits
Standard American Red Cross gives instruction and practice in immediate and temporary care of injuries and sudden illnesses. In addition to standard course, CPR is covered.

5550:235 CONCEPTS OF MOTOR DEVELOPMENT AND LEARNING 2 credits
Analysis of concepts fundamental to learning motor activities.

5550:246 INSTRUCTIONAL TECHNIQUES IN ELEMENTARY PHYSICAL EDUCATION 2 credits
Prerequisites: 130, 140, 193. Supervised teaching of elementary physical education activities to peers. Four class periods per week.

5550:247 INSTRUCTIONAL TECHNIQUES IN SECONDARY PHYSICAL EDUCATION 2 credits
Prerequisites: 140, 193 and at least one credit of 101 through 120. Supervised teaching of secondary physical education activities to peer. Four class periods per week.

5550:290 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.

5550:310 THEORY AND TECHNIQUES OF SOCCER 1 credit
Theory, techniques and organizational procedures for coaching of soccer. Two class periods per week.

5550:311 THEORY AND TECHNIQUES OF TRACK AND FIELD 1 credit
Theory, techniques and organizational procedures for coaching of track and field. Two class periods per week.

5550:312 THEORY AND TECHNIQUES OF BASKETBALL 1 credit
Theory, techniques and organizational procedures for coaching of basketball. Two class periods per week.

5550:313 THEORY AND TECHNIQUES OF BASEBALL/SOFTBALL 1 credit
Theory, techniques and organizational procedures for coaching of baseball and softball. Two class periods per week.

5550:314 THEORY AND TECHNIQUES OF SWIMMING 2 credits
Theory, techniques and organizational procedures for coaching of swimming. One hour lecture, two hours laboratory.

5550:315 THEORY AND TECHNIQUES OF TUMBLING AND GYMNASTICS 1 credit
Theory, techniques and organizational procedures for coaching of tumbling and gymnastics. Two class periods per week.

5550:320 THEORY AND TECHNIQUES OF VOLLEYBALL 1 credit
Theory, techniques and organizational procedures for coaching of volleyball. Two class periods per week.

5550:325 THEORY AND TECHNIQUES OF FOOTBALL 1 credit
Theory, techniques and organizational procedures for coaching of football. Two class periods per week.

5550:325 THEORY AND TECHNIQUES OF WRESTLING 1 credit
Theory, techniques and organizational procedures for coaching of wrestling. Two class periods per week.

5550:334 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.

5550:335 MOVEMENT EXPERIENCES FOR THE ELEMENTARY GRADES 2 credits
Analysis, theory, practical application of basic movement experiences for children. One hour lecture, two hours laboratory.

5550:336 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.

5550:340 CARE AND PREVENTION OF ATHLETIC INJURIES 3 credits
Discussion of prevention, immediate care and rehabilitation of common athletic injuries. Practical application of wrapping and taping procedures for injury prevention and post-injury support.

5550:341 ADVANCED ATHLETIC INJURY MANAGEMENT 4 credits
Prerequisites: 3100:206.7, 5550:201.2. 340. Advanced athletic training techniques for the student desiring to become a certified trainer according to the regulations of the National Athletic Trainers Association.

5550:345 ADAPTED PHYSICAL EDUCATION 2 credits
Prerequisites: 3100:106.7. Current theories and practices relating to needs of physically handicapped children. Emphasis given to underlying philosophy, purposes and administration.

5550:350 ORGANIZATION AND ADMINISTRATION OF HEALTH AND PHYSICAL EDUCATION 3 credits
Investigation of necessary procedures for conduct of health education and physical education programs in schools. Includes organizational considerations, curricular patterns and equipment and supplies.

5550:351 ORGANIZATION AND ADMINISTRATION OF INTRAMURALS AND ATHLETICS 3 credits
Organizational patterns unique to conduct of intramurals, sport clubs and interscholastic athletics. Includes considerations of tournament designs, supplies and equipment and administration. Two hours lecture, two hours laboratory.

5550:355 FIELD EXPERIENCE 1-3 credits
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.

5550:403 STUDENT TEACHING SEMINAR 1 credit
Prerequisite: senior status. In conjunction with Student Teaching Synthesis of contemporary problems encountered during the student teaching experience. Exchange of ideas regarding role of new teacher entering profession.

5550:430 SENIOR HONORS PROJECT: PHYSICAL EDUCATION 1-6 credits
(May be repeated for a total of six credits)
Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.
5550:435/536 ADAPTED PHYSICAL EDUCATION TASKS FOR THE LEARNING DISABLED CHILD
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.

5550:490 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 related to physical education. The experience will be a cooperative effort of the student’s adviser, the student and agency personnel directly involved with the practicum.

5550:490 SPECIAL TOPICS: PHYSICAL 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.

5550:490, 1, 2, 3/590, 1, 2, 3 WORKSHOP
3-6 credits each
Practical, intensive and concentrated involvement with current curricular practices in areas related to physical education.

5550:494/594 EDUCATIONAL INSTITUTIONS AND FOUNDATIONS
1-4 credits
Practical experience with current research or curricular practices involving expert resource person in physical education, and usually financed by private or public funding.

5550:495 STUDENT TEACHING
1-8 credits
Prerequisite: senior status, all major courses completed, 2.50 grade-point average in major. Supervised teaching experience in a public school for fifteen weeks.

5550:497 INDEPENDENT STUDY
1-2 credits
Prerequisite: permission of adviser. Analysis of specific topic related to a current problem in physical education. May include investigatory procedures, research or concentrated practical experience.

Graduate Courses
5550:601 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION, ATHLETICS AND RECREATION
3 credits
Techniques of organization, administration and evaluation of health, physical education and recreation programs. Administrative policies of athletic programs at elementary, secondary and collegiate levels.

5550:603 CURRICULUM PLANNING IN HEALTH AND PHYSICAL EDUCATION
3 credits
Analysis of objectives, procedures and trends in curricula and principles and procedures for developing sound programs.

5550:605 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE
2 credits
Functions of body systems and physiological effects of exercise. Laboratory experiences, lectures, discussions.

5550:606 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION
3 credits
Critical analysis of existing testing procedures and discussion and study of measurement and evaluation in terms of program needs.

5550:608 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.

5550:609 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY
3 credits
Analysis of factors influencing motivation of motor performance with emphasis on competition, audience effects, aggression.

5550:695 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 project required.

5550:697 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.

5550:698 MASTER’S PROBLEM
2-4 credits
Prerequisite: permission of adviser. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in physical education.

5550:699 THESIS RESEARCH
4-6 credits
Prerequisite: permission of adviser. In-depth research investigation. Student must be able to demonstrate necessary competencies to deal with a research problem in physical education.

5550:430 SENIOR HONORS PROJECT:
OUTDOOR EDUCATION
1-6 credits
May be repeated for a total of six credits.
Prerequisites: senior standing in Honors Program and permission of student’s preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

5550:450/550 APPLICATION OF OUTDOOR EDUCATION TO THE SCHOOL CURRICULUM
4 credits
Provides knowledge, skills and techniques useful in application of outdoor education to school curriculum.

5550:452/552 METHODS, MATERIALS AND RESOURCES FOR TEACHING OUTDOOR EDUCATION
3 credits
Methodologies unique to outdoor education which incorporate a multisensory approach to learning. Instructional materials and resources which permit expansion of curriculum beyond the school building.

5560:454 OUTDOOR EDUCATION PRACTICUM
2 credits
Emphasizes skills, program considerations and organizational techniques unique to an extended, overnight, resident outdoor education program. On location for at least five days and four nights.

5560:456/556 OUTDOOR PURSUITS
4 credits
Investigation and participation in practical experiences in outdoor pursuits.

5560:460 OUTDOOR EDUCATION PRACTICUM
2 credits
Prerequisites: 452 or 552. Closely supervised practical experience in conjunction with regularly scheduled classroom meetings. Laboratory experience consists of active participation in an established outdoor education program.

5560:490/590 WORKSHOP: OUTDOOR EDUCATION
1-3 credits
Practical application of contemporary ideas, methodologies, knowledge relevant to outdoor education. Emphasis participant involvement in educational practices, utilizing the natural environment.

5560:494/594 EDUCATIONAL INSTITUTES: OUTDOOR EDUCATION
3 credits
Practical experience with current research or curricular practices involving expert resource persons in outdoor education.

5560:497 INDEPENDENT STUDY
1-3 credits
Prerequisite: 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
5550:600 OUTDOOR EDUCATION: RURAL INFLUENCES
3 credits
Prerequisites: 550 or 552. Utilization of resources of rural area as a learning/teaching environment. Content and methodology appropriate for teaching school-age children in rural setting.

5550:605 OUTDOOR EDUCATION: SPECIAL TOPICS
2-4 credits
(May be repeated with change in topic)
Prerequisite: permission of instructor. Group and individual study of special topics of contemporary concern in outdoor education.

5560:690 PRACTICUM IN OUTDOOR EDUCATION
2-4 credits
Prerequisites: 550 and permission of adviser. Supervised practical ex-
5570: Health Education

5570:101 PERSONAL HEALTH 2 credits (10 clinical hours)
Application of personal principles and facts pertaining to healthful, effective living. Personal health problems and needs of a student.

5570:200 CURRENT TOPICS IN HEALTH EDUCATION 3 credits
Designed to give the teacher of health education the knowledge base necessary to teach health facts and to selected topics in school and community health.

5570:201 CONSUMER HEALTH, WEIGHT CONTROL AND EXERCISE 3 credits
Student will investigate 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.

5570:202 STRESS, LIFESTYLE AND YOUR HEALTH 3 credits
Overview of the behavior associated with wellness and disease.

5570:220 COMMUNITY HYGIENE 2 credits
Study of major public health problems, organization and administration of official and voluntary agencies and their role in solution of community health problems.

5570:231 ORGANIZATION AND ADMINISTRATION OF SCHOOL HEALTH AND SCHOOL HEALTH SERVICES 4 credits
Methods and techniques utilized in organization and administration of school health program. Role of school and community personnel in detecting and managing health problems of the student. Procedures and programs designed to protect and promote the health of school-age youth.

5570:232 METHODS AND MATERIALS OF ELEMENTARY SCHOOL HEALTH EDUCATION 2 credits
Prerequisite: 101. Emphasizes the planning and organization of subject matter for implementation in elementary school health curriculum. Emphasis will be on creative activities and teaching methods.

5570:233 METHODS AND MATERIALS OF SECONDARY SCHOOL HEALTH EDUCATION 2 credits
Prerequisite: 101. Planning and organization of subject matter for secondary school health instruction will be major emphasis. Attention will be given to development of teaching techniques, utilization of instructional media and evaluation procedures in health education.

5570:305 FIELD EXPERIENCE IN HEALTH EDUCATION 1-3 credits
Prerequisite: permission of the adviser. On-site experience will be conducted in an area related to health education under the supervision of a faculty member. The student will work with current health education programs.

5570:400 ENVIRONMENTAL ASPECTS OF HEALTH EDUCATION 3 credits
Prerequisite: major or minor in health education or instructor’s permission. Examines various 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 affluence.

5600: Educational Guidance and Counseling

5600:110 CAREER PLANNING 2 credits
Skills necessary to make effective educational and career decisions. Emphasis upon self-understanding, career exploration, career planning, decision making.

5600:410 PERSONNEL SERVICES IN SCHOOLS 2 credits
Prerequisite: senior standing. Introduction to background, role and function, techniques, community agencies and issues in personnel field. For student considering pupil personnel fields, social work.

5600:426/526 CAREER EDUCATION 2 credits
Prerequisite: junior, senior or graduate standing. Examination of current career education models and programs with emphasis on infusion of career education activities into elementary and secondary curriculum.

5600:436 HELPING SKILLS FOR RESIDENT ASSISTANTS 2 credits
Prerequisite: open to resident assistants in University housing. A course designed to help student personnel workers become more effective in professional role.

5600:450/550 COUNSELING PROBLEMS RELATED TO LIFE — THREATENING ILLNESS AND DEATH 3 credits
Prerequisite: permission. Consideration of the global issues, current research, coping behavior, support systems and individual needs in regard to life-threatening situations.

5600:460 SPECIAL TOPICS: EDUCATIONAL GUIDANCE AND COUNSELING 1-4 credits
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

5600:490,1/590,1.0 WORKSHOP 1-3 credits
Prerequisite: major or minor in counseling. May include investigative procedure. Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

5600:493/593 WORKSHOP 1-4 credits
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

5600:494/594 COUNSELING INSTITUTE 1-4 credits
In-service programs for counselors and other helping professionals.

Graduate Courses

5600:800 SEMINAR IN COUNSELING 1 credit
Prerequisite: Counseling majors must elect 600 prior to electing 651 and/or within the first ten credits of 5600 coursework. Structured group experience designed to help the student assess selection of counseling as a profession.
5600: 020 Introduction to Counseling
Understanding guidance and counseling principles including organization, operation and evaluation of guidance programs designed for noncounseling majors.

5600: 831 Elementary School Guidance
Introductory course: examines guidance and counseling practices.

5600: 833 Secondary School Guidance
Introductory course: examines guidance and counseling practices.

5600: 835 Community and College Counseling
Overview of community and college counseling services: their evaluation, philosophy, organization, and administration.

5600: 843 Counseling: Theory and Philosophy
Examination of major counseling systems including client-centered, behavioral and existential theories. Philosophical and theoretical dimension stressed.

5600: 845 Group Testing in Counseling
Study of evaluation and measurement procedures in counseling including instrument development, selection and use of aptitude tests, inventories and rating scales.

5600: 847 Career Counseling: Theory and Practice
Prerequisites: 831 or 833 or 835 or permission. Study of career development, career decision making, career options and career counseling program development.

5600: 849 Counseling and Personnel Services in Higher Education
Prerequisite: 835 or permission of instructor. Counseling services as related to psychological needs and problems of the college student.

5600: 851 Techniques of Counseling
Prerequisites: 843 or permission. Study and practice of selected counseling techniques and skills with emphasis on structuring, listening, leading and establishing a counseling relationship.

5600: 853 Group Counseling
Prerequisite: 651 or permission. Provides knowledge, understanding and skills necessary for conducting group counseling sessions.

5600: 855 Introduction to Marriage and Family Therapy
Overview of the field including exposure to the history, terminology, contributions of significant persons.

5600: 857 Consultancy: Counseling
Prerequisite: 631, 651 or permission. Examination of consultation models with focus on process and product.

5600: 859 Organization and Administration of Guidance Services
Prerequisite: 631 or 633 or permission. Development of a comprehensive articulated guidance and counseling program.

5600: 861 Seminar: Elementary School Counseling
Prerequisites: 645, 647, 653 and 657. Primary models for understanding and modifying children’s behavior in classroom including technique development and review of guidance materials and programs.

5600: 863 Seminar: Secondary School Counseling
Prerequisites: 633, 643, 645 and 647. Study of specific guidance techniques and materials useful to counselors working with the secondary school student, teacher and parents.

5600: 865 Seminar: Community and College Counseling
Prerequisite: 835 or permission. Study of topics of concern to a student specializing in community and college counseling. Topics may differ each semester according to students’ needs.

5600: 867 Marital Therapy
Prerequisite: 855. In-depth study of theories and interventions which focus on the nature and quality of marital relationships.

5600: 869 Systems Theory in Family Therapy
Prerequisite: 855. 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.

5600: 571 Counseling Clinic
Prerequisite: permission. Closely supervised application and integration of diagnostic, counseling and consultant skills in clinical setting.

5600: 675 Practicum in Counseling
Prerequisite: 653. Supervised counseling experience with individuals and small groups.

5600: 886 Field Experience: Master’s
Prerequisite: permission of advisor and department head. Placement in selected setting for purpose of acquiring experiences and/or demonstrating skills related to student’s counseling program.

5600: 887 Independent Study
Prerequisite: permission of advisor and department head. Specific area of investigation determined in accordance with student needs.

5600: 906 Master’s Problem
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 guidance and counseling.

5600: 909 Thesis Research
Prerequisite: permission of advisor and department head. In-depth study and analysis of counseling problem.

5600: 702 Advanced Counseling Practicum
Prerequisites: 831 or 833 or 835 or permission. Development of a comprehensive articulated guidance and counseling program.

5600: 703 Advanced Seminar in Counseling
Prerequisite: doctoral residency or permission. Examination of theories of individual age group counseling along with supervised counseling experience in selected settings.

5600: 704 Research Design in Counseling I
Prerequisite: 704. Examination of theories of individual age group counseling along with supervised counseling experience in selected settings.

5600: 705 Research Design in Counseling II
Prerequisite: 704. Computer analysis of data related to counseling problem. Development of research proposal.

5600: 706, 7 Internship in Counseling
Prerequisites: 706, 707. Supervised counseling experience related to student’s counseling program.

5600: 710 Topic Seminar: Guidance
Prerequisite: doctoral residency or permission. Instruction and experience in supervising a graduate student in counseling.

5600: 712 Topical Seminar: Guidance and Counseling
Prerequisite: permission of instructor. A topical study with a variety of disciplinary input. Staffing will be by department faculty and other professionals in counseling and related fields. A maximum of six credits may be applied to a degree.

5600: 885 Field Experience: Doctoral
Prerequisite: doctoral candidate status. Placement in selected setting for purpose of acquiring experiences and/or developing skills related to student’s doctoral program.

5600: 887 Independent Study
Prerequisite: permission of advisor and department head. Specific area of investigation determined in accordance with student needs.

5600: 896 Research Projects in Special Areas
Prerequisite: permission of advisor and department head. Study, analysis and reporting of counseling problem.

5600: 899 Dissertation
Prerequisite: permission of major doctoral advisor and department head. Study, design and analysis of counseling problem.
### 5610: Special Education

#### 5610:201 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/LEARNING DISABILITIES
Prerequisite: sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and learning disabled children for ½ semester each. This experience is prerequisite to student teaching in each area.

#### 5610:202 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/ORTHOPEDICALLY HANDICAPPED
Prerequisite: sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and orthopedically handicapped children for ½ semester each. This experience is prerequisite to student teaching in each area.

#### 5610:203 STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/TRAINABLE MENTALLY RETARDED
Prerequisite: sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and trainable mentally retarded children for ½ semester each. This experience is prerequisite to student teaching in each area.

#### 5610:395 PREREQUISITES
- Mentally retarded: 5810:403
- Special education: 5810:444/544

#### 5610:403 STUDENT TEACHING SEMINAR: SPECIAL EDUCATION
Corequisites: 495. Support seminar for student teaching experience.

#### 5610:430 SENIOR HONORS PROJECT: SPECIAL EDUCATION
(May be repeated for a total of six credits)
Prerequisites: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.

#### 5610:440/540 DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS
- 5610:440:3 credits
- 5610:540:3 credits

#### 5610:441/541 DEVELOPMENTAL CHARACTERISTICS OF MENTALLY RETARDED INDIVIDUALS
Prerequisite: 440/540: Study of etiology, diagnosis, classification, and development characteristics of the mentally retarded individual.

#### 5610:443/543 DEVELOPMENTAL CHARACTERISTICS OF LEARNING DISABLED INDIVIDUALS
- 5610:443:3 credits
- 5610:543:3 credits

#### 5610:444/544 DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS
- 5610:444:3 credits
- 5610:544:3 credits

#### 5610:445/545 DEVELOPMENTAL CHARACTERISTICS OF ORTHOPEDICALLY HANDICAPPED INDIVIDUALS
Prerequisite: 441/541: Study of etiology, diagnosis, classification, and characteristics of the orthopedically handicapped.

#### 5610:446/546 DEVELOPMENTAL CHARACTERISTICS OF BEHAVIORALLY DISORDERED INDIVIDUALS
Prerequisites: 443/543: Study of etiology, diagnosis, classification, and characteristics of behaviorally disordered individuals.

#### 5610:450/550 EDUCATIONAL ADJUSTMENT FOR PRESCHOOL AND PRIMARY LEVEL EXCEPTIONAL INDIVIDUALS
- 5610:450:3 credits
- 5610:550:3 credits

#### 5610:452/552 EDUCATIONAL ADJUSTMENT FOR INTERMEDIATE LEVEL EXCEPTIONAL CHILDREN
- 5610:452:3 credits
- 5610:552:3 credits

#### 5610:453/553 PROGRAMMING FOR EXCEPTIONAL INDIVIDUALS
- 5610:453:1 credit
- 5610:553:1 credit

#### 5610:454/554 EDUCATIONAL ADJUSTMENT FOR MODERATE, SEVERE AND PROFOUNDMENTALLY RETARDED INDIVIDUALS
Prerequisite: 441/541: Study of etiology, diagnosis, classification, and characteristics of mentally retarded children.

#### 5610:455/555 EDUCATIONAL ADJUSTMENT FOR INTELLECTUALLY GIFTED INDIVIDUALS
Prerequisites: 444/544: Study of etiology, diagnosis, and characteristics of gifted individuals.

#### 5610:456/556 CLASSROOM BEHAVIOR MANAGEMENT FOR EXCEPTIONAL INDIVIDUALS
Prerequisites: 451/551 or equivalent. Study of behavior management principles, application models for exceptional children.

#### 5610:457/557 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.

#### 5610:458/558 INTERDISCIPLINARY PROGRAMMING FOR MSPR INDIVIDUALS
Prerequisite: permission of instructor. A study of the programs, interdisciplinary services, educational techniques designed to accommodate the needs of multiply handicapped individuals.

#### 5610:459/559 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION
- 5610:459:1-2 credits
- 5610:559:1-2 credits

#### 5610:460/560 WORKING WITH PARENTS OF MSPR INDIVIDUALS
Prerequisites: 460/560: Study of parent-teacher interaction, techniques, and parent resources.

#### 5610:490,1,2,3/590,1,2,3 WORKSHOP
- 5610:490:1-3 credits
- 5610:590:1-3 credits

#### 5610:495/595 INTERMEDIATE LEVEL EXCEPTIONAL CHILDREN
May be repeated for a total of four credits.

#### 5610:496/596 SPECIAL EDUCATION INSTITUTES; SPECIAL EDUCATION
- 5610:496:1-4 credits
- 5610:596:1-4 credits

**Note:** Course work must be completed with the approval and under the supervision of the advising professor.
Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>5620:600</td>
<td>SEMINAR: SPECIAL EDUCATION</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:601</td>
<td>SEMINAR: SPECIAL EDUCATION CURRICULUM PLANNING</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:602</td>
<td>SUPERVISION OF INSTRUCTION</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:603</td>
<td>ASSESSMENT AND EDUCATIONAL PROGRAMMING</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:605</td>
<td>PROGRAM DEVELOPMENT AND SERVICE DELIVERY SYSTEMS</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:606</td>
<td>FIELD EXPERIENCE: MASTER'S</td>
<td>1-4 credits</td>
</tr>
<tr>
<td>5620:607</td>
<td>INDEPENDENT STUDY</td>
<td>1-3 credits</td>
</tr>
<tr>
<td>5620:608</td>
<td>MASTER'S PROBLEM</td>
<td>2-4 credits</td>
</tr>
<tr>
<td>5620:609</td>
<td>THESIS RESEARCH</td>
<td>4-6 credits</td>
</tr>
<tr>
<td>5620:700</td>
<td>RESEARCH PROJECT IN SPECIAL EDUCATION</td>
<td>1-3 credits</td>
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5620: School Psychology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>5620:490/590</td>
<td>WORKSHOP</td>
<td>1-2 credits</td>
</tr>
<tr>
<td>5620:491/591</td>
<td>WORKSHOP</td>
<td>1-3 credits</td>
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</tbody>
</table>

5620: School Psychology

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5620:494/594</td>
<td>SCHOOL PSYCHOLOGY INSTITUTES</td>
<td>1-4 credits</td>
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</tbody>
</table>

5620: School Psychology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5620:600</td>
<td>SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:601</td>
<td>COGNITIVE FUNCTION MODELS FOR PRESCRIPTIVE EDUCATIONAL PLANNING</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:602</td>
<td>BEHAVIORAL ASSESSMENT</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:603</td>
<td>CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY</td>
<td>3 credits</td>
</tr>
<tr>
<td>5620:604</td>
<td>EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS</td>
<td>4 credits</td>
</tr>
<tr>
<td>5620:605</td>
<td>PRACTICUM IN SCHOOL PSYCHOLOGY</td>
<td>4 credits</td>
</tr>
<tr>
<td>5620:606</td>
<td>INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/Spring</td>
<td>3 credits each</td>
</tr>
<tr>
<td>5620:607</td>
<td>FIELD SEMINAR I: ISSUES AND ASSESSMENTS</td>
<td>2 credits each</td>
</tr>
<tr>
<td>5620:608</td>
<td>FIELD SEMINAR II: CLASSROOM ENVIRONMENT</td>
<td>2 credits each</td>
</tr>
<tr>
<td>5620:609</td>
<td>RESEARCH PROJECT IN SPECIAL AREAS</td>
<td>1-2 credits</td>
</tr>
<tr>
<td>5620:610</td>
<td>FIELD EXPERIENCE: MASTER'S</td>
<td>1-3 credits</td>
</tr>
<tr>
<td>5620:611</td>
<td>INDEPENDENT STUDY</td>
<td>1-3 credits</td>
</tr>
<tr>
<td>5620:612</td>
<td>MASTER'S PROBLEM</td>
<td>2-4 credits</td>
</tr>
<tr>
<td>5620:613</td>
<td>THESIS RESEARCH</td>
<td>4-6 credits</td>
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</table>
## 5630: Multicultural Education

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5830:490</td>
<td>Special Topics: Multicultural Education</td>
<td>1-4</td>
</tr>
<tr>
<td>(May be repeated with a change in topic)</td>
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<td></td>
</tr>
<tr>
<td>Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.</td>
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<tr>
<td>5830:481/581</td>
<td>Multicultural Education in the United States</td>
<td>3</td>
</tr>
<tr>
<td>Inquiry into multicultural dimensions of American education. Comparisons of urban, suburban and rural educational settings with reference to socio-economic differences.</td>
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</tr>
<tr>
<td>5830:482/582</td>
<td>Characteristics of Culturally Different Youth</td>
<td>3</td>
</tr>
<tr>
<td>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.</td>
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<td></td>
</tr>
<tr>
<td>5830:483/583</td>
<td>Preparation for Teaching Culturally Different Youth</td>
<td>3</td>
</tr>
<tr>
<td>Designed to help prepare trainees to teach culturally different youth from low-income backgrounds. 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 variety of instructional materials for individual, small group and large group instruction.</td>
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</tr>
<tr>
<td>5830:484/584</td>
<td>Principles of Bilingual/Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>An introduction to the theoretical, cultural, sociolinguistic bases of bilingual/multicultural education. Legislation, court decisions, program implementation included.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5830:485/585</td>
<td>Teaching Reading and Language Arts</td>
<td>4</td>
</tr>
<tr>
<td>To Bilingual Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prerequisite: permission of instructor. Course applies methodologies for teaching reading, language arts in the bilingual/multicultural classroom. The bilingual student’s native language, culture stresses.</td>
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</tr>
<tr>
<td>5830:486/586</td>
<td>Teaching Mathematics, Social Studies and</td>
<td>3</td>
</tr>
<tr>
<td>Science to Bilingual Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prerequisite: elementary education majors, 5200: 332,6,8; for secondary education majors, 5300:411; science, social studies or mathematics. Course applies methodologies for teaching mathematics, science, social studies in the bilingual/multicultural classroom.</td>
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</tr>
<tr>
<td>5830:487/587</td>
<td>Techniques for Teaching English as a Second</td>
<td>4</td>
</tr>
<tr>
<td>Language in the Bilingual Classroom</td>
<td></td>
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<tr>
<td>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.</td>
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<tr>
<td>5830:490/590</td>
<td>Workshop: Bilingual/Multicultural</td>
<td>1-3</td>
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<tr>
<td>Emphasizes development of teaching devices and/or curriculum units, demonstration of teaching techniques, utilization of community resources.</td>
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## 5700: Educational Administration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5830:490</td>
<td>Special Topics: Educational Administration</td>
<td>1-4</td>
</tr>
<tr>
<td>(May be repeated with a change in topic)</td>
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<tr>
<td>Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.</td>
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<td></td>
</tr>
<tr>
<td>5830:491/1-590,1-2,3</td>
<td>Workshop: Educational Administration</td>
<td>1-3</td>
</tr>
<tr>
<td>1-3 credits each</td>
<td></td>
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<tr>
<td>Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.</td>
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<tr>
<td>5830:494/594</td>
<td>Educational Institutes</td>
<td>1-4</td>
</tr>
<tr>
<td>Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.</td>
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</tbody>
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## Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5700:501</td>
<td>Principles of Educational Administration</td>
<td>3</td>
</tr>
<tr>
<td>Theories and practices in administering schools and school systems, with emphasis on administrative process, common problems, career opportunities, getting the first job.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5700:504</td>
<td>School and Community Relations</td>
<td>2</td>
</tr>
<tr>
<td>Basics in maintaining cooperative relationships between educational institutions and their supporting publics. Examination, analysis of institutional environments and impact of mass media on public support.</td>
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<tr>
<td>5700:505</td>
<td>Decision-Making Theory and Practice in</td>
<td>3</td>
</tr>
<tr>
<td>Educational Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theories underpinning process of decision-making in philosophy, sociology, economics and politics of education. Alternative decisions and the respective consequences. Fundamentals of PPBS and other decision-making aids.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5700:506</td>
<td>Evaluation of Educational Institutions</td>
<td>3</td>
</tr>
<tr>
<td>Theories and practices involved in processes of delineation, obtaining and providing information for decision making.</td>
<td></td>
<td></td>
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<tr>
<td>5700:507</td>
<td>Legal Basis of Education</td>
<td>2</td>
</tr>
<tr>
<td>Legal principles underlying education in the United States as reflected in statutory provisions, court decisions and administrative orders presented. Ohio school statutes covered in depth.</td>
<td></td>
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<tr>
<td>5700:508</td>
<td>Principles of School Finance</td>
<td>2</td>
</tr>
<tr>
<td>Study of financial operations of school systems including tax and other income, expenditures and budgeting.</td>
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<tr>
<td>5700:510</td>
<td>Principles of Educational Supervision</td>
<td>3</td>
</tr>
<tr>
<td>Study of principles, organizations and techniques of supervision with viewing to improvement of instruction.</td>
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</tr>
<tr>
<td>5700:511</td>
<td>Supervision of Student Teaching</td>
<td>2</td>
</tr>
<tr>
<td>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.</td>
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</tr>
<tr>
<td>5700:520</td>
<td>Secondary School Administration</td>
<td>2</td>
</tr>
<tr>
<td>Prerequisite: 601. Designed to help student gain knowledge and develop skills needed to successfully deal with problems, procedures of organization and administration of secondary school.</td>
<td></td>
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</tr>
<tr>
<td>5700:531</td>
<td>Elementary School Administration</td>
<td>2</td>
</tr>
<tr>
<td>Prerequisite: 601. Problems, procedures and principles of organization, administration and supervision in elementary schools.</td>
<td></td>
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</tr>
<tr>
<td>5700:594</td>
<td>Field Experience for the Elementary Administrator</td>
<td>1-2</td>
</tr>
<tr>
<td>(May be repeated for a total of two credits)</td>
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<tr>
<td>On-the-job experience in a public school system working with administrators and/or supervisors.</td>
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<tr>
<td>5700:605</td>
<td>Field Experience for Supervisors</td>
<td>2</td>
</tr>
<tr>
<td>Prerequisite: completion of all coursework except research problem. Designed to help student test and develop understandings and skills in supervision.</td>
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**Graduate Course**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5630:686</td>
<td>Seminar: Education of the Culturally Different</td>
<td>2</td>
</tr>
<tr>
<td>Survey of educational considerations for schools populated by low-income culturally different youth. Field experience in form of visitations to agencies serving low-income families required.</td>
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</tr>
</tbody>
</table>
Student participates in selected task areas which reflect supervisory responsibilities.

5700:696 FIELD EXPERIENCE FOR THE SECONDARY SCHOOL ADMINISTRATOR
Prerequisite: completion or present enrollment in all coursework for the master's degree for the secondary school principal. Provides student with on-the-job experience in secondary school administration.

5700:697 INDEPENDENT STUDY
(May be repeated for a total of six credits)
Prerequisite: permission of adviser and supervisor of the independent study. Area of study determined by student's needs.

5700:698 MASTER'S PROBLEM
Prerequisite: permission of adviser. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

5700:699 THESIS
Area of study determined by student's needs.
Prerequisite: completion or present enrollment in all coursework for the master's degree for the secondary school principal.

5700:701 SCHOOL BUILDING AND CONSTRUCTION
2 credits
Theories and practices involved in planning school facilities discussed. Includes field explorations of exemplary school buildings.

5700:702 SCHOOL BUSINESS ADMINISTRATION
2 credits
School business administration as part of total administrative pattern, and as creative planning process designed to facilitate instruction.

5700:703 ADMINISTRATION OF STAFF PERSONNEL
2 credits
Guidelines, techniques and procedures for helping administrator become a good manager of human resources, including planning and organizing, motivating and managing staff and appraising and evaluating performance.

5700:704 ADMINISTRATIVE ORGANIZATIONS IN EDUCATION
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.

5700:710 PRINCIPLES OF CURRICULUM DEVELOPMENT
3 credits
Overview of curriculum development in educational planning. Functions and structures necessary to study and interpret these instructional programs.

5700:715 EDUCATIONAL ORGANIZATIONAL INFORMATION PROCESSING
2 credits
For graduate education student majoring in administration. Includes concepts of modern systems and their educational applications.

5700:720 TOPICAL SEMINAR: EDUCATIONAL ADMINISTRATION
1-3 credits
Prerequisite: permission of instructor. Topical studies in selected areas of concern to students, practicing administrators in public, private educational institutions, organizations.

5700:730 SEMINAR IN SCHOOL ADMINISTRATION
3 credits
Prerequisite: 601. Focus on recent research in administration and educational administration theory.

5700:731 SEMINAR: PROBLEMS OF THE SCHOOL ADMINISTRATOR
2 credits
Current administrative problems in educational institutions as perceived by student and practicing school executives. Emphasis on problem identification, formulation and solution. Field visits, or resource persons invited to classroom.

5700:732 ORGANIZATIONAL COMMUNICATIONS AND THE SCHOOL ADMINISTRATOR
3 credits
Fundamentals of interpersonal communications. Application of these principles to roles of educational administrators. Skill development in written and spoken communications, with attention to nonverbal communications such as tone of voice, eye contact, and body language.

5700:733 THE EDUCATIONAL ADMINISTRATOR AND PLANNED CHANGE
2 credits
Prerequisites: 601 and 704. Relationship between technological and social change and needed change in education; theories, principles and mechanisms in planned educational change.

5700:740 THEORIES OF EDUCATIONAL SUPERVISION
3 credits
Prerequisite: 610, 5200:732 or 5000:721. Explanation and examination of various theories of supervision; sample models which implement existing theories.

5700:745 PRACTICUM IN EDUCATIONAL ADMINISTRATION: URBAN SETTINGS
2 credits
Prerequisite: completion of three-fourths of doctoral program courses. Analysis of uniquenesses of urban setting, e.g., multicultural and pluralistic urban populations. Stress on administrator's human relation skills.

5700:746 POLITICS, POWER AND THE SCHOOL ADMINISTRATOR
3 credits
Impacts of formal and informal community power structures and influential persons on educational planning and decision making. Administrator as an influence on the power structure for educational benefit.

5700:747 PRACTICUM: COMPETING AND COMPLEMENTARY SOCIAL SYSTEMS
3 credits
Designed to bring educational administrator into direct contact with individuals responsible for other community service delivery systems, e.g., city government. Methods of interagency cooperation to provide client services.

5700:795, 6 INTERNSHIP IN EDUCATIONAL ADMINISTRATION
2 credits each
(May be repeated for a total of six credits)
Work under a practicing administrator involving experience in optimum number of administrative tasks. Includes seminars and written work.

5700:797 FIELD EXPERIENCE FOR THE ELEMENTARY ADMINISTRATOR
2 credits
Entails supervised, on-the-job, administration experience in administrative task areas of staff personnel, pupil personnel, curriculum, community relations, finance and physical facilities.

5700:896 FIELD EXPERIENCE FOR THE SUPERINTENDENT
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.

5700:898 FIELD EXPERIENCE IN SCHOOL PLANT PLANNING
2 credits
Prerequisite: permission of instructor. Selected field experiences. Emphasis on analysis of school enrollments, evaluation of school plants and financial aspects of plant planning.

5700:897 INDEPENDENT STUDY
1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission of adviser. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in secondary education.

5700:898 RESEARCH PROJECT IN SPECIAL AREAS
1-2 credits
Prerequisite: permission of adviser. Critical and in-depth study of specific problem in educational administration.

5700:899 DISSERTATION
1-20 credits
Prerequisite: permission of adviser. Specific research problem that required student to apply research skills and techniques to the problem being studied.

5800: Special Educational Programs

5800:490/590 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES
1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

5800:491/591 WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE
1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.

5800:492/592 WORKSHOP IN READING
1-3 credits
Individual work under staff guidance on curriculum problems; utilization of community resources; planning of curriculum units.
5850: Educational Technology

5850:100 INTRODUCTION: 2 credits
PUPIL PERSONNEL WORK
Purposes, needs, scope, character of pupil personnel services.

5850:201 INFORMATIONAL SERVICES IN GUIDANCE AND SPECIAL EDUCATION 2 credits
Emphasis on organization and status of informational services as related to activities of educational technologist.

5850:204 HUMAN RELATIONS IN EDUCATION 3 credits
Study of individual and group relationships in educational setting including development of basic interpersonal skills.

5850:207 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.

5850:213 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.

5850:280 SPECIAL EDUCATION TECHNOLOGY 2 credits
Survey of selected procedures and materials employed in classrooms especially designed and operated for exceptional children.

5850:295 EDUCATION TECHNICIAN FIELD EXPERIENCE 5 credits
(May be repeated once)
Supervised field experience in school setting designed for educational technician enrollees only.

5900: Higher Education Administration

5900:715 SEMINAR IN HIGHER EDUCATION: 3 credits
ADMINISTRATION IN HIGHER EDUCATION
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.

5900:725 SEMINAR IN HIGHER EDUCATION: 3 credits
STUDENT SERVICES
Prerequisite: permission. Topics of concern to student specializing in student personnel services in higher education. Topics may differ each semester depending upon specific student needs and interests.

5900:730 HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING 3 credits
Study of strategies for implementing and monitoring the curriculum change process. Broad aspects of higher education program planning shall be examined

5900:735 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. Criterion-reference formatting is emphasized, including student achievement testing and evaluation.

5900:745 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 adviser and student in relation to student's academic needs and career goals.

5900:801 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.

5900:802 INTERNSHIP IN HIGHER EDUCATION 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: permission; corequisite: 801. Intensive work experience in operations of an institution of higher education, related to student's own program of studies and professional goals.

5900:802 INTERNSHIP IN HIGHER EDUCATION SEMINAR 1 credit
(May be repeated for a total of three credits)
Prerequisite: permission; corequisite: 802. To be taken in conjunction with internship for synthesis of problems encountered in internship experience and to provide the opportunity to share ideas and experiences from various areas of higher education internship placement.
6000: Cooperative Education

6000:301 Cooperative Education (May be repeated) 0 credits
For Cooperative Education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

6200: Accounting

6200:201 ACCOUNTING I 4 credits
Introduction to accounting, the language of business. Emphasis on basic principles, concepts and terminology of accounting for assets, liabilities and proprietorship.

6200:202 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.

6200:301 COST ACCOUNTING 3 credits
Prerequisites: 3250:202 and grades of not less than "C" in 6200:201 and 202. Introduction to product costing, emphasizing analysis of materials, labor and factory overhead. Cost control achieved through use of flexible budgets, standard costs and variance analysis.

6200:317 INTERMEDIATE ACCOUNTING I 4 credits
Prerequisite: 317. Study of long-term liabilities and investments, capital stock, retained earnings, accounting changes, funds statement, pensions, leases, statement analysis and price level accounting.

6200:318 INTERMEDIATE ACCOUNTING II 4 credits
Prerequisite: 318. Study of long-term liabilities and investments. Inventory management, cost and investment, income tax, and current liabilities.

6200:355 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.

6200:360 BUDGETING 3 credits
Prerequisite: 301. Study of principles and policies of budgeting. Emphasis on managerial control of expenses, capital expenditures and related activities.

6200:401 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.

6200:403 ADVANCED COST ACCOUNTING 3 credits
Prerequisite: 301. Study of use of standard cost procedures, job-costing procedures and advanced problems in area of cost accounting.

6200:410 TAXATION FOR THE NONACCOUNTANT 3 credits
Provides nonaccountant basic knowledge of federal tax law as applied to individuals and businesses. Not open to accounting majors.

6200:420/520 ADVANCED ACCOUNTING 3 credits
Prerequisite: 318. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, nonprofits and consolidated statements.

6200:425 CURRENT DEVELOPMENT IN ACCOUNTING 3 credits

6200:430/530 TAXATION I 3 credits
Prerequisite: 317. Application of federal income tax laws to individuals and proprietorships. Types of income, deductions and structure of tax return covered.

6200:431/531 TAXATION II 3 credits
Prerequisite: 317 and recommended for an advanced major. Application of federal income tax laws to partnerships, corporations, trusts, estates and gifts. Social security taxes and Ohio income, sales and personal property taxes discussed.

6200:440/540 AUDITING 3 credits
Prerequisites: 301 and 318. 355 and 6500:322 must be taken prior to or concurrently. By permission of instructor. Examinations auditing standards and procedures used by independent auditor in determining whether a firm has fairly represented its financial position.

6200:445 INFORMATION SYSTEMS 3 credits
Prerequisites: at least 355 and permission of instructor. Focus on development of accounting methods and procedures, installation and improvement of accounting systems and evaluation of automated data processing systems.

6200:460 CONTROLLERSHIP PROBLEMS 3 credits
Prerequisites: 301, 318 and 201. Study of quantitative accounting methods of planning, control and decision making. Standard costing, variable costing and contribution approach to decision making emphasized.

6200:470/570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING 3 credits
Prerequisite: 201 or 601, and either senior or graduate level standing. Theory and procedures involved in application of fund accounting, budgetary control, appropriations and various accounting systems to governmental units, educational, medical and other nonprofit institutions.

6200:480/580 ACCOUNTING PROBLEMS 3 credits
Prerequisite: 318. Independent research on advanced accounting problem in student's specific area of interest.

6200:485 CPA PROBLEMS: COMMERCIAL LAW 2 credits
Prerequisite: permission of instructor. Deals with those general principles of commercial law which appear on CPA examination.

6200:486 CPA PROBLEMS: ACCOUNTING PRACTICE 3 credits
Prerequisite: permission of instructor. Study of methods for solving various types of problems which appear on CPA examination section of CPA examination.

6200:487 CPA PROBLEMS: TAXATION 1 credit
Prerequisite: permission of instructor. Application of current developments in federal income tax law to CPA examination.

6200:488/588 CPA PROBLEMS: AUDITING 2 credits
Prerequisite: 440 or 540 or permission of instructor. Preparation for auditing section of CPA examination, focusing on auditing principles, standards and ethics and situations encountered by independent auditor.

6200:499/599 CPA PROBLEMS: THEORY 2 credits
Prerequisite: permission of instructor. Preparation for theory section of CPA examination, focusing on current developments and use of basic accounting theory to solve advanced accounting problems.

6200:491/591 WORKSHOP IN ACCOUNTING 1-3 credits
(May be repeated) Prerequisite: permission of instructor. Group study of accounting under faculty guidance. May not be used to meet undergraduate or graduate accounting major requirements, but may be used for elective credit only with permission of instructor or department.

6200:495 INTERNSHIP IN ACCOUNTING 3 credits
Prerequisite: permission of instructor. On-the-job training for student in field of public, industrial or nonprofit accounting. Individual assignments made by supervising faculty member.

6200:497 HONORS PROJECT 1-3 credits
(May be repeated for a total of six credits) Prerequisite: senior standing in Honors Program. Individual Seniors Honors
Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>6200:601</td>
<td>FINANCIAL ACCOUNTING</td>
<td>3 credits</td>
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<tr>
<td>6200:602</td>
<td>ACCOUNTING MANAGEMENT AND CONTROL</td>
<td>3 credits</td>
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<td>6200:603</td>
<td>TAX RESEARCH AND PLANNING</td>
<td>3 credits</td>
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<td>6200:604</td>
<td>CORPORATE TAXATION I</td>
<td>3 credits</td>
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<td>6200:605</td>
<td>TAXATION OF TRANSACTIONS IN PROPERTY</td>
<td>3 credits</td>
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<td>6200:606</td>
<td>ESTATE AND GIFT TAXATION</td>
<td>3 credits</td>
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<td>6200:607</td>
<td>ADVANCED ACCOUNTING THEORY</td>
<td>3 credits</td>
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<td>6200:608</td>
<td>ADVANCED AUDITING</td>
<td>3 credits</td>
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<td>6200:609</td>
<td>TAXATION OF PARTNERSHIPS AND SUBCHAPTER S CORPORATIONS</td>
<td>3 credits</td>
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<td>6200:610</td>
<td>CORPORATE TAXATION II</td>
<td>3 credits</td>
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<tr>
<td>6200:611</td>
<td>ACCOUNTING MANAGEMENT AND CONTROL</td>
<td>3 credits</td>
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<td>6200:612</td>
<td>INDEPENDENT STUDY IN ACCOUNTING</td>
<td>1-3 credits</td>
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<tr>
<td>6200:613</td>
<td>STATE AND LOCAL TAXATION</td>
<td>2 credits</td>
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<td>6200:614</td>
<td>ESTATE PLANNING</td>
<td>2 credits</td>
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<td>6200:615</td>
<td>UNITED STATES TAXATION AND TRANSNATIONAL OPERATIONS</td>
<td>2 credits</td>
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<td>6200:616</td>
<td>INDEPENDENT STUDY IN TAXATION</td>
<td>1-3 credits</td>
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<tr>
<td>6200:617</td>
<td>ADVANCED INFORMATION SYSTEMS</td>
<td>3 credits</td>
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<td>6200:618</td>
<td>COST CONCEPTS AND CONTROL</td>
<td>3 credits</td>
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<td>6200:619</td>
<td>INTERNATIONAL ACCOUNTING</td>
<td>3 credits</td>
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<td>6200:620</td>
<td>INDEPENDENT STUDY IN ACCOUNTING</td>
<td>1-3 credits</td>
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<tr>
<td>6200:621</td>
<td>SEMINAR IN ACCOUNTING</td>
<td>3 credits</td>
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6400: Finance

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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>6400:318</td>
<td>RISK MANAGEMENT AND INSURANCE</td>
<td>3 credits</td>
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<tr>
<td>6400:320</td>
<td>THE LEGAL ENVIRONMENT OF BUSINESS</td>
<td>4 credits</td>
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<tr>
<td>6400:321</td>
<td>BUSINESS LAW I</td>
<td>3 credits</td>
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FINANCIAL INTERMEDIARIES 3 credits
Analyzes major financial intermediaries. Money and capital markets reviewed with emphasis on interest rates and their impact upon administration of specific financial intermediaries.

Prerequisites: 371 or permission of instructor. Studies the flows of funds. Analyzes major financial intermediaries. Money and capital markets reviewed with emphasis on interest rates and their impact upon administration of specific financial intermediaries.

INVESTMENTS 3 credits
Prerequisite: 371 or permission of instructor. Range of security investment media explored, alternative investment programs considered and role of securities markets through which goals can be achieved studied.

FINANCIAL DECISION MAKING 3 credits
Prerequisite: 371 or permission of instructor. A study of the tools and techniques used to describe, analyze and determine impact on the firm of problems facing the firm as it attempts to achieve short- and long-term goals.

BUSINESS FINANCE 3 credits
Prerequisite: 6200:201, 3250:201, and completion of collegiate mathematics requirement. Study of problems of business firm from financial manager's viewpoint. Topics include planning, sources and uses of funds, capital budgeting and optimum financial structure.

FINANCIAL STATEMENT ANALYSIS 3 credits
Prerequisite: 371 or permission of instructor. Analysis and interpretation of the financial position and performance of the business firm from the perspective of the credit and financial analyst. Emphasizes mechanics and art of financial analysis.

REAL ESTATE PRINCIPLES: A VALUE APPROACH 3 credits
Prerequisite: 371 or permission of instructor. A study of real estate: the profession, the process and the product. Emphasis is on real estate as a product and the valuation process. The measurement of value requires tool abilities in accounting, statistics and finance.

REAL ESTATE INVESTMENT AND FINANCE 3 credits
Prerequisites: 371 and 400, or permission of instructor. Covers investing in real estate, financing such activities. Included are the methods, institutions, instruments, valuation, appraisal, role of public policy in real estate investment and finance.

INCOME PROPERTY APPRAISAL 3 credits
Prerequisites: 371 and 400, or permission of instructor. Advanced course in real property appraisal and valuation. Techniques and concepts will be covered along with the theory underlying such techniques.

PERSONAL FINANCIAL MANAGEMENT 3 credits
Covers the many personal financing decisions made by individuals. Areas of study include money management, credit acquisition, insurance program development, investment analysis and pension evaluation.

LIFE AND HEALTH INSURANCE 3 credits
Prerequisite: 318. Detailed study of life and health insurance contracts, insurance companies, industry regulations.

PROPERTY AND LIABILITY INSURANCE 3 credits
Prerequisite: 318. A study of the property and casualty insurance contracts, the insurance companies and the industry regulation.

LEGAL CONCEPTS OF REAL ESTATE: A MANAGERIAL APPROACH 3 credits
Prerequisite: 371 or permission of instruction. 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.

BUSINESS AND SOCIETY 3 credits
Prerequisite: senior standing. Conceptual course considers financial, economic and sociopolitical implications of business in society. Issues related to economic and legal framework for business decisions.
6400:655 GOVERNMENT AND BUSINESS 3 credits
Prequisite: 3250:600 and 6500:600. Public policy with regard to business institutions and issues are considered from an economic, legal, ethical, political framework.

6400:665 COMPARATIVE INDUSTRIAL RATIONALE 3 credits
Analytic approach to proper allocation of resources. Consideration given to industrial structure and evaluation made of relationship between structure and total economy. Various economic and political systems considered.

6400:674 FINANCIAL MANAGEMENT AND POLICY 3 credits
Prequisite: 602 or equivalent. Working capital management, controlling inventory investments, administering costs and funds, managing investment in plant and equipment, administering business income and forecasting for financial management.

6400:675 MANAGEMENT OF FINANCIAL STRUCTURE 3 credits
Prequisite: 674. Emphasizes determination of volume and composition of sources of funds. Primary attention directed to cost of capital for specific sources of financing.

6400:676 CAPITAL BUDGETING 3 credits
Prequisite: 674. Attempt to integrate various theories of capital budgeting into conceptual framework scheme. Theoretical concepts and practical applications blended for better understanding of capital problems.

6400:678 MERGERS, ACQUISITIONS, CONSOLIDATION, TAKEOVERS: AN INVESTMENT BANKING APPROACH 3 credits
Prequisite: 602 or permission of instructor. A comprehensive study of financial planning, factors, steps to be considered for success in completion of a merger.

6400:681 INTERNATIONAL BUSINESS FINANCE 3 credits
Prequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational operations. Consider management of working capital and permanent assets, return on investment and capital budgeting for the global firm.

6400:690 SELECTED TOPICS IN FINANCE 3 credits
(May be repeated for a total of 6 credits)
Prequisite: 674. Provides study of contemporary issues and areas not covered in current finance graduate courses.

6400:697 INDEPENDENT STUDY IN FINANCE 1-3 credits
(May be repeated for a total of three credits)
Prequisite: 674. Provides special topics of study and research in finance on an independent basis.

6400:698 INDEPENDENT STUDY: BUSINESS LAW 1-3 credits
Focus on special topics of study and research in the legal aspects of business administration.

6400:699 SEMINAR IN FINANCE 3 credits
(May be repeated for a total of six credits)
Prequisites: 674 and a total of 15 Phase II graduate credits. Individual research projects.

6500:301 MANAGEMENT: PRINCIPLES AND CONCEPTS 3 credits
Prequisite: Three credits in behavioral science, economics, mathematics, theory, practice in management of human, other economic resources, with extensive coverage of operations systems.

6500:302 INTRODUCTION TO ORGANIZATIONAL BEHAVIOR 3 credits
Prequisite: 301 and two courses in psychology, sociology. Investigation of applications of behavioral and social sciences as they relate to individual, group behavior in organizations.

6500:321 QUANTITATIVE BUSINESS ANALYSIS I 3 credits
Prequisite: completion of collegiate mathematics requirement. Statistical analysis of business data including coverage of probability theory, probability distributions, sampling, estimation, hypothesis testing.

6500:322 QUANTITATIVE BUSINESS ANALYSIS II 3 credits
Prequisite: 321. Statistical analysis of business data including analysis of variance, regression and correlation, time series, index numbers, distribution-free statistics, Bayesian decision making.

6500:333 COMPUTER APPLICATIONS FOR BUSINESS 3 credits
Emphasis on batch and real-time programming. Includes graphics using PLOT, simulation in GS, business programming using BASIC, flow-charting, hardware, software, management information systems.

6500:334 PRODUCTION AND DISTRIBUTION MANAGEMENT 3 credits

6500:336 PRODUCTION AND OPERATIONS MANAGEMENT 3 credits
Prequisite: 323, 331 and corequisite: 322. Introduces use of models for production scheduling, materials management, quality control, distribution and project management. Includes linear programming, PERT, simulation.

6500:341 PERSONNEL MANAGEMENT 3 credits
Prequisite: Two courses in psychology, sociology, and 301. Principles, policies, practices in administering functions of recruiting, selecting, training, compensating, appraising human resources of organizations.

6500:342 PERSONNEL RELATIONS 3 credits
Prequisite: 341. Analysis of management, union and employee objectives, attitudes and strategy, as they affect conduct of business and economy. Stress placed on group assigned readings and reports.

6500:407 INDEPENDENT STUDY IN SMALL BUSINESS MANAGEMENT 3 credits
Prequisite: Senior standing. Focuses on problems of organizing and operating a small business. Case studies and field experiences.

6500:408 OPERATIONS RESEARCH I 3 credits
Prequisites: 322, 332. Application of quantitative techniques for planning overall operations of firm. Emphasis given to external-internal factors, which influence short- and long-run economic success of firm.

6500:409 OPERATIONS RESEARCH II 3 credits
Prequisites: 322, 332. Application of quantitative techniques for planning overall operations of firm. Emphasis given to external-internal factors, which influence short- and long-run economic success of firm.

6500:410 PRODUCTION PLANNING AND CONTROL 3 credits
Prequisites: 322, 332. Forecasting, materials management, production planning, scheduling, control. Integrates previous courses, provides overall framework including use of computer and quantitative methods. Cases and a project in an operating organization.

6500:411 PERSONNEL OPERATIONAL PLANNING 3 credits
Prequisites: 322, 332. Application of quantitative techniques for planning overall operations of firm. Emphasis given to external-internal factors, which influence short- and long-run economic success of firm.

6500:435 QUALITY CONTROL 3 credits
Prequisite: 322. Emphasis on statistical techniques essential to controlling product quality for both measurement and attribute data. Includes control chart methods and acceptance sampling plans.

6500:436 ADVANCED PERSONNEL MANAGEMENT 3 credits
Prequisite: 341. Advanced study of current issues and problems in the field of personnel. Emphasis given to current literature and research. Activities may include projects, library research, case studies.

6500:471/472 MANAGEMENT PROBLEMS: PRODUCTION 3 credits
(Student who has earned credit in 471 is ineligible to register for or earn credit in 472.)
Prequisite: 332 or 432 or 443 and senior standing. Emphasizes modern management principles, practices, theory to an actual production problem in industry.

6500:472 MANAGEMENT PROBLEMS: PRODUCTION 3 credits
(Student who has earned credit in 472 is ineligible to register for or earn credit in 471.)
Prequisite: 332 and senior standing. Emphasizes modern management principles, practices, and theory to an actual production problem in industry.

6500:473 MANAGEMENT PROBLEMS: PERSONNEL 3 credits
(Student who has earned credit in 473 is ineligible to register for or earn credit in 472.)
Prequisite: 342 or 443 and senior standing. Emphasizes modern management principles, practices, and theory to an actual personnel problem in industry.
8500:480 INTRODUCTION TO CARE MANAGEMENT

Prerequisites: Upper college or graduate standing and permission of instructor. Introductory course for health professionals providing an in-depth study of management and principles and concepts as applied to particular health care organizations and health care delivery systems. Topics covered include (a) physical resource management, (b) human resource management, including motivation, leadership, supervision, communication, practices, work group dynamics, with emphasis on managing health care professionals and resources of health care organization, and (c) principles and techniques of decision making, planning, organizing, and controlling in health care setting. For those registered for graduate credit, a major research paper is required.

8500:485/858 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION

Prerequisite: permission of instructor. Special topics in health services administration (e.g., management) focusing on historical and/or contemporary managerial, organizational, and/or policy/strategy issues as related to health care organizations and health care systems. Separate topics may be repeated for a maximum of six credits. For those registered for graduate credit, a major research paper is required.

6500:490 BUSINESS POLICY

Examines the use of business policy techniques in managerial decision making, planning, organizing, and controlling in health care setting. For those registered for graduate credit, a major research paper is required.

6500:491 WORKSHOP IN MANAGEMENT

May be repeated with permission of instructor or department. Group studies of special topics in management. Not used to meet undergraduate major requirements in management. May be used for elective credits only.

6500:495 INTERNSHIP IN MANAGEMENT

Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports, term papers required as appropriate.

6500:497 HONORS PROJECT

Prerequisite: senior standing and permission of instructor. Individual honors project, approved and supervised by faculty member. May be repeated for a maximum of six credits.

6500:499 INDEPENDENT STUDY: MANAGEMENT

Prerequisite: senior standing and permission of department head. Provides a means for individualized study in management from which student can derive significant value.

Graduate Courses

6500:600 MANAGEMENT AND PRODUCTION CONCEPTS

Introduces basic marketing concepts. Stresses the components of marketing programs involved in the operations of profit and non-profit organizations within various macro-environments.

6500:601 QUANTITATIVE DECISION MAKING

Prerequisite: finite math. Applies quantitative techniques to business decision making. Topics covered include probability estimation and hypothesis testing, simple and multiple regression and correlation analysis, analysis of variance and nonparametric statistics.

6500:602 COMPUTER TECHNIQUES FOR MANAGEMENT

An introduction to computer techniques which will aid the manager in decision making. Elementary programming skills useful for business programming developed.

6500:640 INFORMATION SYSTEMS AND MANAGEMENT

Prerequisite: 650 or equivalent. An introduction to systems design, management information systems, data base management; their relationships to problem solving and the organization.

6500:651 PRODUCTIVITY AND QUALITY OF WORKFORCE ISSUES

Prerequisite: 652 or permission of instructor. A comprehensive study of innovative personnel policies designed to increase human satisfaction and productivity through changes in management.

6500:652 ORGANIZATIONAL BEHAVIOR

Prerequisite: 652 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.

6500:653 ORGANIZATIONAL THEORY

Prerequisite: 652. Leadership styles in organized institutional settings; influence of these styles on individual, group behavior; organizational goal attainment. Analysis of leader's role in administrative process.

6500:654 INDUSTRIAL RELATIONS

Prerequisite: 600. Study of rights and duties of management in dealing with labor and economic consequences of union and management policies and practices.

6500:656 MANAGEMENT OF INTERNATIONAL OPERATIONS

Prerequisite: 652 or equivalent. Deals with institutional environment of international business; parameters of international business system which hold the system together and which individual businessmen cannot materially alter.

6500:657 THE LEADERSHIP ROLE IN ORGANIZATIONS

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.

6500:658 OPERATIONS AND STRATEGIC PLANNING

Prerequisites: 650, 52 or equivalent. Long-range and short-term planning in organizations and linkage between the two. Planning models are presented for business and non-profit organizations.

6500:662 QUANTITATIVE METHODS—OPERATIONS MANAGEMENT

Prerequisite: 601 or equivalent. Survey of basic techniques of operations research. Stresses application to functional areas of business with particular emphasis given to production and planning aspects.

6500:663 APPLIED INDUSTRIAL STATISTICS I

Prerequisite: 601 or equivalent. Design for survey sampling and estimation. Simple linear regression analysis, including inferences, aptness of the model and joint confidence intervals.

6500:664 APPLIED INDUSTRIAL STATISTICS II

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.

6500:671 ADVANCED OPERATIONS RESEARCH

Prerequisite: 652. Designed to present in more depth and breadth certain topics surveyed in 652, with emphasis or application of these techniques to student's own business situations.

6500:672 MANUFACTURING AND OPERATIONS ANALYSIS

Prerequisite: 651 or equivalent. Provides an applications forum where skills gained in other manufacturing — quantitative areas of curriculum can be empirically utilized and applied.

6500:688 INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION

May not be repeated for more than 3 credits. Prerequisite: permission of instructor. Independent study and research of a special topic of interest in health services administration (i.e., management), chosen by the student in consultation with and under the supervision of the instructor.

6500:689 SEMINAR IN HEALTH CARE SYSTEMS MANAGEMENT

Prerequisite: 600 or equivalent or permission of instructor. An in-depth study of nonprofit health care organizations and health care delivery system. 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.

255
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite/Remarks</th>
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<tbody>
<tr>
<td>6500:590</td>
<td>SELECTED TOPICS IN MANAGEMENT</td>
<td>3 credits</td>
<td>(May be repeated for a total of six credits)</td>
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<td>Prerequisite: 652. Selected-topics in historical,</td>
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<td>contemporary and/or operational and functional areas of</td>
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<td>management.</td>
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<tr>
<td>6500:595</td>
<td>BUSINESS STRATEGY AND POLICY: DOMESTIC AND</td>
<td>3 credits</td>
<td>Prerequisite: to be final course in MBA program. A case-</td>
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<td>INTERNATIONAL</td>
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<td>oriented course which focuses on integration of</td>
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<td>theoretical and practical knowledge acquired in core</td>
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<td></td>
<td>business courses. Students analyze, evaluate,</td>
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<td>formulate organization objectives and strategies</td>
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<td>within domestic and international environmental contexts.</td>
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<tr>
<td>6500:697</td>
<td>INDEPENDENT STUDY IN MANAGEMENT</td>
<td>1-3 credits</td>
<td>(May be repeated for a total of three credits)</td>
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<td>Focus on special topics of study and research in</td>
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<td>management on an independent basis.</td>
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<tr>
<td>6500:699</td>
<td>GRADUATE SEMINAR IN MANAGEMENT</td>
<td>3 credits</td>
<td>(May be repeated for a total of six credits)</td>
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<td>Prerequisite: total of 15 Phase II graduate credits.</td>
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<td>For master's degree candidate in management. Independent</td>
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<td>study and reading. Leads to finished paper which</td>
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<td>should be completed within one year from time of</td>
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<td>enrollment of course.</td>
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### 6600: Marketing

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Remarks</th>
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<tbody>
<tr>
<td>6600:300</td>
<td>MARKETING PRINCIPLES</td>
<td>3 credits</td>
<td>Prerequisites: 3250:201, 2 or permission. Broad course</td>
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<td>integrating commodity, institutional, functional and</td>
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<td>managerial concepts of marketing process: total</td>
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<td>framework of economic activity.</td>
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<tr>
<td>6600:310</td>
<td>BUYER BEHAVIOR</td>
<td>2 credits</td>
<td>Prerequisites: two courses from 3750 or 3850 or</td>
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<td>permission. Interdisciplinary approach to analysis and</td>
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<td>interpretation of the nature and dynamics of buying</td>
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<td>motives, habits and procedures in consumer, industrial,</td>
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<td>intermediate and institutional markets. Economic,</td>
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<td>psychological and sociocultural actions and reactions of</td>
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<td>these buying units are viewed in terms of their</td>
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<td>decision-making processes as they affect and are</td>
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<td>affected by strategic and tactical decisions of the</td>
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<td>marketing organization.</td>
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<tr>
<td>6600:320</td>
<td>PHYSICAL DISTRIBUTION</td>
<td>3 credits</td>
<td>Prerequisite: 300. Basic course in source, movement and</td>
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<td>storage of goods, including emphasis on economics of</td>
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<td>transportation and requirements of an effective system.</td>
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<tr>
<td>6600:330</td>
<td>INTERNATIONAL MARKETING</td>
<td>3 credits</td>
<td>Prerequisite: 300. Student concentrates on principles of</td>
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<td>international trade, balances, and import and export</td>
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<td>distribution machinery. Pin-points characteristics and</td>
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<td>potentials of various foreign markets.</td>
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<tr>
<td>6600:340</td>
<td>RETAIL MANAGEMENT</td>
<td>3 credits</td>
<td>Prerequisite: 300. Presents principles of management</td>
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<td>resulting in service to consumers at profit to retailer.</td>
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<td>Store location, staffing, planning and control, buying,</td>
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<td>pricing and promotion explored.</td>
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<td>6600:350</td>
<td>ADVERTISING AND MARKETING COMMUNICATIONS</td>
<td>3 credits</td>
<td>Full range of marketing communication elements. Emphasis</td>
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<td>on role of each element and coordination required of</td>
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<td>marketing manager in developing successful and</td>
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<td>systematic program of marketing communications.</td>
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<tr>
<td>6600:360</td>
<td>INDUSTRIAL MARKETING</td>
<td>3 credits</td>
<td>Prerequisite: 300. Following principles of modern</td>
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<td>marketing management, focuses on development of local,</td>
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<td>regional, national markets. Emphasis on problems of</td>
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<td>industrial goods manufacturers.</td>
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<td>6600:370</td>
<td>PURCHASING</td>
<td>3 credits</td>
<td>Prerequisite: 3250:202. Process and activities</td>
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<td>associated with cost effective buying, internal</td>
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<td>management of all materials, equipment needed by</td>
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<td>manufacturer to produce product or provide a service.</td>
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<tr>
<td>6600:360</td>
<td>SALES MANAGEMENT</td>
<td>3 credits</td>
<td>Prerequisite: 350 or 360. Advanced consideration of</td>
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<td>firm's marketing mix as applied and adjusted to</td>
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<td>marketing objectives and policies and their</td>
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<td>implementation and control.</td>
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### Graduate Courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Remarks</th>
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<tbody>
<tr>
<td>6600:800</td>
<td>MARKETING CONCEPTS</td>
<td>3 credits</td>
<td>Assessment of basic marketing principles involved in</td>
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<td>business and industry. Required of all nonbusiness</td>
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<td>undergraduates, may not be selected for Phase II</td>
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8800:820 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.

8800:830 INTERNATIONAL MARKETING POLICIES 3 credits
Prerequisite: 620. Explores the problems of formulating and implementing marketing strategies and tactics within complex and changing multi-national organizations and international markets. A planning framework is emphasized.

8800:640 MARKETING INFORMATION SYSTEMS AND RESEARCH 3 credits
Prerequisites: 620, #500:601. Explores managerial development and maintenance of systematic methods for locating, acquiring, processing, analyzing and utilizing marketing information for marketing decision making.

8800:650 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.

8800:655 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.

8800:880 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.

8800:890 SEMINAR IN INTERNATIONAL BUSINESS 3 credits
Prerequisites: 529 and a total of 15 Phase II graduate credits. Permits M.B.A. candidate to independently analyze a significant international business problem culminating in a major paper.

8800:697 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.

8800:699 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.
Cooperative Education

7000: Cooperative Education
7000:200 Cooperative Education
(Repeatable)
For Cooperative Education Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

7100: Art

7100:100 SURVEY OF HISTORY OF ART I
4 credits
Architecture, sculpture, painting and minor arts from Primitive sources through Gothic time period in Europe.

7100:101 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 art form integrated into artistic styles of Twentieth Century.

7100:105 UNDERSTANDING ART
3 credits
Uses different societies have found for art and how social and technological levels of the society have affected the kind of art they make.

7100:120 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.

7100:121 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.

7100:130 FUNDAMENTALS OF SCREEN PRINTING
3 credits
An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

7100:131 INTRODUCTION TO DRAWING
3 credits
Freehand drawing experience with an orientation to elements and principles of visual organization. Limited media.

7100:140 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.

7100:144 TWO-DIMENSIONAL DESIGN
3 credits
Experimentation with systems for purposeful organization of visual elements on a two-dimensional surface. Study of visual theory including color theory. Lecture and studio experience.

7100:150 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.

7100:160 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.

7100:170 FUNDAMENTALS OF PHOTOGRAPHY
3 credits
A study of photography through lecture, demonstration and studio work. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

7100:180 FUNDAMENTALS OF GRAPHIC DESIGN
3 credits
A study of graphic design through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

7100:190 FUNDAMENTALS OF OFF-LOOM WEAVING
3 credits
A study of off-loom weaving through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

7100:191 DESIGN
2 credits
Basic principles of creative design and color theory. Discussion and studio. No credit toward major or teaching field in art.

7100:213 INTRODUCTION TO LITHOGRAPHY
3 credits
Prerequisites: 131, 144 or 231. Use of lithographic stone and metal plate as printmaking media. Stone and plate preparation, lithographic drawing materials and techniques, paper registration and printing press covered. Emphasis on aesthetic theory, technique and related history.

7100:214 INTRODUCTION TO SCREEN PRINTING
3 credits
Prerequisites: 131, 144 or 231. Silk screen printmaking. Theory and use of stencil process, positive and negative block-out techniques, photo stencil, registration and printing procedures. Emphasis on aesthetic theory, technique and related history.

7100:215 INTRODUCTION TO RELIEF PRINTING
3 credits
Prerequisites: 131, 144 or 231. Printmaking using found objects, synthetic materials, as well as traditional woodcut and linoleum-engraving. Emphasis on aesthetic theory, technique and related history.

7100:216 INTRODUCTION TO INTAGLIO PRINTING
3 credits
Prerequisites: 131, 144 or 231. Intaglio printmaking using drypoint engraving, aquatint and soft ground techniques. Emphasis on aesthetic theory, technique and related history.

7100:221 DESIGN APPLICATIONS
3 credits
Prerequisite: 121. Application of creative designing principles to problems of utilitarian function in mass-produced items. May include product design/prototype development, furniture design and construction, display design, etc.

7100:222 INTRODUCTION TO SCULPTURE
3 credits
Prerequisite: 131. Exploration of aesthetic factors influencing sculptural statements. Development of proficiency in the use of tools, materials and techniques.

7100:231 DRAWING II
3 credits
Prerequisite: 131. Continuation of 131. In-depth exploration of wide range of techniques and media. Attention to controlled descriptive drawing and space illusion and their aesthetic applications.

7100:232 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.

7100:233 LIFE DRAWING
3 credits
Prerequisite: 131. Perceptual problems in drawing from the parent and opaque uses of this water-based material. An exploration of life drawing as an aesthetic application.

7100:244 COLOR CONCEPTS
3 credits
Prerequisites: 121 or 144 or 286 or 2240. 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.

7100:245 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 opaque uses of this water-based paint.

7100:246 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.

7100:247 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 as mediated by color.
7100:254 INTRODUCTION TO CERAMICS
3 credits
Studio/lecture course exploring potentials of hand-building techniques in both sculptural and functional forms. Clay processing, glaze application and practical kiln firing.

7100:256 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.

7100:259 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.

7100:275 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.

7100:282 ARCHITECTURAL PRESENTATIONS
3 credits
Prerequisites: 131, 144 or 286 or 2240:124. Study and studio practice in architectural design and presentation methods, both residential and commercial and the development of graphic presentations of interior and exterior concepts. Emphasis on professional presentations, renderings of interiors, methods of illustrative and photographic presentations.

7100:283 DRAWING TECHNIQUES
3 credits
Prerequisites: 131 and 232. Includes advanced drawing and presentation techniques commonly used in graphic design. Various presentation and design problems will be encountered stressing use of selected drawing methods and processes.

7100:284 INTRODUCTION TO GRAPHIC DESIGN
3 credits
Prerequisites: 131 and 232. Studio experience in use of tools and materials of commercial graphic artist. Elementary design problems in commercial graphic design.

7100:286 COMMERCIAL DESIGN THEORY
3 credits
Prerequisite: 284. Basic course in visual problem solving emphasizing visual movements in and graphic elements of single as well as multiple images. Equal emphasis given to existing and created images.

7100:288 LETTER FORM AND TYPOGRAPHY
3 credits
Prerequisite: 286. Letter symbols studied in terms of communication and aesthetic awareness. History of letter forms, hand lettering, alphabet design, contemporary type faces and reproduction processes.

7100:293 INTRODUCTION TO WEAVING
3 credits
Development of visual perception and manual dexterity through on- and off-loom techniques. Experimentation with various materials.

7100:300 ART SINCE 1945
3 credits
Prerequisite: 101 or permission of instructor. Consideration of significant developments in visual art forms since World War II in architecture, sculpture, painting, photography, metal, textile, ceramics, printmaking and graphic design.

7100:302 ART IN EUROPE DURING THE SEVENTEENTH AND EIGHTEENTH CENTURIES
3 credits
Prerequisite: 101 or permission of instructor. Analysis of major European examples of architecture, landscape design, painting, prints and sculpture from beginning of the Seventeenth Century until approximately 1800.

7100:303 RENAISSANCE ART IN ITALY
3 credits
Prerequisite: 101 or permission of instructor. Study of architecture, painting and sculpture of Italy during Thirteenth through Sixteenth Centuries.

7100:304 ART IN EUROPE DURING THE NINETEENTH CENTURY
3 credits
Prerequisite: 101 or permission of instructor. Study and analysis of major developments in visual arts in Europe from 1800 to 1900.

7100:305 ART FROM 1900 TO 1945
3 credits
Prerequisite: 101 or permission of instructor. Study of significant developments in visual arts from approximately 1900 to 1945.

7100:317 PRINTMAKING II
3 credits
(May be repeated for a total of 12 credits with a different process). Prerequisites: 213 or 14 or 15 or 16 in the appropriate medium. Continuation of studio work in printmaking with concentration in one process designated by letter as follows: A. Lithography, B. Serigraphy, C. Relief, D. Intaglio.

7100:321 FIGURATIVE SCULPTURE
3 credits
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.

7100:322 SCULPTURE: CASTING
3 credits
Prerequisite: 121. Studio experience in the sculpture foundry. Will include other techniques in a variety of metals.

7100:331 DRAWING III
3 credits
Prerequisites: 141, 231, 233. Continues concerns of visual organization and technical proficiency with materials begun in 131 and 231, but places more emphasis on use of imagination and development of ideas in drawing.

7100:333 ADVANCED LIFE DRAWING
3 credits
(May be repeated for a total of six credits). Prerequisites: 231, 233. Studio course in drawing from human figure. Individual interpretation of human figure, using numerous media and drawing techniques. Emphasis on aesthetic structure and formal realization of personal intention.

7100:348 PAINTING II
3 credits
(May be repeated for a total of nine credits, but limited to a maximum of three credits in a given medium). Prerequisites: 235, 6 or 7 in the appropriate medium. Continuation of painting with concentration in one medium designated by letter as follows: A. Polymer, Acrylic, B. Watercolor, C. Oil.

7100:354 CERAMICS II
3 credits
Prerequisite: 254. Wheel throwing of both functional and sculptural form. Experiments in glaze chemistry and firing experience with both gas and electric kilns. Emphasis on technique, studio procedures and critical evaluation of each student's progress.

7100:356 METALSMITHING II
3 credits
(May be repeated for a total of six credits). Prerequisite: 266. Continuation of experiences presented in 256 with further development of skills and expansion of technical knowledge.

7100:366 ADVANCED ENAMELING
3 credits
(May be repeated for a total of nine credits). Prerequisite: 266. Continuation of 256. Development of personal aesthetic values. Advanced techniques with metal foils, champleve, cloisonne, limoge and gnosile processes.

7100:375 PHOTOGRAPHY II
3 credits
Prerequisite: 275. Projects utilizing photographic media and tools designed to expand student's awareness of visual qualities and order, both in the subject and photographic image. Student must own or have use of camera with controllable shutter, lens, diaphragm, focus and exposure meter.

7100:376 PHOTOGRAPHICS
3 credits
Prerequisite: 375. Photographic media and equipment used experimentally to produce line conversions, high contrast images, tone separations, shadow reversals and other photo-abstractions.

7100:380 GRAPHIC VIDEO
3 credits
Prerequisites: 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.

7100:387 ADVERTISING LAYOUT DESIGN
3 credits
Prerequisites: 275, 288. Creative exploration of problems in visual merchandising. Projects offer exercises in developing skills from concept through final comprehensive presentation.

7100:388 ADVERTISING PRODUCTION AND DESIGN
3 credits
Prerequisites: 387 and (either 2240:222 or 7100:376). Continuation of 387. More complex projects with emphasis given to mechanical preparation of finished art for various printing processes.

7100:389 CORPORATE IDENTITY AND GRAPHIC SYSTEMS
3 credits
Prerequisite: 386. Advanced projects in corporate identity, graphic systems analysis, design. Problem solving for these specific areas of graphic design within mechanical limitations of art reproduction.

7100:393 WEAVERING II
3 credits
(May be repeated for a total of nine credits). Prerequisite: 293. Continuation of 293. Development of the techniques of spinning and twill weaving. Emphasis upon either aesthetic considerations or

259
7100:400/500 ART IN THE UNITED STATES BEFORE WORLD WAR II 3 credits
Prerequisite: 101 or permission of instructor. Consideration of development of art in the United States from earliest evidence to approximately World War II.

7100:401 SPECIAL TOPICS IN HISTORY OF ART 1-3 credits
(May be repeated for credit when a different subject or level of investigation is indicated)
Prerequisites: 100, 1 or permission of instructor. Lecture course in which subject is specified each time course is offered. Focuses upon an art movement, time period, the production of a single artist or a specific art medium.

7100:405/505 HISTORY OF ART SYMPOSIUM 1-3 credits
(May be repeated for credit when a different subject is indicated)
Prerequisite: 15 credits in art history or permission of instructor. Lecture, individual research and evaluation, group discussion related to a specific time period or an artistic problem.

7100:418 ADVANCED PRINTMAKING 3 credits
(May be repeated for a total of 12 credits)
Prerequisites: 121, either 245 or 246 or 247, 317 in the appropriate process, and 375. Lectures, demonstrations and experiments with more sophisticated printmaking techniques and applications. Concentration in one process designated by letter as follows: A. Lithography, B. Serigraphy, C. Relief, D. Intaglio.

7100:422 ADVANCED SCULPTURE 3 credits
(May be repeated for a total of nine credits)
Prerequisite: 322. Development of individual points of view and sculptural statements.

7100:431 DRAWING IV 3 credits
(May be repeated for a total of nine credits)
Prerequisites: 121, 232, 331. In-depth study of drawing for advanced art student. Emphasis on interpretive and inventive drawing using widest possible range of media and techniques.

7100:449 ADVANCED PAINTING 3 credits
(May be repeated for a total of nine credits)
Prerequisites: 121, 231, 233, 348 in the appropriate medium. Advanced level painting course. Opportunity to explore polymer acrylic, oil or watercolor painting techniques, and experiment with aesthetics of color, form and style. Concentration in one medium designated by letter as follows: A. Polymer Acrylic, B. Watercolor, C. Oil.

7100:454 ADVANCED CERAMICS 3 credits
(May be repeated for a total of 16 credits)
Prerequisite: 254. Emphasis on refinement of technique toward personal aesthetic statement in preparation for professional or private studio production. Student may choose a general survey of subject matter or a more concentrated area of study.

7100:455 FIBER, CLAY AND METAL SEMINAR 2 credits
Prerequisite: permission of instructor. Open formal seminar designed to explore ideas in clay, fiber and metal art through reading, discussion and production.

7100:468 ADVANCED METALSMMITHING 3 credits
(May be repeated for a total of 12 credits)
Prerequisites: 283, 286. Investigation in depth of aesthetic and technical problems of metal smithing. Student works on individual projects under guidance from instructor.

7100:475 ADVANCED PHOTOGRAPHY 3 credits
(May be repeated for a total of 12 credits)
Prerequisites: 233, 376 and 360-137. Photographic media, light and photographic equipment manipulated experimentally to produce creative graphic images. Student works under guidance of instructor on advanced individual projects.

7100:480 ADVANCED GRAPHIC DESIGN 3 credits
(May be repeated for a total of nine credits)
Prerequisite: 389 or permission of instructor. Student works on advanced level individual projects under supervision of instructor.

7100:484 ILLUSTRATION 3 credits
Prerequisite: 283 or permission of instructor. Application of painting and drawing skills and aesthetic sensitivity to specific commercial illustration and editorial art assignments.

7100:485 ADVANCED ILLUSTRATION 3 credits
(May be repeated for a total of nine credits)
Prerequisite: 484 or permission of instructor. Advanced projects designed to tune student's personal aesthetic to communicative imagery. A more individual approach to design. Drawing and painting emphasized as is experimentation with multimedia.

7100:486 PACKAGING DESIGN 3 credits
Prerequisite: 387 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.

7100:488 PUBLICATION DESIGN 3 credits
Prerequisite: 389. Advanced research, design of promotional brochures, annual reports and other multiple page print. Emphasis on total design from concept to camera-ready art. Individual approach to communicative graphics stressed. Portfolio development.

7100:489 SPECIAL TOPICS IN STUDIO ART 3 credits
(May be repeated for credit when a different subject or level of investigation is indicated)
Prerequisite: advanced standing or permission of instructor. Group investigation of a particular phase of art not offered by other courses.

7100:490/590 WORKSHOP IN ART 1-4 credits
(May be repeated for credit when a different subject or level of investigation is indicated) 490 to maximum of eight credits, or 590 to maximum of 12 credits
Prerequisite: advanced standing in art or permission of instructor. Group investigation of a particular phase of art not offered by other courses in curriculum.

7100:497/597 INDEPENDENT STUDIES 1-3 credits
(May be repeated)
Prerequisite for art majors: advanced standing in area chosen, and permission of instructor. Prerequisite for non-art majors: permission of instructor. Investigation in depth of aesthetic and technical problems within a studio-selected area of specialization. Student must present in writing a proposed study plan and time schedule for instructor approval.

7100:498 SPECIAL PROBLEMS IN HISTORY OF ART 1-3 credits
(May be repeated for credit when a different subject or level of investigation is indicated)
Prerequisites: 20 credits in art history and permission of instructor and department head. Individual research in art history centered around limited topic, such as specific time period, history of specific techniques, a single artist or movement in art history. No more than 10 credits will be counted toward major.

7100:499 HONORS IN ART 3 credits
(May be repeated for a total of nine credits)
To be used for research in the honors program established by student and his adviser(s).

7400: Home Economics and Family Ecology

7400:121 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.

7400:122 CLOTHING CONSTRUCTION 3 credits
Basic theory and methods of garment construction including experience with pattern alterations, diverse fabrics and special construction techniques. Two hours lecture, four hours laboratory.

7400:132 EARLY CHILDHOOD NUTRITION 2 credits
Emphasis on nutrition as component of Early Childhood programs. Nutrition principles discussed in relation to self and young children. Prenta?e or infant nutrition studied. Food as learning experience, menu planning, purchasing.
sanitation, food labeling, storage and parent involvement included. For Family and Child Development Option, and an educational technology student.

7400:133 NUTRITION FUNDAMENTALS 3 credits
Study of fundamental concepts of nutrition; emphasis on nutrients and requirements at different stages of the individual's life cycle.

7400:141 FOOD FOR THE FAMILY 3 credits
Application of nutrition to meal planning; problems in selecting, budgeting and preparing food; table etiquette, meal service. Three, two-hour laboratories.

7400:147 HOME ECONOMICS SURVEY 1 credit
Survey of history and development of home economics with emphasis on professional and career opportunities.

7400:159 FAMILY HOUSING 3 credits
Study of housing alternatives related to stages in the family life cycle. Also an overview of physical aspects of house: construction, financing, insulation, heating, cooling systems, wiring, and kitchen design. Lecture/Laboratory.

7400:204 SURVEY OF HOMES, HOUSES AND FURNISHINGS 3 credits
Study of construction financing, insulation, heating, cooling systems, wiring, and kitchen design. Lecture/Laboratory.

7400:218 INTRODUCTION TO FURNISHINGS DESIGN AND RESEARCH 3 credits
Study of furnishing design, including topics such as furniture styles, construction, financing, insulation, heating, cooling systems, wiring, and kitchen design. Lecture/Laboratory.

7400:235 MOTHERHOOD: THE PARENT ROLE 2 credits
Overview of development of stereotyped behavior as it affects the father role and his interactive relationship with other family members. Directives for family life education, research, theory, and social policy.

7400:245 BASIC NUTRITION AND FOODS 5 credits
Prerequisite: 133, 3150:129 or permission of instructor. Scientific and aesthetic principles involved in the selection, storage, and preparation of common foods to maintain the highest nutritional quality and palatability.

7400:255 FATHERHOOD: THE PARENT ROLE 2 credits
Overview of development of stereotyped behavior as it affects the father role and his interactive relationship with other family members. Directives for family life education, research, theory, and social policy.

7400:265 CHILD DEVELOPMENT 3 credits
Physical, social, mental, and emotional development of child from prenatal through five. Observation in child care and preschool centers.

7400:275 PLAY AND CREATIVE EXPRESSION ACTIVITIES 4 credits
Prerequisite: 265. Importance of play in child's social, emotional, intellectual, and physical growth. Encouragement of creativity in adults and children through planned experiences that provide for individual expression.

7400:285 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; roles played by various hospital personnel that are related to a person's health; and medical terminology, common childhood illnesses, injuries and diseases.

7400:285 ADMINISTRATION OF CHILD CARE CENTERS 3 credits
Prerequisite: 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.

7400:301 CONSUMER EDUCATION 3 credits
Study of consumer needs, concerns and problems related to individual consumer; to consumers in the market economy and to the complex society in which families function.

7400:305 ADVANCED CONSTRUCTION AND TAILORING 3 credits
Prerequisite: 123. Advanced theory and principles in construction of furniture and garments. Construction of coat or suit jacket utilizing custom tailoring techniques. Two hours lecture, four hours laboratory.

7400:311 CONTEMPORARY NEEDLE ARTS 3 credits
Use of appropriate textiles, yarns and needles in creation of items for purposes of enhancing leisure time or as an aesthetic medium. Lecture/Laboratory.

7400:313 INTRODUCTION TO FOOD SYSTEMS MANAGEMENT 3 credits
Prerequisite: 245 or permission; corequisite: 246. Introductory course in management of dietary food service systems which relates to achievement of nutrition care goals.

7400:314 INTRODUCTION TO FOOD SYSTEMS MANAGEMENT - CLINICAL 1 credit
Prerequisite: CUP student only, corequisite: 313, 416. Demonstration of food preparation techniques in production area of community facilities; understanding of basic responsibilities of production supervisors; identification of resources involved in total management of base hospital's food service system.

7400:316 SCIENCE OF NUTRITION 4 credits

7400:317 HISTORIC COSTUME 3 credits
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 of costume. Lecture.

7400:320 FORENZIC NUTRITION 1 credit
Prerequisite: CUP student only; corequisite: 320. Clinical experiences in area hospitals for application of principles of nutritional care learned in 320.

7400:331 APPLIED HOME FURNISHINGS 3 credits
Prerequisite: 121. Laboratory: for the student to apply knowledge of home furnishings principles specifically in areas of drapery making, upholstery, slipcovering and accessory construction.

7400:333 INTERIOR DESIGN I: RESIDENTIAL 3 credits
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.

7400:334 INTERIOR DESIGN II: CONTRACT 3 credits
Prerequisite: 333. 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.

7400:335 FUNDAMENTALS OF BUYING HOME FURNISHINGS 3 credits
Study of the business aspects of interior design business procedures, manufacturing of home furnishings and principles and psychology of marketing home furnishings.

7400:340 MEAL SERVICE 2 credits
Prerequisites: 245, 316 (or 133, 141). Management of resources in relation to menu planning, meal preparation and service; appropriate forms of service for various types of meals. Preparation of foods from various parts of the world.

7400:350 THE CHILD IN THE HOSPITAL 3 credits
Prerequisite: 265, comparable course or permission of instructor. Seminar dealing with special needs and problems of hospitalized child and family. Literature related to effects, separation, illness and stress. Examination of strategies for coping.

7400:355 PRACTICUM: ESTABLISHING AND SUPERVISING A CHILD LIFE PROGRAM 3 credits
Prerequisite: 350. Explores procedures for implementing and setting up child life programs; critical analysis of currently functioning program.
7400:399 TAILORING FOR MEN 3 credits

7400:382 HOME MANAGEMENT THEORY 3 credits
Introduction to management theories, processes and principles as applied to utilization of human and material resources in promotion of individual and family well-being.

7400:380 INTRODUCTION TO COMMUNITY NUTRITION 1 credit
Orientation to the philosophy, objectives and structure of government and voluntary agencies and organizations which have nutrition components. Clinical observation scheduled.

7400:396 COMMUNITY INVOLVEMENT IN HOME ECONOMICS 1-3 credits
Development of managerial expertise through experience. Selected participation in business and industry, hospitals, community agencies and with individual families with special managerial problems.

7400:401/501 FAMILY LIFE PATTERNS IN THE ECONOMICALLY DEPRIVED HOME 2 credits
Study of family life orientation and lifestyle patterns among economically deprived with emphasis on impact of socioeconomic and psychological deprivation on family members throughout family life span.

7400:403/503 ADVANCED FOOD PREPARATION 3 credits
Prerequisite: 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.

7400:404/504 ADOLESCENCE IN THE FAMILY CONTEXT 3 credits
Prerequisite: 201, 265 or permission of instructor. The influences of adolescent behavior on the family and the influence of the family environment on adolescent development.

7400:406/506 FAMILY RESOURCE MANAGEMENT 3 credits
Management of family resources as family function as consuming units in today’s economy. Exposure to current consumer education resources including sources of consumer information and methods of utilizing these resources.

7400:412 INSTITUTIONAL MANAGEMENT 3 credits
Organization and management in administration of food service systems; problems in administration of food service systems; problems in control of labor, time and cost. Factual experience in food production.

7400:413 FOOD SYSTEMS MANAGEMENT 3 credits
Prerequisite: 313, corequisite: 414. Advanced concepts in management of dietetic service systems relating to achievement of nutritional care goals.

7400:414 FOOD SYSTEMS MANAGEMENT - CLINICAL 3 credits (credit/noncredit)
Prerequisite: 314, corequisite: 413. Application of advanced food systems management concepts in community dietetic food service facilities; preparation for entry-level staff positions as administrative dietitians; clinical experience for 24 hours per week for 10 weeks of semester.

7400:415 HOUSEHOLD EQUIPMENT 2 credits
Selection, use and care of modern household equipment. Survey of commercial equipment used in home economics related professions.

7400:416 QUANTITY FOOD PREPARATION 2 credits
Prerequisite: 245. Theoretical concepts and practical application of principles and procedures in quantity food management, preparation and service.

7400:419 CLOTHING COMMUNICATION 3 credits
Study of cultural, social, psychological and economic aspects of clothing. Emphasis on expression and use of clothing in relation to self, society and culture. Lecture/Discussion.

7400:420 EXPERIMENTAL FOODS 3 credits
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.

7400:421 SPECIAL PROBLEMS IN HOME ECONOMICS 1-3 credits
Additional study or apprentice experience in specialized field or preparation: group and individual experimentation.

7400:422 ADVANCED HOME MANAGEMENT 3 credits
Theoretical and practical experiences utilized in study of management processes and principles as applied to families. Management of human and material resources and decision-making processes emphasized.

7400:426 THERAPEUTIC NUTRITION 4 credits
Prerequisites: 316, 3100:130, 3150:202 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 diet and interviewing hospitalized patients; limited experience in specialized clinics.

7400:428 NUTRITION IN MEDICAL SCIENCE 5 credits
Prerequisite: 328; corequisite: 428. Overview of major areas of diet therapy not covered.

7400:429 NUTRITION IN MEDICAL SCIENCE - CLINICAL 3 credits (credit/noncredit)
Prerequisite: 329, CUP students only; corequisite: 428. Clinical experience in hospital applying principles of nutritional care learned in 428.

7400:430 COMPUTER-ASSISTED FOOD SERVICE MANAGEMENT 3 credits
Use of computer programs in application of management concepts for food service systems.

7400:439 FASHION 3 credits
Prerequisite: Sophomore standing. 121. Overview of fashion industry including growth, promotion and impact of cultural influences. Review of international and American fashion scene. Lecture/Discussion.

7400:442/542 HUMAN SEXUALITY 3 credits
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.

7400:445/545 PUBLIC POLICY AND THE AMERICAN FAMILY 3 credits
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.

7400:447 CRITICAL ISSUES IN HOME ECONOMICS 1 credit
Prerequisites: 147 and senior standing. Consideration of home economics as a profession and its impact on the quality of life of individuals, families and their environments. Analysis of challenges facing the profession and all home economists.

7400:449 FLAT PATTERN DESIGN 3 credits
Prerequisite: 305. Theory and experience in women’s clothing design using flat pattern techniques. Two hour lecture, four hour laboratory.

7400:450 DEMONSTRATION TECHNIQUES 2 credits
A major only. Provides practical experience in organization and presentation of demonstrations. Emphasis on competencies in coordination of materials, motion and speech in presentation.

7400:459 MACHINE STITCHERY 3 credits
Understanding the utilization of the sewing machine as a creative tool. Emphasis on developing the artistic and technical skills necessary for doing embroidery, applique, drawing, quilting, patchwork, cutwork and other related textile arts by machine.

7400:460/560 ORGANIZATION AND SUPERVISION OF CHILD CARE CENTERS 2 credits
Prerequisite: permission of instructor. Theory and principles involved in establishing and operating centers for infants and young children.

7400:480 COMMUNITY NUTRITION I. 3 credits
Prerequisite: 316, corequisite: 481. Major food and nutrition related problems in the community. Emphasis on community assessment program implementation and evaluation; rationales for nutrition services.

7400:481 COMMUNITY NUTRITION I - CLINICAL 1 credit (credit/noncredit)
Prerequisite: CUP students only; corequisite: 480. Field placement in area agencies offering nutrition services. Study of agencies goals, organization and philosophy of nutritional care.

7400:482 COMMUNITY NUTRITION II. 3 credits
Prerequisite: 480, corequisite: 483. Food and nutrition-related problems on a
national and international emphasis on legislation, nutrition policies, controversies, cultural differences and educational approaches.

7400:483 COMMUNITY NUTRITION II - CLINICAL 1 credit
Prerequisites: CUP student only, corequisite: 482. Field placement in area agencies offering nutrition services. Study of agencies' goals, organization and philosophy of nutritional care.

7400:485/585 SEMINAR IN HOME ECONOMICS 1-3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.

7400:496 STAFF RELIEF: DIETETICS 1 credit (credit/ noncredit)
Prerequisite: CUP senior only. 3-4. Opportunity to function as an entry-level dietitian in a area of administrative, therapeutic or community dietetics. The graduating senior CUP student spends two 40-hour weeks in a mutually agreeable agency under direction of staff dietitians or coordinators.

7400:490/590 WORKSHOP IN HOME ECONOMICS AND FAMILY ECOLOGY 1-3 credits
Prerequisite: at least junior standing. Investigation on current issue or topic in selected areas of home economics and family ecology. May be on campus study tour or on-campus full-time group meeting.

7400:495 INTERNSHIP: GUIDED EXPERIENCES IN CHILD LIFE PROGRAM 6 credits
Prerequisite: 355. A field experience in a child life program as a child life specialist at Children's Hospital-Medical Center of Akron.

7400:496/596 PARENTING SKILLS 3 credits
Prerequisite: 265, comparable course or permission of instructor. Reviews and analyzes various child-rearing techniques with major emphasis on practical application.

7400:497 INTERNSHIP IN HOME ECONOMICS AND FAMILY ECOLOGY 2-6 credits
Prerequisite: Permission of instructor. In-depth field experience in business, industry or community agencies related to student's area of specialization.

7400:499 SENIOR HONORS PROJECT IN HOME ECONOMICS AND FAMILY ECOLOGY 1-3 credits
Prerequisite: Senior standing in Honors Program and approval of Honors Preceptor. Individual study supervised by adviser. Student and preceptor develop goals, objectives and methodology (May be repeated for a total of six credits).

Graduate Courses

7400:600 EVALUATION OF HOME ECONOMICS LITERATURE 3 credits
A study of selected literature with emphasis upon evaluation and interpretation strategies.

7400:601 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.

7400:602 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 inter-personal competence. Implications for education, theory, research and social policy.

7400:603 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.

7400:605 DEVELOPMENTAL PARENT-CHILD INTERACTIONS 3 credits
Prerequisite: 205, or equivalent, or permission. Study of reciprocal interactions formed between parent and child from birth to adulthood. Consideration of cross-cultural studies, historical and societal influences and varying family characteristics and structures.

7400:607 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.

7400:616 INFANT AND CHILD NUTRITION 2 credits
Emphasizes current research trends in physiology of infant and young child in relation to nutritional requirements and feeding practices.

7400:619 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.

7400:660 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, literary analysis, application, evaluation stressed.

7400:665 DEVELOPMENT IN INFANCY AND EARLY CHILDHOOD 1-3 credits
Analysis of research and theoretical frameworks regarding infant and child development from conception through age five. Implications for guidance and education.

7400:675 CONCEPTUAL FRAMEWORKS IN FAMILY ECOLOGY 3 credits
The ecology system will be used as a model for viewing the family as a unit and the relation between familial groups and the environment.

7400:695 INTERNSHIP IN FAMILY AND CHILD DEVELOPMENT 5 credits
Prerequisite: permission of adviser. Community-based experience designed to supplement classroom studies. A student works with agency personnel and clientele in programs designed to meet needs of children and/or families.

7500: Music

7500:109 FUNDAMENTALS OF MUSIC 2 credits
Introduction of basic notation and development of functional music reading and keyboard skills. Conducted in electronic keyboard laboratory with computer-assisted instruction available. For non-music majors only, with little or no previous musical training.

7500:101 INTRODUCTION TO MUSIC THEORY 2 credits
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 signatures, ear training and basic familiarity with the keyboard. Credit not applicable toward music degree.

7500:134 CLASS PIANO I 2 credits
Prerequisite: 101 or permission of instructor. Designed for student with no previous keyboard experience to learn rudimentary keyboard skills such as playing scales, chords, arpeggios and melodic patterns as well as simple music.

7500:155 CLASS PIANO II 2 credits
Prerequisite: 104 or permission of instructor. Continuation of work begun in 104.

7500:107 CLASS VIOICE I 2 credits
Prerequisite: 101 or permission of instructor. Minimum memorization and solo singing requirement. Seven songs. Voice literature emphasis: folk songs, ballads, spirituals, sacred songs and easy a cappella songs in English.
7500:106 CLASS VOICE II 2 credits
Prerequisite: 107. Minimum memorization and solo singing requirement eight songs. Vocal literature emphasis: old Italian and English songs, art songs in English or foreign language if student is conversant with the language.

7500:110 CLASS GUITAR FOR NON-MUSIC MAJORS 1 credit
Prerequisite: permission of instructor. Introduction to the guitar. Its structure and techniques. Basic classical techniques and music reading, strums, finger-picking, accompanying patterns, blues styles will be covered.

7500:151,2 THEORY I, II 3 credits each
Sequentail. Prerequisite: 101 or permission of instructor. Study of creation of music, its structure and techniques. Basic principles of music, theory, and technique as they relate to the construction of music on the development of music and contemporary music.

7500:154,5 MUSIC LITERATURE I, II 2 credits each
Sequential. Familiarization with large body of material from all branches of music writing, vocal instrumental, symphonic and choral music literature. Special attention given to style, form and structural procedures of principal composers.

7500:157 STUDENT RECITAL 0 credits
Required of all music majors until minimum requirement is met. Forum for student and faculty members providing lectures, recitals and opportunity for practice of various skills necessary for successful music performance.

7500:181 AURAL/ORAL MUSIC READING SKILLS 4 credits
Prerequisite: 101 or passing placement test or permission of instructor. Competency-based, supervised drill in the vocal mastery of scales, modes, intervals, broken chords, melodies, rhythms, meter, tempo, modulation. Computer-based education programs in ear training and detection.

7500:173 NOTATION AND CALLIGRAPHY 2 credits
Prerequisite: 101. Techniques involved in writing music symbols and their correct placement on staff paper. Included are specific techniques in orchestral, choral, jazz, popular notation.

7500:205 MARCHING BAND ORGANIZATION AND TECHNIQUE 1 credit
Prerequisite: 104. All aspects of band on the field discussed. Student learns to write complete half-time show, administer marching band program, etc.

7500:210 JAZZ IMPROVISATION I 2 credits
Prerequisite: 252 and permission of instructor. Study and application of principles of jazz improvisation as they relate to the chord-scale structures, motive, development and style.

7500:211 JAZZ IMPROVISATION II 2 credits
Prerequisite: 408. Advanced study in principles of jazz composition.

7500:212 THE MUSIC INDUSTRY: A SURVEY OF PRACTICES AND OPPORTUNITIES 2 credits
A study of current practices affecting the profession musician and a survey of career opportunities relating to the music industry.

7500:251,2 THEORY III, IV 3 credits each
Sequential. Prerequisite: 152. Renaissance vocal counterpoint, baroque instrumental counterpoint, form and analysis of music of all eras.

7500:254,5 STRING INSTRUMENT TECHNIQUES I, II 2 credits each
Sequential. Fundamentals of technique, tone production methods and materials pertaining to violin, viola, cello and string bass: heterogeneous string ensemble activities.

7500:281,2 KEYBOARD HARMONY I, II 2 credits each
Sequential. Prerequisites: 105 or equivalent and 152. Essentials of basic theory and harmony practically applied at keyboard, accompaniment, improvisation, transposition, modulation and sight-reading.

7500:283 SERVICE PLAYING FOR ORGANISTS 2 credits
Prerequisites: 152 and 261. Practical course in basic keyboard skills needed by organist to play for religious services in various denominations. Hymn playing, anthem and simplified improvisation.

7500:284 BEGINNING PIANO PEDAGOGY AND LITERATURE 2 credits
Prerequisite: permission of instructor. Examination of musical content and pedagogical orientation of beginning piano material to include appropriate teaching works, methods and ensemble pieces from a variety of historical periods.

7500:285,6 DICTION FOR SINGERS I, II 2 credits each
Sequential. Prerequisite: permission. Study of diction of the four most used languages (Italian, German, French and English) in vocal performance and international phonetic alphabet. Designed for student who expects to function as vocal performer and/or teacher.

7500:301 MUSIC APPRECIATION: MUSIC BEFORE 1800 2 credits

7500:302 MUSIC APPRECIATION: NINETEENTH AND TWENTIETH CENTURIES 2 credits
301 and 302 designed as electives for non-music major to provide introductory survey of art of music.

7500:308 MARCHING BAND ARRANGING 2 credits
Prerequisite: 152 or permission of instructor. A student arranges music for marching band including style, sound, and scoring. Includes discussion of scoring for concert band as related to marching band.

7500:307 TECHNIQUES OF STAGE BAND PERFORMANCE 2 credits
AND DIRECTION
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.

7500:308 THE HISTORY AND LITERATURE OF JAZZ 3 credits
Prerequisite: permission of instructor. Study of origins of jazz music, its development and influence on today's culture. Investigates evolution of musical instruments as they pertain to jazz music, the artists who perform on them, and their music through live and recorded performing experiences.

7500:309 JAZZ KEYBOARD TECHNIQUES 2 credits
Prerequisite: 262. Study of the fingers and familiarization with basic jazz keyboard techniques as they relate to contemporary jazz theory and harmony.

7500:310 JAZZ IMPROVISATION III 2 credits
Prerequisite: 211. Advanced study in the principles of jazz improvisation.

7500:311 JAZZ IMPROVISATION IV 2 credits
Prerequisite: 310. Advanced study in the principles of jazz improvisation.

7500:325 RESEARCH IN MUSIC 2 credits
Prerequisites: 155, 161, 252, 262. Techniques of basic research methods; experiences in various fields of music. Prerequisite: permission of instructor.

7500:342 WIND-PERCUSION INSTRUMENT TECHNIQUES 3 credits
(May be repeated for a total of six credits)
Prerequisites: 155, 162, 252, 262. Introductory and developmental sequence of studies related to skills, techniques and materials appropriate to non-published music performance classes in grades K-12. Clinical and field-based experiences.

7500:343 CLASSICAL CHORA LTECHNIQUES 3 credits
(May be repeated for a total of six credits)
Prerequisites: 155, 162, 252, 262. Basic techniques in teaching vocal and instrumental, ensemble and group activities. Prerequisite: 104.

7500:351,2 MUSIC HISTORY I, II 3 credits each
Sequential. Prerequisites: 152, 155. Development of music from ancient to modern times; scores, recordings and live performances.

7500:353 ELECTRONIC MUSIC 3 credits
(May be repeated for a total of six credits)
Prerequisites: 155, 162, 252, 262. Basic techniques in teaching woodwind, brass and percussion instruments. Development of knowledge and skills on band instruments applied to ensemble, large groups and individual music instruction. Clinical and field-based experiences.

7500:357 ELECTRONIC MUSIC 3 credits
Prerequisite: permission of instructor. Study of application of music to needs of the special person in public/private school, clinical settings.

7500:358 FUNCTIONAL CLASS GUITAR 2 credits
Prerequisite: knowledge of music rudiments and permission of instructor. Provides learning and development of music composition, production and presentation with control over the natural limitations of the guitar as related to use in music classrooms.
7500:242 CONDUCTING 2 credits
Prerequisite: 152, Study and practice of conducting techniques, beat patterns, tempos, tempo and dynamic change, attacks and releases, score reading.

7500:243 CHORAL ARRANGING 2 credits
Prerequisites: 252, 352 or permission of instructor. Designed to provide student with an understanding of principles of choral arranging and composition in all idioms and styles.

7500:265 SONG LITERATURE 2 credits
Prerequisite: 252 or permission. Exposes student systematically to vocal literature, aiding in their ability to distinguish between various periods and styles of music through recordings and class participation.

7500:268 GUITAR STYLES 2 credits
Prerequisite: 200 performance level or permission of instructor. Techniques involved in playing musical styles other than those in classical guitar. Included are plectrum styles such as bluegrass, country and rock, as well as flamenco, folk, popular and jazz.

7500:349 HISTORY AND LITERATURE OF THE GUITAR AND LUTE 2 credits
Prerequisite: permission of instructor. Study of plucked, fretted, string instruments from the 14th century to the present: construction, notation, literature and performance practices. Modern editions and recordings evaluated.

7500:371 TECHNIQUES FOR THE ANALYSIS OF TWENTIETH CENTURY MUSIC 2 credits
Prerequisite: 252. Techniques for the analysis of musical scores from the twentieth century. Required of a theory-composition major.

7500:407 JAZZ ARRANGING AND SCORING 2 credits
Prerequisite: 454 or permission of instructor. Study of jazz instrumentation from small groups to large ensembles.

7500:451/551 INTRODUCTION TO MUSICOLOGY 2 credits
Prerequisite: 252. Study of methodology, critical approaches, and the literature of musicology, focusing on stylistic and historical traditions.

7500:452 COMPOSITION 2 credits
Prerequisite: 252 or permission of instructor. Study and creative use of major styles and idioms of musical composition; emphasis on twentieth-century techniques.

7500:454 ORCHESTRATION 2 credits
Prerequisite: 262. Theory of instrumentation ranging from small ensembles to full band and orchestras.

7500:454/555 ADVANCED CONDUCTING: INSTRUMENTAL 2 credits
Prerequisites: 381 and 454. Advanced conducting techniques and problems relating to practice, rehearsal, and performance of various instrumental ensembles.

7500:456/556 ADVANCED CONDUCTING: CHORAL 2 credits
Prerequisite: 381 or equivalent. Advanced techniques of choral conducting including organization, rehearsal and performance of choral ensembles.

7500:462/562 REPERTOIRE AND PEDAGOGY: ORGAN 2 credits
Prerequisite: permission of instructor. Survey of organ literature of all areas and styles, and of methods of teaching organ, applying principles to literature.

7500:463/563 REPERTOIRE AND PEDAGOGY: STRING INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Study in depth of the four bowed string instruments, their history and classification. Methods of playing, sound production and coloring are closely related. Application of the techniques to solo, chamber and orchestral playing.

7500:471 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 twentieth-century techniques.

7500:472 ADVANCED ORCHESTRATION 2 credits
Prerequisite: 454. Study of techniques of orchestral style as found in major works from classical orchestra of Haydn and Mozart through modern orchestras of Stravinsky, Bartok, Berg and Schoenberg.

7500:490/590 WORKSHOP IN MUSIC 1-2 credits
Prerequisite: permission of instructor. Study and practice of conducting techniques and other activities related to musical performance. Group project related to specific phase of music. (May be repeated for a maximum of four credits)

7500:491 SPECIAL TOPICS IN MUSIC 1-2 credits
Prerequisite: 252. Study of advanced topics designed and implemented according to student interest. (May be repeated for a maximum of four credits)

7500:497 INDEPENDENT STUDY IN MUSIC 1-2 credits
Prerequisite: permission of instructor. Designed to develop understanding of music through study of music of particular phases of music. Group project related to specific phase of music. (May be repeated for a maximum of four credits)

7500:498 SENIOR HONORS PROJECT: MUSIC 1-2 credits
Prerequisite: 252. Individually designed project demonstrating scholarship, analysis, advanced musicianship, research and/or creativity according to student interest. Restricted to University Honors Music student.

7500:561 CHORAL LITERATURE 2 credits
Prerequisite: permission of instructor. Study of choral literature, including leadership, error detection, tonal development, stylistic accuracy and analysis.

7500:562 PRACTICES AND TRENDS IN MUSIC EDUCATION 2 credits
Prerequisite: permission of instructor. Study of regulations, policies and principles of music education as well as performance practices.

7500:611 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION 3 credits
Prerequisite: permission of instructor. Study of basic philosophical, historical, sociological and psychological concepts around which public school music programs function.

7500:612 PRACTICES AND TRENDS IN MUSIC EDUCATION 3 credits
Prerequisite: permission of instructor. In-depth exploration of innovative practices and trends in music education. Findings of research and practice related to prevailing situations in public/private school programs.

7500:614 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 are explored.

7500:615 MUSICAL STYLES AND ANALYSIS I 2 credits
Prerequisite: permission of instructor. Study of compositional techniques and stylistic traits observed in western music from period of Palestrina to Mahler. (May be repeated for a maximum of four credits)

7500:616 MUSICAL STYLES AND ANALYSIS II 2 credits
Prerequisite: permission of instructor. Advanced study of compositional techniques and stylistic traits observed in western music from Haydn through early 19th century.

7500:617 MUSICAL STYLES AND ANALYSIS III 2 credits
Prerequisite: permission of instructor. Advanced study of compositional techniques and stylistic traits observed in western music from period of late Baroque through Mahler and Strauss.
7500:618 MUSICAL STYLES AND ANALYSIS IV 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in Western music in twentieth century.

7500:619 THEORY AND PEDAGOGY 2 credits
Prerequisite: permission of instructor. Methodology of theory teaching in twentieth 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, etc., studied.

7500:620 COMPUTER ANALYSIS IN MUSIC 2 credits
Prerequisite: a minimum of one course in the 615-616 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.

7500:621 MUSIC HISTORY SURVEY: MIDDLE AGES AND RENAISSANCE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music of the Middle Ages and Renaissance. Research and writing in areas of special interest.

7500:622 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.

7500:623 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.

7500:624 MUSIC HISTORY SURVEY: TWENTIETH CENTURY 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of twentieth 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.

7500:625 GRADUATE BIBLIOGRAPHY AND RESEARCH IN MUSIC 2 credits
Prerequisite: undergraduate music degree or equivalent. Examination of all types of published music materials; research methods for thesis preparation and professional publishing; field trips to music libraries; computer-aided music research.

7500:630 TEACHING AND LITERATURE: BRASS INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in brass teaching techniques and appropriate literature.

7500:631 TEACHING AND LITERATURE: WOODWIND INSTRUMENTS 2 credits
Prerequisite: permission of instructor. To delineate and clarify contemporary techniques of woodwind pedagogy and to develop a comprehensive understanding of woodwind literature.

7500:632 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS 2 credits
Prerequisite: permission of instructor. To prepare an experienced instrumental music educator in new trends of percussion education. Emphasis placed on research, literature, performance techniques, new instruments and problems of teaching percussion from elementary level through high school.

7500:633 REPertoire AND PEDAGOGY: PIANO AND HARP/CHORD 2 credits
Prerequisite: permission of instructor. The examination of piano and harp/chord literature in historically chronological order with special attention to its pedagogical value and stylistic differences.

7500:634 TEACHING AND LITERATURE: STRING INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in string teaching techniques and appropriate literature.

7500:647 MASTER'S CHAMBER RECITAL 1 credit
Prerequisite: permission of instructor. Composition student will present a recital of chamber music compositions (at least one-half hour in length) written while in residence at the University. Student will actively organize and coordinate the recital and will also participate either as performer or conductor.

7500:665 VOCAL PEDAGOGY 3 credits
Prerequisite: permission. In-depth study of subjects dealing with teaching of voice, physiology of vocal instrument, principles governing vocal production and application of vocal pedagogy.

7500:686 ADVANCED SONG LITERATURE 3 credits
Prerequisite: permission of instructor. Systematic study of song literature presented chronologically according to national schools of composition. Stylistic compositional characteristics and representative works of all major composers of solo song literature.

7500:697 ADVANCED PROBLEMS IN MUSIC 1-3 credits
(May be repeated for a total of eight credits)
Prerequisite: permission of graduate adviser. Studies or research projects related to problems in music.

7500:698 GRADUATE RECITAL 2 credits
Prerequisite: permission of graduate adviser. Recital prepared and presented as a requirement for any appropriate degree option. The recital documents to be written in conjunction with the recital. Add 699 for the additional credits.

7500:699 THESIS RESEARCH/RECITAL DOCUMENT 4-6 credits
Prerequisite: permission of graduate adviser. Research related to the completion of the master's thesis or recital document written in conjunction with the graduate recital depending on the student's degree option.

7510: Musical Organizations
No fee is charged for enrollment of a qualified student in music organizations. Enrollment may be repeated. For specific requirements for an undergraduate student in music, consult page 6 of the Music Department Handbook.

7510:101 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.

7510:102 UNIVERSITY CHORUS: SYMPHONY 1 credit
Membership by audition. Prospective members are advised to contact the Department of Music two weeks prior to beginning of term. Music reading skills and previous choral experience required. Performs with Akron Symphony Orchestra. Major conducted ensemble.

7510:103 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.

7510:104 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.

7510:105 CHORAL ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for chamber vocal ensemble from all periods of music history. Frequent public concerts. Designed for personnel with good music reading ability and previous choral experience.

7510:106 BRASS ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for brass ensemble from all periods of music history. Frequent public concerts. For advanced brass players.

7510:107 STRING ENSEMBLE 1 credit
Membership by audition. In-depth study of performance of chamber music literature with special emphasis on string quartet and piano trio.
Graduate Courses

7510:106 OPERA WORKSHOP 1 credit
Membership by audition. Musical and dramatic group study of excerpts from operatic repertoire. Includes annual production of standard opera and/or contemporary chamber work with staging, costumes and scenery.

7510:109 PERCUSSION ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for various percussion groups; develops skill in ensemble performance.

7510:110 WOODWIND ENSEMBLE 1 credit
Membership by audition. Study and performance of windwood literature from all periods for various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.

7510:111 CHAMBER ORCHESTRA 1 credit
Membership by audition. Organization designed to study for performance the substantial repertoire for small orchestra. Open to student of advanced ability.

7510:112 MEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for male voices in ensemble.

7510:113 WOMEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for female voices in ensemble.

7510:114 KEYBOARD ENSEMBLE 1 credit
Involves three hours a week of accompanying. Keyboard major required to enroll for at least three years. Music education major may substitute another musical organization for one year.

7510:115 JAZZ ENSEMBLE 1 credit
Membership by audition. Provides experience in jazz ensemble performance. Student is assumed to have knowledge of rudiments of music and some experience in jazz performance.

7510:116 GUITAR ENSEMBLE 1 credit
Membership by audition. Provides experience in conducted ensemble performance for guitarists. Major conducted ensemble.

7510:117 COLLEGIATE MUSICUM 1 credit
Prerequisite: permission of instructor. A musical ensemble that performs music written before 1750 on copies of authentic instruments.

7510:500 BRASS ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for brass ensemble from all periods of music history. Frequent public concerts. For advanced brass players.

7510:507 STRING ENSEMBLE 1 credit
Membership by audition. In-depth study and performance of chamber music literature with special emphasis on string quartet and piano trio.

7510:508 OPERA WORKSHOP 1 credit
Membership by audition. Musical and dramatic group study of excerpts from operatic repertoire. Includes annual production of standard opera and/or contemporary chamber work with staging, costumes and scenery.

7510:509 PERCUSSION ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for various percussion groups; develops skill in ensemble performance.

7510:510 WOODWIND ENSEMBLE 1 credit
Membership by audition. Study and performance of woodwind literature from all periods for various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.

7510:511 CHAMBER ORCHESTRA 1 credit
Membership by audition. Organization designed to study for performance the substantial repertoire for small orchestra. Open to student of advanced ability.

7510:512 MEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for male voices in ensemble.

7510:513 WOMEN'S GLEE CLUB 1 credit
Membership by audition.Designed to perform variety of music written for female voices in ensemble.

7510:514 KEYBOARD ENSEMBLE 1 credit
Involves three hours a week of accompanying. Keyboard major required to enroll for at least three years. Music education major may substitute another musical organization for one year.

7510:515 JAZZ ENSEMBLE 1 credit
Membership by audition. Provides experience in jazz ensemble performance. A student is assumed to have knowledge of rudiments of music and some experience in jazz performance.

7510:516 GUITAR ENSEMBLE 1 credit
Membership by audition. Provides experience in conducted ensemble performance for guitarists. Major conducted ensemble.

7510:517 COLLEGIATE MUSICUM 1 credit
Prerequisite: permission of instructor. A musical ensemble that performs music written before 1750 on copies of authentic instruments.

7520: Applied Music

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.

7520:021-42 APPLIED MUSIC FOR NONMAJORS 2-4 credits each
For a student below minimum level of performance skills expected for credit at 7520:100 level or above. Designed for those with limited background in applied study who wish to take lessons for their own pleasure, satisfaction and/or elective credit in nonmusic programs. Not to be counted for credit in any music major programs of study.

7520:021 PERCUSSION
7520:022 CLASSICAL GUITAR
HARP
VOICE
PIANO
ORGAN
VIOLIN
VIOLA
CELLO
STRING BASS
TRUMPET/CORNET
FRENCH HORN
TROMBONE
BARITONE
TUBA
FLUTE/PICCOLO
OBOE/ENGLISH HORN
CLARINET/BASS CLARINET
BASSOON/CONTRABASSOON
HARPSICHORD
PRIVATE LESSONS IN MUSIC COMPOSITION
(2-4 credits each)
Musical instrument instruction.
Prerequisite: 7520:452 recommended.

JAZZ PERCUSSION
JAZZ GUITAR
JAZZ ELECTRIC BASS
JAZZ PIANO
JAZZ TRUMPET
JAZZ TROMBONE
JAZZ SAXOPHONE
JAZZ COMPOSITION

GRADUATE COURSES

Graduate Courses

2 or 4 credits each

STUDY IN APPLIED MUSIC (May be repeated)
Prerequisite: undergraduate degree in music, graduate standing and/or permission of instructor determined through audition.

2 or 4 credits each

PERCUSSION
CLASSICAL GUITAR
HARP
VOICE
PIANO
ORGAN
VIOLIN
VIOLA
CELLO
STRING BASS
7600: Communication

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7600:102</td>
<td>SURVEY OF MASS COMMUNICATION</td>
<td>3 credits</td>
<td></td>
<td>Presents entire field of contemporary American mass communication.</td>
</tr>
<tr>
<td>7600:115</td>
<td>SURVEY OF COMMUNICATION THEORY</td>
<td>3 credits</td>
<td></td>
<td>Presents models of major forms of speech communication and discusses elements of models, their interaction and function in the human communication system.</td>
</tr>
<tr>
<td>7600:201</td>
<td>NEWS WRITING</td>
<td>3 credits</td>
<td>Prerequisite: 102: Typing. Writing of news stories; applying theory through discussions, illustrative material; actual writing for publication.</td>
<td></td>
</tr>
<tr>
<td>7600:203</td>
<td>NEWS WRITING</td>
<td>3 credits</td>
<td>Prerequisite: 201: Ability to type or permission.</td>
<td>Considers entire field of contemporary American mass communication.</td>
</tr>
<tr>
<td>7600:204</td>
<td>EDITING</td>
<td>3 credits</td>
<td>Prerequisites: 201: Ability to type or permission. Copyreading, headline writing, proofreading, makeup, type and typography, printing machines and processes, newspaper methods and systems.</td>
<td></td>
</tr>
<tr>
<td>7600:206</td>
<td>FEATURE WRITING</td>
<td>3 credits</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>7600:225</td>
<td>LISTENING</td>
<td>1 credit</td>
<td>Prerequisite: permission. Techniques and approaches involved in understanding the listening process and practice of listening improvement techniques.</td>
<td></td>
</tr>
<tr>
<td>7600:226</td>
<td>INTERVIEWING</td>
<td>1 credit</td>
<td>Prerequisite: 225 or permission. A concentrated study of the principles of interviewing and application of these principles of varied settings (especially those crucial to media study).</td>
<td></td>
</tr>
<tr>
<td>7600:227</td>
<td>NONVERBAL COMMUNICATION</td>
<td>1 credit</td>
<td>Focused study of the principal aspects of nonverbal communication in public, group and interpersonal settings.</td>
<td></td>
</tr>
<tr>
<td>7600:228</td>
<td>INTERCOLLEGIATE FORENSICS</td>
<td>1 credit</td>
<td>Study and techniques of contest speech and debate, including techniques of research presentation. Required participation in University's forensics program.</td>
<td></td>
</tr>
<tr>
<td>7600:235</td>
<td>INTERPERSONAL COMMUNICATION</td>
<td>3 credits</td>
<td>Prerequisite: 115: Theory and practice in interpersonal communication concepts and principles. Special topics in communication apprehension, assertive communication, communication dyads and trands, and transactional communication.</td>
<td></td>
</tr>
<tr>
<td>7600:245</td>
<td>ARGUMENTATION</td>
<td>3 credits</td>
<td>Prerequisite: 110 or permission. Study of process of developing, presenting and defending inferences and arguments in oral communication setting. Includes study and practice of evidence, reasoning, case construction, refutation and rebuttal.</td>
<td></td>
</tr>
<tr>
<td>7600:252</td>
<td>PERSUASION</td>
<td>3 credits</td>
<td>Prerequisite: 115 or permission. Emphasis on understanding persuasion theory and practice. Includes information analysis of motivational appeals and introduction to propaganda analysis.</td>
<td></td>
</tr>
<tr>
<td>7600:270</td>
<td>VOICE TRAINING FOR MEDIA</td>
<td>2 credits</td>
<td>Prerequisites: 115 and permission. Basic techniques of vocal production in its specific application to radio, television and film.</td>
<td></td>
</tr>
<tr>
<td>7600:280</td>
<td>MEDIA PRODUCTION TECHNIQUES</td>
<td>3 credits</td>
<td>Introduction to production techniques used in the mass communication industry. Covers sound, image, lighting, fundamentals of conveying messages on slide, film and video.</td>
<td></td>
</tr>
<tr>
<td>7600:282</td>
<td>RADIO PRODUCTION</td>
<td>3 credits</td>
<td>Prerequisite: 201: Study of radio production techniques and the functional operation of AM and FM radio stations. Includes practical production experience in studio.</td>
<td></td>
</tr>
<tr>
<td>7600:283</td>
<td>TELEVISION PRODUCTION</td>
<td>3 credits</td>
<td>Prerequisite: 201 or permission. Study of the function of television as communication medium with practical production experience in studio.</td>
<td></td>
</tr>
<tr>
<td>7600:288</td>
<td>FILM PRODUCTION</td>
<td>3 credits</td>
<td>Prerequisite: 201: Study of film production techniques. Limitations and potentials of film production. A student learns script writing, directing, lighting and makeup, practical production experience in studios and on location.</td>
<td></td>
</tr>
<tr>
<td>7600:301</td>
<td>ADVANCED NEWS WRITING</td>
<td>3 credits</td>
<td>Prerequisites: 201 or permission. Advanced course in writing and editing news, features and analysis for print media. Behavioral approach to communication of information and ideas.</td>
<td></td>
</tr>
<tr>
<td>7600:303</td>
<td>PUBLICITY WRITING</td>
<td>2 credits</td>
<td>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.</td>
<td></td>
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<tr>
<td>7600:309</td>
<td>PUBLICATIONS PRODUCTION</td>
<td>3 credits</td>
<td>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, lithography, letterpress, rotogravure, mimeographing.</td>
<td></td>
</tr>
<tr>
<td>7600:325</td>
<td>INTERCULTURAL COMMUNICATION</td>
<td>3 credits</td>
<td>Study of cultural communication process of existence of cultural barriers. Includes study of verbal and nonverbal communication in transracial, informal, international and diplomatic communicative settings.</td>
<td></td>
</tr>
<tr>
<td>7600:335</td>
<td>ORGANIZATIONAL COMMUNICATION</td>
<td>3 credits</td>
<td>Study of large organizational communication principles and practices. Group projects related to several communication problems inherent to organizations.</td>
<td></td>
</tr>
<tr>
<td>7600:345</td>
<td>BUSINESS AND PROFESSIONAL SPEAKING</td>
<td>3 credits</td>
<td>Prerequisites: 110:00 or 106. Practical improvements in speaking skills used in business settings.</td>
<td></td>
</tr>
<tr>
<td>7600:355</td>
<td>FREEDOM OF SPEECH</td>
<td>3 credits</td>
<td>Discussion and analysis of the Constitution's free speech guarantee; contemporary issues in freedom of communication; role of the media in free speech issues.</td>
<td></td>
</tr>
<tr>
<td>7600:357</td>
<td>SPEECH IN AMERICA</td>
<td>2 credits</td>
<td>Survey and critical analysis of major speakers, speeches and speech movements in American history. Examines how style and content of American speaking influenced events and reflected their time.</td>
<td></td>
</tr>
<tr>
<td>7600:361</td>
<td>AUDIO RECORDING TECHNIQUES</td>
<td>3 credits</td>
<td>Prerequisite: 201: Basic principles of sound, human hearing and the technical aspects of sound recording.</td>
<td></td>
</tr>
</tbody>
</table>
Prerequisite: 24 credits in departmental courses and permission. Provides mission must be obtained from the department prior to the term for which credit is to be received.

**7800:387 ADVANCED TELEVISION PRODUCTION**

Prerequisite: 280. In-depth study of role of producer in complexities of developing a television program from inception to completion.

**7800:384 MASS MEDIA-COMMUNICATION RESEARCH**

Prerequisites: 102, 15. Fundamental concepts and methods of survey research, and the application and interpretation of survey data in communication and in media operations.

**7800:385 AMERICAN FILM HISTORY: THE BEGINNING TO 1945**

Prerequisite: 102 or permission. Acquaints undergraduate student with historical developments of film and film concepts, ends with films of 1945.

**7800:386 AMERICAN FILM HISTORY: 1945 TO THE PRESENT**

Prerequisite: 365 or permission. Continuation of student's survey of film history and film concepts begun in 385.

**7800:387 RADIO AND TV WRITING**

Prerequisite: 280. Practical application of scriptwriting principles and techniques used in writing scripts for commercials, announcements, comedy, drama, news and documentaries.

**7800:388 HISTORY AND STRUCTURE OF BROADCASTING**

Prerequisite: 280. Growth of broadcasting in America: historical evolution of approaches to programming, news and financing of broadcasting operations.

**7800:389 RADIO STATION PROGRAMMING AND OPERATIONS**

Prerequisites: 262, 388. History and development of radio programming from early formation to present; nature, structure and function of educational and commercial radio broadcasting.

**7800:390 TELEVISION STATION PROGRAMMING AND OPERATIONS**

Prerequisites: 280 and 386. 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.

**7800:400/500 HISTORY OF JOURNALISM IN AMERICA**

A review and analysis of the historical evolution of journalism in America, focusing primarily on newspapers, magazines, radio, television.

**7800:401 PHOTO EDITING**

Prerequisite: 309. 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.

**7800:482 COMMUNICATION IN PUBLIC RELATIONS**

Prerequisite: 309. Selected communication theories used to analyze and implement effective public relations programs with emphasis placed upon research, planning, promotional messages and evaluation of program.

**7800:483 MEDIA COPYWRITING**

Prerequisites: 102, 484. Ability to type or permission. Selected communication theories and research techniques used to plan, write and analyze commercial messages. Emphasis will be placed on selection of audience, medium, appeal, writing style and evaluation of efforts.

**7800:487 SPECIAL TOPICS IN MASS MEDIA-COMMUNICATION**

(May be repeated for a total of nine credits)
Prerequisites: 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.

**7800:488/588 ADVANCED FILM PRODUCTION**

Prerequisites: 288 and permission of instructor. Analysis of production problems and design, production and evaluation of solutions involving sides, film and non-broadcast video. Materials fee.

**7800:490/590 MASS MEDIA-COMMUNICATION WORKSHOP**

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.

**7800:491 DOCUMENTARY FORM IN FILM AND TELEVISION**

Historical and critical study of documentary and non-fiction forms in film and television with an analysis of their roots in photography and radio. Emphasis on American film and TV.

**7800:500 MASS MEDIA-COMMUNICATION WORKSHOP**

(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.

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### Graduate Courses

**7800:589 DOCUMENTARY FORM IN FILM AND TELEVISION**

Historical and critical study of documentary and non-fiction forms in film and television with an analysis of their roots in photography and radio. Emphasis on American film and TV.

**7800:590/690 INTRODUCTION TO GRADUATE STUDY IN MASS MEDIA-COMMUNICATION**

Introduction to the ideas and scholarship that constitute the various research interests in the department.
7600:503 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.

7600:504 INTRODUCTION TO QUANTITATIVE RESEARCH IN MASS MEDIA-COMMUNICATION 3 credits
Prerequisite: 602 or equivalent. An introduction to reading and understanding research designs employing basic parametric and non-parametric descriptive and hypothesis testing statistical models in Mass Media Communication.

7600:509 COMMUNICATION PROBLEMS IN THE BASIC SPEECH COURSE 1 credit
Designed to train graduate students in methods and materials of introductory speech course. Required of all teaching graduate assistants.

7600:510 COMMUNICATION PEDAGOGY 3 credits
Familiarizes students with aspects of teaching communication and media courses at the college level.

7600:523 AMERICAN MASS MEDIA SYSTEMS 3 credits
Analysis of role, performance and impact of Media in America.

7600:624 SURVEY OF COMMUNICATION THEORY 3 credits
Study of dimensions of field of communication: information analysis, social interaction and semantic analysis.

7600:631 THEORIES OF MASS COMMUNICATION 3 credits
A review of theories of mass media and studies exploring the effect of media.

7600:632 SEMINAR: ADVANCED PRODUCTION DESIGN I 3 credits
Prerequisite: Demonstrated competence in either photography, film, or video production. 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.

7600:632 SEMINAR: ADVANCED PRODUCTION DESIGN II 3 credits
Prerequisite: 631. Continuation of projects in 631 and an opportunity for students to work in additional media.

7600:635 ISSUES IN LEGAL REGULATION OF THE MEDIA 3 credits
Structure of the regulatory system; current regulatory issues in print, film, radio, and television broadcasting pay and cable tv.

7600:645 INTERCULTURAL COMMUNICATION THEORY 3 credits
Analysis of the impact on the communication process of cultural difference between communicators; examination of existing literature in intercultural communication.

7600:665 THEORIES OF ARGUMENT AND PERSUASION 3 credits
Prerequisite: Undergraduate course in argumentation and persuasion, or permission of instructor. Analysis of principal theories related to attitude formation and change.

7600:670 COMMUNICATION CRITICISM 4 credits
Introduces the basic elements, approaches and types of critical discourse as it is relevant to communication and mass media studies.

7600:675 SEMINAR ON RHETORICAL CRITICISM 3 credits
(May be repeated for a total of six credits) Organized around special problems and methods involved in analysis of different genres, forms and topics of discourse.

7600:676 SEMINAR IN RHETORICAL THEORY 3 credits
Concentrated study and research of ancient, modern or contemporary writers on some specific topic in rhetorical theory.

7600:678 RHEtorical ELEMENTS OF SOCIAL MOVEMENTS 3 credits
Examines role and function of collective rhetorical discourse in affecting change. Focus on various rhetorical methodologies for understanding social movements and case studies.

7600:696 STUDIES IN COMMUNICATION MEDIA: RADIO 3 credits
Study of radio station programming.

7600:697 STUDIES IN COMMUNICATION MEDIA: TELEVISION 3 credits

7600:691 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.

7600:922 SEMINAR IN FILM 3 credits
Prerequisite: Permission of instructor. Advanced historical and critical study of works and institutions in film and video. Topics vary.

7600:997 GRADUATE RESEARCH IN MASS MEDIA-COMMUNICATION 1-6 credits
(May be repeated for a total of six credits) Prerequisite: Permission of department head.

7700:100 MANUAL COMMUNICATION I 5 credits
Prerequisites: 271 and 2210104 or permission of instructor. Study of different communication systems employed by the deaf, characteristics, similarities and differences. Introduction to American Sign Language.

7700:110 INTRODUCTION TO SPEECH DISORDERS 3 credits
Overview of various types of speech disorders, their incidence, etiology and characteristics. Basic concepts and principles underlying speech pathology.

7700:111 INTRODUCTION TO PHONETICS 2 credits
Introduction to International Phonetic Alphabet, and overview of articulatory phonetics.

7700:120 INTRODUCTION TO AUROLOGY/AURAL REHABILITATION 3 credits
(Not open to a communicative disorder major.) Introduction to field of audiology including physics of sound, anatomy and physiology of auditory system, measurement of hearing impairment, nature and causes of hearing disorders and habilitation of persons with hearing impairment.

7700:121 PSYCH-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.

7700:130 BASES AND STRUCTURE OF LANGUAGES 3 credits
Introduction to linguistic bases of speech and language: phonological, morphological, syntactical and semantic principles. Social and psychological variables in communicative process as applied to therapeutic environment presented.

7700:140 INTRODUCTION TO AUROLOGY 3 credits

7700:150 MANUAL COMMUNICATION II 4 credits
Prerequisite: 100. Further study of American Sign Language. Practice in modifications which influence sign formation, more meaningful units and constructions, further similarities and differences among other signing systems.

7700: Communicative Disorders

7700:100 MANUAL COMMUNICATION I 5 credits
Prerequisites: 271 and 2210104 or permission of instructor. Study of different communication systems employed by the deaf, characteristics, similarities and differences. Introduction to American Sign Language.

7700:110 INTRODUCTION TO SPEECH DISORDERS 3 credits
Overview of various types of speech disorders, their incidence, etiology and characteristics. Basic concepts and principles underlying speech pathology.

7700:111 INTRODUCTION TO PHONETICS 2 credits
Introduction to International Phonetic Alphabet, and overview of articulatory phonetics.

7700:120 INTRODUCTION TO AUROLOGY/AURAL REHABILITATION 3 credits
(Not open to a communicative disorder major.) Introduction to field of audiology including physics of sound, anatomy and physiology of auditory system, measurement of hearing impairment, nature and causes of hearing disorders and habilitation of persons with hearing impairment.

7700:121 PSYCH-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.

7700:130 BASES AND STRUCTURE OF LANGUAGES 3 credits
Introduction to linguistic bases of speech and language: phonological, morphological, syntactical and semantic principles. Social and psychological variables in communicative process as applied to therapeutic environment presented.

7700:140 INTRODUCTION TO AUROLOGY 3 credits
770:200 MANUAL COMMUNICATION III 4 credits
Prerequisite: 150. Further practice in developing expressive and receptive skills in American Sign Language. Focus on dependency and personal relationships, and development of linguistic components of manual communication systems of the deaf.

770:210 APPLIED PHONETICS 3 credits
Prerequisite: 111. Training in phonetic transcription. Analysis of sound substitutions, distortions and dialectal variations. Study of distinctive Feature Systems.

770:211 INTRODUCTION TO SPEECH SCIENCE 2 credits
Study of anatomical, physiological and physical principles involved in production, transmission and reception of speech signal.

770:222 INTRODUCTION TO THE DEAF CULTURE AND ITS ORIGINS 2 credits
Prerequisite: 210 or permission of instructor. The treatment of deaf persons, their education and legal status in western cultures from early civilizations to modern times. Review of basic methods used in educating the deaf, the rationale behind these methods and the contributions of the use of the different methods on the deaf culture.

770:233 SPEECH AND LANGUAGE OF THE DEAF CHILD AND ADULT 4 credits
(Not open to major in communicative disorders.)
Prerequisite: 222. Introduction to acquisition of speech and language hearing and prelingually deaf children. Principles and techniques in language assessment and instruction will be covered.

770:230 SPEECH AND LANGUAGE DEVELOPMENT 3 credits
Prerequisite: 130 or permission. Study of language development including acquisition of comprehension and production of phonology, syntax and semantics. Approaches to use of language in learning and thinking.

770:240 AURAL REHABILITATION 4 credits
Prerequisite: 140. Introduction to philosophy and methods of aural rehabilitation for children and adults. Includes methods of speech reading, auditory training, speech conservation, hearing aid use and combined visual and auditory approaches.

770:241 PRINCIPLES OF AUDIOLOGY 3 credits
Prerequisite: 140. Introduction to psychophysiological principles which underlie basic acoustic tests, principles of speech audiometry, masking and impedance audiometry.

770:250 OBSERVATION AND CLINICAL METHODS 2 credits
Prerequisite: to be taken concurrently with 321. Introduction to clinical procedures, analysis of preparation and structure essential to a successful therapy session and observation of therapy within several different settings.

770:271 LANGUAGE OF SIGNS I 3 credits
Expressive and receptive skills in manual communication; introduction to various sign systems; philosophy of total communication and orientation to aspects of deafness; conversational sign language and developing speed and comprehension of fingerspelling skills. Laboratory.

770:321 SPEECH PATHOLOGY I 4 credits
Prerequisites: 110, 210. Study of disorders of articulation, voice and stuttering including etiology, symptomatology, evaluation and therapeutic procedures.

770:322 SPEECH PATHOLOGY II 4 credits
Prerequisites: 110, 310, 284. Study of organically based speech disorders: cleft palate, cerebral palsy, aphasia and dysarthria including etiology, symptomatology, evaluation and therapeutic procedures.

770:330 LANGUAGE DISORDERS 4 credits
Prerequisite: 230. Etiology, identification, evaluation, intervention, remediation of symbolic, cognitive, interpersonal language disorders of children. Disorders viewed as correlates or sequelae of central nervous system (CNS) or emotional disturbance.

770:340 AUDIOLOGIC EVALUATION 2 credits
Prerequisite: 241. "Test battery" approach to audiology explored. Techniques of case finding and handling of difficult-to-test cases; competency with all tests in the battery required.

770:350 CLINICAL PRACTICUM: ARTICULATION 1 credit
(May be repeated for a total of two credits)
Prerequisites: 250, 321. Supervised clinic practicum in articulation. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

770:351 CLINICAL PRACTICUM: LANGUAGE 1 credit
(May be repeated for a total of two credits)
Prerequisites: 250, 330. Supervised clinical practicum in language. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

770:352 CLINICAL PRACTICUM: AURAL REHABILITATION 1 credit
(May be repeated for a total of two credits)
Prerequisites: 240, 250. Supervised clinical practicum in hearing rehabilitation. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

770:370 LANGUAGE OF SIGNS II 1 credit
Prerequisite: 271 or permission of instructor. Advanced work in signs and fingerspelling with emphasis on additional sign vocabulary acquisition and development of expressive and receptive skills. Stress on continued skill building in conversing with deaf adults.

770:430/530 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits
May not be taken by a major in communicative disorders. Introduction to acquisition and development of comprehension and production of language—phonologically, semantically and syntactically. Relates language acquisition to perceptual development of child and looks at function of language in individual, family and school.

770:450 INTRODUCTION TO SPEECH AND HEARING DIAGNOSTICS 3 credits
Prerequisite: senior status. Introductory course devoted to discussion of role of speech and hearing clinician in differential diagnosis. Emphasis on case history taking, and administration of standardized and informal procedures in diagnosis of communicative disorders.

770:451 CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY 1 credit
(May be repeated for a total of two credits)
Prerequisites: 250, 340. Supervised clinical practicum in hearing diagnostics. Diagnostic procedures, preparation of reports.

770:460/560 SPEECH AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits
May not be taken by a major in communicative disorders. Nature, causes and treatment of speech, hearing and language disorders in public schools. Special reference to role of classroom teacher in identifying and referring student with suspected problems and in working with school clinician.

770:461 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH AND HEARING PROGRAMS 2 credits
Prerequisite: senior standing. Introduction to management of speech and hearing programs who plan to work in public school system. Covers following areas with particular reference to public school setting: case selection, scheduling, individual and group therapy, in-service training for classroom teachers, and certification and program standards as set up by the Ohio Department of Education.

770:465 SEMINAR IN COMMUNICATIVE DISORDERS 2 credits
Prerequisite: senior standing. Provides a vehicle for detailed study and discussion of various communicative disorders.

770:481 SPECIAL PROJECTS: COMMUNICATIVE DISORDERS 1-3 credits
Prerequisite: senior standing. Provides an opportunity for in-depth study and discussion of various communicative disorders.

770:482/582 COMMUNICATION DISORDERS: GERIATRIC POPULATION 3 credits
Examination of communication disorders that exist in geriatric population. Focus on etiology, symptomatology, and concomitant rehabilitative procedures. Designed for a student interested in geriatric population not open to major in communicative disorders.

770:490/590 WORKSHOP: COMMUNICATIVE DISORDERS 1-3 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Group investigation of particular phase of speech pathology and/or audiology not offered by other courses.

770:495 INTERNSHIP: SPEECH PATHOLOGY AND AUDIOLOGY 3-6 credits
Prerequisite: permission of director of Speech and Hearing Center. Allows opportunity for in-depth clinical experience in variety of clinical settings out-
## Graduate Courses

### 7700:01 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.

### 7700:02 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDDIOLOGY
- **2 credits**
  - Principles and use of clinical and research instrumentation in speech and hearing.

### 7700:03 RESEARCH METHODS IN COMMUNICATIVE DISORDERS I
- **3 credits**
  - Introduction to experimental design in field of communicative disorders.

### 7700:04 RESEARCH METHODS IN COMMUNICATIVE DISORDERS II
- **2 credits**
  - Prerequisite: 611. Advanced experimental methods; development of research study.

### 7700:05 COMMUNICATION DISORDERS: ADULT DYSARTHRIA AND APRAXIA
- **2 credits**
  - Development, symptoms, diagnosis and treatment of adult dysarthria and apraxia.

### 7700:06 ARTICULATION
- **2 credits**
  - Historical background, current theories and research related to etiology, diagnosis and treatment of articulatory disorders.

### 7700:07 COMMUNICATIVE DISORDERS IN CLEFT PALATE
- **2 credits**
  - Historical background, current theories and research related to etiology, diagnosis and treatment of cleft palate.

### 7700:08 COMMUNICATIVE DISORDERS IN MENTAL RETARDATION
- **2 credits**
  - Historical background, current theories and research related to etiology, diagnosis and treatment of mental retardation.

### 7700:09 COMMUNICATIVE DISORDERS IN CEREBRAL PALSY
- **2 credits**
  - Historical background, current theories and research related to etiology, diagnosis and treatment of cerebral palsy.

### 7700:10 APHASIA
- **2 credits**
  - Historical background, current theories and research related to etiology, diagnosis and treatment of adult aphasia.

### 7700:11 LANGUAGE DEVELOPMENT: NORMAL AND DISORDERED
- **3 credits**
  - Survey of research in normal, discovered development of language skills.

### 7700:12 VOICE PATHOLOGY
- **3 credits**
  - Prerequisite: Permission of Instructor. Background and current research related to normal vocal function as well as the etiology, diagnosis and therapy of various disorders of voice.

### 7700:13 STUTTERING: THEORIES AND THERAPIES
- **3 credits**
  - Reading and discussion of selected theories and therapies.

### 7700:14 TOPICS IN DIFFERENTIAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS
- **2 credits**
  - (May be repeated for a total of four credits)
  - Prerequisite: Permission of Instructor. Background and current research related to normal vocal function as well as the etiology, diagnosis and therapy of various disorders of voice.

### 7700:15 TOPICS IN DIFFERENTIAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS
- **2 credits**
  - Prerequisite: Permission of Instructor. Selected current topics in clinical and/or experimental areas of speech pathology and audiology.

### 7700:16 LANGUAGE SKILLS IN CHILDREN: ASSESSMENT AND INTERVENTION
- **3 credits**
  - Prerequisite: 605 or permission of instructor. Theoretical and applied study of child language assessment and intervention strategies.

### 7700:17 SEMINAR IN LANGUAGE AND SPEECH OF THE HEARING IMPAIRED
- **2 credits**

### 7700:18 ADVANCED CLINICAL TESTING
- **4 credits**
  - Theoretical basis for pure tone, speech tests, masking and acoustic impedance measurements. Review of classical and current literature relative to above tests.

### 7700:19 SPECIAL TESTS/MEDICAL AUDIOLOGY
- **4 credits**
  - Prerequisite: 639 or permission of instructor. Underlying psychoacoustic principles of administration and interpretation of site-of-lesion tests. Relationship between otorhology and audiology. Application of clinical audiology in medical environment.

### 7700:20 AMPLIFICATION
- **3 credits**
  - Prerequisite: 639 or permission of instructor. Components of amplification systems; methods of evaluating hearing aid performance.

### 7700:21 PEDIATRIC AUDIOLOGY
- **2 credits**
  - Prerequisite: 639 or permission of instructor. Etiology of hearing loss in children; techniques for testing preschool and school-age children and other difficult-to-test clients.

### 7700:22 INDUSTRIAL AUDIOLOGY
- **2 credits**
  - Prerequisite: 639 or permission of instructor. Theoretical principles of noise measurement; etiology of noise-induced hearing loss and acoustic trauma; industrial hearing conservation programs; Occupational Safety and Health Act (O.S.H.A.) regulations.

### 7700:23 AURAL REHABILITATION
- **4 credits**
  - Prerequisite: Permission of Instructor. Review of current methodologies employed in aural rehabilitation of children and adults, as well as current and potential areas of research.

### 7700:24 EXPERIMENTAL AUDIOLOGY
- **2 credits**
  - Prerequisite: Six graduate audiology credits or permission of instructor. Principles of psychoacoustics. Review of instrumentation and research techniques. Study of significant literature in the field.

### 7700:25 ELECTRONYSTAGMOGRAPHY
- **2 credits**
  - Prerequisite: Permission of Instructor. Study of the anatomy and physiology of the vestibular system; nystagmus; electronystagmographic (ENG) recording procedures; ENG protocols; interpretation of ENG results.

### 7700:26 ADVANCED CLINICAL PRACTICUM: DIFFERENTIAL DIAGNOSIS
- **1 credit**
  - (May be repeated for a maximum of two credits)
  - Supervised clinical practicum in diagnostic procedures.

### 7700:27 ADVANCED CLINICAL PRACTICUM: VOICE
- **1 credit**
  - Supervised clinical practicum in rehabilitation of voice disorders.

### 7700:28 ADVANCED CLINICAL PRACTICUM: FLUENCY
- **1 credit**
  - Supervised clinical practicum in rehabilitation of disorders of fluency.

### 7700:29 ADVANCED CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY
- **1 credit**
  - (May be repeated for a total of six credits)
  - Supervised clinical practicum in diagnosis.

### 7700:30 ADVANCED CLINICAL PRACTICUM: ARTICULATION
- **1 credit**
  - (May be repeated for a total of two credits)
  - Prerequisite: 321 and permission of the director of the Speech and Hearing Center. Supervised clinical practicum in articulation. Therapy procedures, diagnostic techniques and preparation of reports.
7700:856 ADVANCED CLINICAL PRACTICUM: LANGUAGE 1 credit  
(May be repeated for a total of three credits)  
Prerequisites: 330 and permission of the director of the Speech and Hearing Center. Supervised clinical practicum in language. Therapy procedures, diagnostic techniques and preparation of reports.

7700:857 ADVANCED CLINICAL PRACTICUM: 1 credit  
REHABILITATIVE AUDIOLOGY  
(May be repeated for a total of six credits)  
Prerequisites: 240 and permission of the director of the Speech and Hearing Center. Supervised clinical practicum in hearing rehabilitation. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

7700:895 EXTERNSHIP: SPEECH PATHOLOGY 2-4 credits  
AND AUDIOLOGY  
(May be repeated for a total of four credits)  
Clinical practicum in a selected area center.

7700:897 SPECIAL PROBLEMS: SPEECH PATHOLOGY AND/OR AUDIOLOGY 1-3 credits  
(May be repeated for a total of six credits)  
Prerequisite: permission of instructor. Guided research or reading in selected topics in speech pathology, audiology or language disorders.

7700:899 RESEARCH AND THESIS 4-6 credits  
(May be repeated for a total of six credits)  
Prerequisite: permission of department head.

7750: Social Work

7750:270 POVERTY IN THE UNITED STATES 3 credits  
Survey of social and personal dimensions of life in the inner city and other areas of poverty in United States. For person wishing to develop an in-depth understanding of and/or intending to work in such areas.

7750:275 INTRODUCTION TO SOCIAL WELFARE 4 credits  
Survey of field of social welfare; place of social work profession within human services institutions of United States. Introduction of basic concepts relating social welfare institutions and social work to society.

7750:401/401 SOCIAL WORK PRACTICE I 3 credits  
Prerequisite: 276 or permission. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families.

7750:402/402 SOCIAL WORK PRACTICE II 3 credits  
Prerequisite: 401 or permission. Concepts and methods of social work practice particularly relating to understanding and working with groups in various settings in our society.

7750:403/403 SOCIAL WORK PRACTICE III 3 credits  
Prerequisite: 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.

7750:410/410 MINORITY ISSUES IN SOCIAL WORK PRACTICE 3 credits  
Prerequisite: 276 or permission. Racial, ethnic and cultural issues in social work related to various practice and theoretical perspectives, to various types of social problems, service agencies, individual family, group, community and societal contexts integrated with the methodological processes of the social work practitioners.

7750:411/411 WOMEN'S ISSUES IN SOCIAL WORK PRACTICE 3 credits  
Prerequisite: 276 or permission. Social work practice knowledge and skill, social welfare institutions and social policy in relation to women's issues and concerns in the United States.

7750:421 FIELD EXPERIENCE SEMINAR 1 credit  
Prerequisite: 401 and permission. Corequisite: 495. Careful examination and integration of academic understanding and professional/methodological studies into professional practice.

7750:425/525 SOCIAL WORK ETHICS 3 credits  
Prerequisite: 276 or permission. Social worker's code of ethics as applied to practices, problems and issues in social work.

7750:430/530 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT FOR SOCIAL WORKERS 3 credits  
Prerequisites for 430: 276 or permission. 3750:130 recommended; for 530, permission. Bio-psycho-social knowledge applied to social work. Emphasis on social workers' understanding of and use of individual interaction and growth within family as a system, groups (of society), roles, organizations, community and culture.

7750:440/540 SOCIAL WORK RESEARCH 3 credits  
Undergraduate prerequisites: 276, 3450:112, 3470:251, 52 or permission. Graduate prerequisite permission. Social work practitioner's role in utilization of scientific method in the conduct of practice and utilization of social research as found in social work and social science literature for improvement and advancement of social work practice.

7750:445/545 SOCIAL POLICY ANALYSIS FOR SOCIAL WORKERS 3 credits  
Undergraduate prerequisites: 276 or permission. Graduate prerequisite undergraduate social work degree or permission. Description, analysis and construction of social policy in social services, to understanding forces and processes which establish or change social policies; to predict consequences of social policies and to establish goals for social policy development; integrated into effective social work methodology.

7750:450/550 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.

7750:451/551 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 families to develop social work in child welfare settings. Consideration of supportive, supplementary and substitute services.

7750:452/552 SOCIAL WORK IN MENTAL HEALTH 3 credits  
Prerequisite: 276 or permission. Issues, organization, development and methodologies of current professional social work practice in mental health settings.

7750:453/553 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.

7750:454/554 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.

7750:455/555 SOCIAL WORK IN HEALTH SERVICES 3 credits  
Prerequisite: 276 or permission. Policies, programs and practice in healthcare settings: short-term, intermediate and long-term hospitals, out-patient services, emergency services, clinics, visiting nurse services, nursing homes, pediatric services, self-help organizations, etc.

7750:457/557 ADVANCED PRACTICE WITH INDIVIDUALS 3 credits  
Prerequisites: 401 or permission (undergraduate), an 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.

7750:465/565 ADMINISTRATION AND SUPERVISION IN SOCIAL WORK 3 credits  
Prerequisites: 401 or permission. Preparation for use of supervision, staff development and program planning in a social work agency. Examines the social work/welfare agency in its community as it affects its organizational goal-setting and program-implementation problems.

7750:470/570 LAW FOR SOCIAL WORKERS 3 credits  
Prerequisite: 276 or permission. Basic terminology, theories, principles, organization and procedures of law will be explored along with the relationships between social work and law and comparisons of the theoretical bases of the two professions.
7750:480/580 SPECIAL TOPICS IN SOCIAL WORK
AND SOCIAL WELFARE
Prerequisite: permission of instructor. Analysis of current social work and social welfare theory and policy, settings, innovative interventions and trends in delivery systems in relation to selected areas of concern. Topics and credits variable.

7750:490/590 SOCIAL WORKSHOP
(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 curriculum.

7750:495 FIELD EXPERIENCE IN SOCIAL AGENCY
2-8 credits
(Two credits minimum and eight credits maximum-total in consecutive semesters only)
Prerequisite: 401 and permission: corequisite: 421. Individual placement in selected community and social service agencies for supervised experience with individuals, groups and communities in family service, health care, correctional, community development, mental health, child welfare, public welfare and similar social welfare settings. Student must register intent and receive permission to take the course with the course instructor during early part of semester preceding enrollment. For senior major in social work.

7750:497/597 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK SOCIAL WELFARE
1-3 credits
Prerequisite: permission and prearrangement with instructor. Individual readings, research or projects in area of interest in social welfare theory or institutional operations or in social work practice under guidance of social work faculty member. Preparation of report paper appropriate to nature of topic. For social work major.

7750:499 SENIOR HONORS PROJECT IN SOCIAL WORK
(May be repeated for a total of six credits)
Prerequisites: senior standing in Honors Program and approval of Honors Preceptor in department. Open only to social work major enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work resulting in writing of research paper in proper scholarly form, supervised by student’s honors project advisor within the department.

Graduate Course

7750:573 CONTEMPORARY SOCIAL WORK APPLICATIONS
3 credits
Contemporary social work concepts and methods compared and applied in various social welfare, community service, educational and health settings. Particularly useful for professionals from related fields and for advanced practitioners.

7800: Theatre Arts and Dance

7800:115 DANCE AS AN ART FORM
2 credits
Survey of dance for novice observer: aesthetics, philosophies, methods of training, lecture and discussion of readings, viewing of film, videotape and live performances.

7800:116 DANCE ANALYSIS I
2 credits
Required of all dance majors in first two years. Lecture/labatory. Understanding the body and its relation to technique.

7800:117 DANCE ANALYSIS II
2 credits
Prerequisite: 116 or permission. Continuation of 116 Lecture/labatory. Use of body in dance technique as student, future teacher, or performer.

7800:119 INTRODUCTION TO CONTEMPORARY DANCE I
2 credits
(May be repeated for a total of four credits)
Course for novice dancers and teachers wishing to explore contemporary styles and techniques.

7800:120 INTRODUCTION TO CONTEMPORARY DANCE II
2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Continuation of 119. Expansion of contemporary movements and techniques.

7800:122 BALLET TECHNIQUE I
5 credits
(May be repeated for a total of ten credits)
Prerequisite: permission. Fundamental theory, vocabulary, structure, placement.

7800:124 INTRODUCTION TO BALLET I
2 credits
(May be repeated for a total of four credits)
Emphasis on body placement, muscular awareness.

7800:125 INTRODUCTION TO BALLET II
2 credits
(May be repeated for a total of four credits)
Prerequisite: permission. Continuation of 124; basic exercises of classical ballet.

7800:219 INTRODUCTION TO CONTEMPORARY DANCE III
2 credits
Prerequisite: permission of instructor. Continuation of 120, expanding the contemporary dance techniques, designed to perfect the student's technique for writing the Contemporary Technique I.

7800:220 INTRODUCTION TO CONTEMPORARY DANCE IV
2 credits
Prerequisite: permission of instructor. Continuation of 219, expanding the contemporary dance techniques, designed to perfect the student's technique for entering the Contemporary Technique I.

7800:222 BALLET TECHNIQUE II
5 credits
(May be repeated for a total of 20 credits)
Prerequisite: permission. Continuation of 122, expanding theory on vocabulary, structure, placement.

7800:224 FUNDAMENTAL BALLET TECHNIQUE
3 credits
(May be repeated for a total of six credits)
Prerequisite: permission. Continuation of 124, 25. Emphasis on barre and developing strength.

7800:229 CONTEMPORARY TECHNIQUE I
3 credits
(May be repeated for a total of 12 credits)
Prerequisite: permission. Expanding the basic contemporary dance techniques.

7800:251 VOICE FOR THE STAGE
3 credits
Prerequisite: 7700/111, 211. Speech improvement as it specifically applies to the stage. This course is concerned with the proper techniques and principles of vocal production in their practical application to stage performance.

7800:261 INTRODUCTION TO THEATRE
3 credits
Aesthetics of theatre—stage theatre, opera theatre, musical theatre, dance theatre—and to some extent, media theatre. Attendance at campus productions and 20 hours of practical laboratory experience required.

7800:282 STAGE MAKEUP
3 credits
Theory and practice in the application of stage makeup from juvenile to character. Lecture/Laboratory.

7800:283 SCENE PAINTING
3 credits
The development of skills and knowledge of stage scenic painting required for the theatre designer and technician. Laboratory required.

7800:284 INTRODUCTION TO TECHNICAL THEATRE
3 credits
Introduction to various elements of technical production personnel, organization, scheduling, shop processes, techniques and capabilities. Laboratory required.

7800:285 BASIC STAGECRAFT I
3 credits
Basic stagecraft including equipment, construction and handling of two-dimensional scenery and theatrical hardware. Laboratory required.

7800:286 BASIC STAGECRAFT II
3 credits
Prerequisite: 265. Aspects of stagecraft including the construction and handling of three-dimensional scenery and the rigging of scenic units. Laboratory required.

7800:271 DIRECTING I
3 credits
Emphasizes fundamentals of play directing, including responsibilities of direc-
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>780:322</td>
<td>BALLET TECHNIQUE III</td>
<td>5</td>
<td>May be repeated for a total of 30 credits</td>
<td>Prerequisite: permission. Continuation of 222. Emphasis on style and line.</td>
</tr>
<tr>
<td>780:323</td>
<td>JAZZ DANCE TECHNIQUE I</td>
<td>2</td>
<td></td>
<td>Emphasizes basic Jazz techniques and styles, including East Indian, African, Early American Hoe-Down and Folklore styles. Also, Soft-Shoe, Charleston, and Early Burlesque.</td>
</tr>
<tr>
<td>780:324</td>
<td>TAP TECHNIQUE I</td>
<td>2</td>
<td></td>
<td>Emphasizes basic tap combinations and routines. Special clothing/shoes required.</td>
</tr>
<tr>
<td>780:328</td>
<td>PERIOD MOVEMENT AND DANCE</td>
<td>2</td>
<td></td>
<td>Medieval and Early Renaissance style and manners. Studio and lecture.</td>
</tr>
<tr>
<td>780:329</td>
<td>CONTEMPORARY TECHNIQUE II</td>
<td>3</td>
<td>May be repeated for a total of 12 credits</td>
<td>Prerequisite: permission. Continuation of 229. Expanded development of contemporary techniques.</td>
</tr>
<tr>
<td>780:330</td>
<td>THEATRE ARTS/DANCE PARTICIPATION</td>
<td>1</td>
<td></td>
<td>Practical laboratory experience in theatre projects vital to the mounting of major productions. Four credits required of all theatre majors.</td>
</tr>
<tr>
<td>780:334</td>
<td>STAGE COSTUME CONSTRUCTION</td>
<td>3</td>
<td></td>
<td>Study and practice of stage costume construction techniques.</td>
</tr>
<tr>
<td>780:335</td>
<td>INTRODUCTION TO STAGE COSTUME HISTORY AND DESIGN</td>
<td>3</td>
<td></td>
<td>Study of historical costume and theatre dress. Costumes designed for each historical period in class. Period patterns drafted and constructed during designated laboratory hours.</td>
</tr>
<tr>
<td>780:336</td>
<td>HISTORY AND CONSTRUCTION OF PERIOD FURNISHING FOR THE STAGE</td>
<td>3</td>
<td></td>
<td>Survey of historic furniture and hand prop styles, with emphasis on practical stage applications. Study of prop construction materials and techniques. Wood, steel, forms and plastics, basic welding, upholstery, joinery. Finishing methods.</td>
</tr>
<tr>
<td>780:350</td>
<td>ADVANCED VOICE FOR THE STAGE</td>
<td>3</td>
<td>Prerequisite: 251</td>
<td>Vocal training through interpretation and analysis of various theatre styles.</td>
</tr>
<tr>
<td>780:351</td>
<td>ADVANCED VOICE FOR THE STAGE II</td>
<td>3</td>
<td>Prerequisite: 350</td>
<td>Continuation of 350.</td>
</tr>
<tr>
<td>780:382</td>
<td>ADVANCED STAGECRAFT</td>
<td>3</td>
<td>Prerequisite: 266</td>
<td>Aspects of advanced stagecraft: flying scenery, processes and techniques of rigging, technical and sculptural materials, surface and required.</td>
</tr>
<tr>
<td>780:384</td>
<td>INTRODUCTION TO STAGE DESIGN</td>
<td>3</td>
<td></td>
<td>Introduction to basic design principles involving floor plans, elevations and renderings for the design of stage scenery. Laboratory.</td>
</tr>
<tr>
<td>780:389</td>
<td>SPECIAL TOPICS IN THEATRE ARTS</td>
<td>4</td>
<td></td>
<td>May be repeated as different subject areas are covered, but no more than 10 credits may be applied toward B.A. degree. Prerequisite: permission. Traditional and nontraditional topics in theatre arts and dance, supplementing courses listed in General Bulletin.</td>
</tr>
<tr>
<td>780:390</td>
<td>CHOREOGRAPHY I</td>
<td>2</td>
<td>Prerequisite: 127</td>
<td>Continuation of 127 with emphasis on rhythmic analysis and non-traditional forms.</td>
</tr>
<tr>
<td>780:417</td>
<td>CHOREOGRAPHY IV</td>
<td>2</td>
<td>Prerequisites 226 and permission of the instructor. Continuation of 226 expanding into group choreography and counterpart.</td>
<td></td>
</tr>
<tr>
<td>780:421</td>
<td>MUSICAL THEATRE PRODUCTION</td>
<td>3</td>
<td></td>
<td>Designed to make the musical theatre performer aware of the total creative process involved in mounting a stage musical. May be taught in conjunction with the production of a musical or a special departmental music project.</td>
</tr>
<tr>
<td>780:422</td>
<td>BALLET TECHNIQUE IV</td>
<td>5</td>
<td>Prerequisites: 322 and permission of the instructor. Continuation of 322. Professional level of technique.</td>
<td></td>
</tr>
<tr>
<td>780:423</td>
<td>HISTORY OF THE DANCE</td>
<td>2</td>
<td></td>
<td>Study of important developments in dance from pre-history to Renaissance.</td>
</tr>
<tr>
<td>780:424</td>
<td>20TH CENTURY DANCE</td>
<td>2</td>
<td>Prerequisite: 426</td>
<td>Continuation of 426 major or permission. Investigation of changes in styles and techniques and their influence on current choreography.</td>
</tr>
<tr>
<td>780:425</td>
<td>DEVELOPMENT OF DANCE</td>
<td>2</td>
<td></td>
<td>Roman and Daghdel-era and their influence on current dance.</td>
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</tbody>
</table>
7800:428 TECHNIQUES OF TEACHING DANCE I 2 credits
Prerequisite: Dance major or permission. Practical work in the basic principles of elementary teachers' training.

7800:427 TECHNIQUES OF TEACHING DANCE II 2 credits
Prerequisite: 426 or permission. Continuation of 426. Projects in teaching of elementary dance.

7800:426 DANCE REPertoire 2 credits
(May be repeated for a total of 12 credits)
Prerequisite: 222, permission of instructor. Designed to acquaint the dance student with classic and contemporary dance repertoire, both original works and reconstructions.

7800:435 STAGE COSTUME DESIGN 3 credits
Prerequisite: 355. Tools of fashion and figure drawing, stage costume rendering, and theatrical design assignments.

7800:436 STYLES OF SCENIC DESIGN 3 credits
Prerequisite: 365. Theatrical styles and periods in scenic design and scenography.

7800:437 STYLES OF STAGE COSTUME DESIGN 3 credits
Prerequisite: 435. The art and styles of costume design for the stage and the many processes needed to produce the stage costume for theatrical effects.

7800:445 MOVEMENT FOR ACTORS I 3 credits
Prerequisite: 272. Specialized physical training for the actor.

7800:446 MOVEMENT FOR ACTORS II 3 credits
Prerequisite: 446. Specialized training, integrating the actor's physical and vocal instrument.

7800:462/562 PLAYWRITING 2 credits
Prerequisite: permission. Principles of dramatic construction learned through analysis of playwright's art, as well as through writing of dramatic compositions by individual student.

7800:464 STAGE LIGHTING 3 credits
Outlines history, theories and practices of stage lighting. Among areas discussed are colored light and color theory, electricity and electrical safety, dimming control systems, other aspects of craft of effective stage lighting.

7800:465 STAGE LIGHTING DESIGN 3 credits
Prerequisite: 464. The art and technique of stage lighting design: light plotting, color theory, and optical effects.

7800:467/567 CONTEMPORARY THEATRE STYLES 3 credits
Study of contemporary theatre from emergence of modern drama in nineteenth century through a reading list of representative plays, with special emphasis on departures from realism.

7800:468/568 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.

7800:469 PROBLEMS IN LIGHTING DESIGN 3 credits
Prerequisite: 465. Advanced study of practical application to problems confronting lighting designer and technician.

7800:470 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.

7800:474 ACTING IV 4 credits
Prerequisite: 374. Investigation of acting styles, through scene study, as they apply from Shakespeare through modern playwrights.

7800:475 ACTING FOR THE MUSICAL THEATRE 2 credits
Prerequisites: 373, 7520124. Permission. A scene study course in analyzing and performing roles in American musicals. Emphasis will be on coordinating the many aspects of the role for the purpose of fully developing characterization.

7800:490/590 WORKSHOP IN THEATRE ARTS/DANCE 1-3 cr.
(May be repeated for a total of eight credits)
Prerequisite: advanced standing or permission. Group study or group project investigating particular phase of theatre arts or dance not covered by other courses in curriculum.

Graduate Courses

7800:600 INTRODUCTION TO GRADUATE STUDIES IN SPEECH AND THEATRE ARTS 1 credit
Study of basic research methods used in speech and theatre arts. The student presents an oral seminar report and written research paper to indicate competence in the several research methods.

7800:603 SPECIAL TOPICS IN THEATRE ARTS AND DANCE 1-4 credits
(May be repeated as different subject areas are covered, but no more than twelve credits may be applied toward M.A. degree)
Traditional and experimental courses in theatre and dance, supplementing those listed in the General Bulletin.

7800:641 PROBLEMS IN DIRECTING 3 credits
Advanced directing course, with special emphasis on staging of complex plays from all periods of drama.

7800:642 PROBLEMS IN CONTEMPORARY ACTING 3 credits
Study of problems confronting advanced actor in such areas as style, environmental theatre, mixed media, nonverbal productions and participatory theatre.

7800:650 HISTORY OF THEATRE AND THEATRE ART 3 credits
History of technical production utilizing pictorial materials and models to study evolution of physical stage, scenic changing devices, stage machines. Term paper or project required.

7800:659 HISTORY AND THEORY OF STAGE LIGHTING 3 credits
Historical survey of evolution of stage lighting culminating in understanding of modern lighting design skills and their practical application. Term paper or major project required.

7800:660 ADVANCED TECHNICAL THEATRE 2 credits
Detailed problems in mounting plays on secondary school, university and professional stages.

7800:685 HISTORY OF TECHNICAL PRODUCTION 3 credits
Prerequisite: 364 or undergraduate scene design course or permission of instructor. Study and discussion of problems in scene design: portfolio projects, research of noted designers, studies of theatre spaces, new scenographic materials, use of various rendering media.

7800:686 SEMINAR IN STAGE COSTUME DESIGN 3 credits
Prerequisite: 364 or undergraduate scene design course or permission of instructor. Study and discussion of problems in stage costume design: portfolio projects, research of noted designers, studies of theatre spaces, new scenographic materials, use of various rendering media.

7800:687 SEMINAR: AMERICAN THEATRE 2 credits
Study of American theatre from colonial through modern periods. Modern American theatre may be included. May be repeated for total of twelve credits.

7800:688 SEMINAR IN SCENE DESIGN 3 credits
Prerequisite: 364 or undergraduate scene design course or permission of instructor. Study and discussion of problems in scene design: portfolio projects, research of noted designers, studies of theatre spaces, new scenographic materials, use of various rendering media.

7800:689 SEMINAR: AMERICAN THEATRE 2 credits
Study of American theatre from colonial through modern periods. Modern American theatre may be included. May be repeated for total of twelve credits.

7800:690/590 WORKSHOP IN THEATRE ARTS/DANCE 1-3 cr.
(May be repeated for a total of eight credits)
Prerequisite: advanced standing or permission. Group study or group project investigating particular phase of theatre arts or dance not covered by other courses in curriculum.

7800:691/591 THEATRE OF PLAYMAKING 1 credit
Prerequisite: 364 or undergraduate scene design course or permission of instructor. Study and discussion of problems in scene design: portfolio projects, research of noted designers, studies of theatre spaces, new scenographic materials, use of various rendering media.

7800:692/592 THEATRE OF PERFORMANCE 3 credits
Prerequisite: 364 or undergraduate scene design course or permission of instructor. Study and discussion of problems in scene design: portfolio projects, research of noted designers, studies of theatre spaces, new scenographic materials, use of various rendering media.

7800:693/593 THEATRE OF PERFORMANCE ARTS 2 credits
Study of American theatre from colonial through modern periods. Modern American theatre may be included. May be repeated for total of twelve credits.

7800:695 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. Councils, foundations, etc. Research projects; team taught.

7800:696 INTRODUCTION TO ARTS MANAGEMENT 2 credits
Examination of efficient and practical arts management, with emphasis on theatre operations. Individual projects and lectures by experts in field highlight course.

277
<table>
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<th>Description</th>
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</table>
| 7800:667    | STUDIES IN DRAMATIC PRACTICE I                   | 3 credits| Development of dramatic literature and its relationship to the social/politi-
|             |                                                  |         | cal/religious influences of varying cultures from classical Greece to the   |
|             |                                                  |         | Restoration and its relationship to the physical theatre.                   |
| 7800:668    | STUDIES IN DRAMATIC PRACTICE II                  | 3 credits| Development of dramatic literature and its relationship to the social/politi-
|             |                                                  |         | cal/religious influences in various cultures from the eighteenth century to |
|             |                                                  |         | modern times and its relationship to the physical theatre.                  |
| 7800:690    | GRADUATE RESEARCH/READINGS                       | 1-3 credits| (May be repeated for a total of nine credits)                              |
|             |                                                  |         | Prerequisite: permission. Individual research of independent readings under |
|             |                                                  |         | supervision of member of departmental graduate faculty.                    |
| 7800:691    | SEMINAR: THE ROLE OF THE ARTS ADMINISTRATOR      | 3 credits| In-depth examination of roles of arts administrator/manager in a number of   |
|             |                                                  |         | different situations, including but not limited to theatre, opera, ballet,  |
|             |                                                  |         | arts organizations and performing arts halls/centers. Guest lecturers. Term  |
|             |                                                  |         | paper required.                                                            |
| 7800:692    | LEGAL REGULATIONS AND THE ARTS                   | 2 credits| Analysis of legal framework of arts regulation. Introduction to selected   |
|             |                                                  |         | areas of law relevant to arts management through reading and discussion of    |
|             |                                                  |         | legislation, cases and scholarly materials.                                 |
| 7800:698    | ARTS MANAGEMENT INTERNSHIP                       | 1-3 credits| (May be repeated for a total of three credits)                              |
|             |                                                  |         | Prerequisite: permission. Faculty supervised work experience program in     |
|             |                                                  |         | which student participates in an arts management situation with selected   |
|             |                                                  |         | cultural organizations.                                                    |
| 7800:699    | RESEARCH AND THESIS                              | 4-6 credits| (May be repeated for a total of six credits)                               |
|             |                                                  |         | Prerequisite: permission of department head.                                |
College of Nursing

8000: Cooperative Education

8000: 301 COOPERATIVE EDUCATION 0 credits
(May be repeated). For Cooperative Education. Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

8200: Nursing

8200: 106 INTRODUCTION TO NURSING 1 credit
Designed to introduce student to nursing. Emphasis on historical perspective as basis for modern trends in profession of nursing.

8200: 101 INTRODUCTION TO BACCALAUREATE NURSING FOR THE R.N. 1 credit (15 lecture hours)
Prerequisite: Registered Nurse. Emphasizes role of socialization for R.N.'s seeking a baccalaureate in nursing. Explores concepts incorporated in the philosophy, conceptual framework and curriculum structure of the baccalaureate nursing program.

8200: 200 NURSING THEORIES AND CONCEPTS 5 credits
Prerequisite: 100. Demonstrates relationship of relevant concepts and theories from various sciences with man's interaction with ecosystem. Relates these theories and concepts to practice of nursing in health care system utilizing scientific research approach.

8200: 300 NURSING: HEALTH 12 credits
Prerequisites: 100, 200. Healthy man's adaptation throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process used to view this approach as holistic man's adaptation.

8200: 305 NURSING THEORIES, CONCEPTS AND RESEARCH 6 credits
Prerequisites: 101, admission to college. The specific focus is to relate concepts, theories and investigative projects to the practice of nursing in a health care system utilizing the nursing process.

8200: 320 NURSING: DIMINISHED HEALTH I 12 credits
Prerequisites: 100, 200, 300. Man's maladaptation throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process used to view this approach as holistic man's adaptation.

8200: 400 NURSING: DIMINISHED HEALTH II 10 credits
Prerequisites: 100, 200, 320. Assists student in applying knowledge and skills for an integrated approach to nursing process in various settings and to develop roles of leadership and change-agent utilizing teaching/learning processes.

8200: 405 HEALTH MAINTENANCE NURSING 6 credits
Prerequisite: 101, 305. Designed to focus on healthy man throughout the life cycle. Theory and practice focus on healthy man's reciprocal interaction with ecological variables.

8200: 415 DIMINISHED HEALTH NURSING 5 credits
Prerequisites: 101, 305. Theoretical and clinical components emphasize alternative behaviors for the client and the nurse, within the framework of the nursing process, to assist individuals and families experiencing diminished health to attain, maintain and regain optimal levels of health.

8200: 420 NURSING: SYNTHESIS 10 credits
Prerequisites: 100, 200, 300, 320. Provides study for students with independent practice opportunity. Emphasis on providing student with practice in area of his/her choice. Guidance and direction provided to student as necessary by preceptor.

8200: 430/530 HEALTH CARE (CURRENT YEAR): 2 credits
ISSUES AND NURSING
Prerequisite: acceptance in the College. Survey and exploration of the state of health care delivery in the United States of America and their ramifications for nursing.

8200: 480 SENIOR HONORS PROJECT 1-3 credits per semester
Prerequisite: senior standing in Honors Program and nursing major. A creative project, independent study or research relevant to nursing which is supervised by a faculty preceptor and/or sponsor.

8200: 489/589 SPECIAL TOPICS: NURSING 1-4 credits
(May be repeated as new topics are presented)
Group studies of special topics in nursing. May not be used to meet requirements for the major in nursing. May be used for elective credit.

8200: 493/593 WORKSHOPS 1-4 credits
(May be repeated as new topics are presented)
Group studies of special topics in nursing. May not be used to meet college undergraduate or graduate major requirements. May be used for elective credit only.

8200: 497 INDEPENDENT STUDY 1-3 credits
Prerequisites: senior standing and permission of instructor. Provides opportunity to develop greater depth in an area of nursing through methodology specific to discipline of nursing.

8200: 498/598 SPECIAL READINGS 1-4 credits
(May be repeated as new topics are presented)
Group studies of special topics in nursing. May not be used to meet requirements of the major.

Graduate Courses

8200: 600 THEORETICAL BASIS FOR FAMILY HEALTH NURSING I 3 credits
Prerequisite: acceptance in the Family Health Nursing Program. Study of concept and theories common to nursing. Provides a firm basis for family health nursing within the ecological-phenomenological perspective.

8200: 601 THEORETICAL BASIS FOR FAMILY HEALTH NURSING II 3 credits
Prerequisite: 600. Provides a forum for graduate students to explore a wide array of concepts and theories for use in the development of the leadership role of the family health nurse within an ecological-phenomenological perspective.

8200: 612 NURSING INQUIRY 4 credits
Prerequisites: 347/691, 611 and 600. Philosophies of science and ethics; concept formation and theory development will be studied. Research in family health nursing within the ecological-phenomenological perspective shall be implemented.

8200: 618 FAMILY HEALTH APPRAISAL 5 credits
Prerequisite: formal admission into the Family Health Nursing Program. A combination of seminar and practicum will be used to study health appraisal. Focus will be on the health of families and enfamilied selves across the life span.

8200: 620 FAMILY HEALTH NURSING I 6 credits
Prerequisites: 600, 618. Includes theory and practice of family health nursing. The focus is on concepts, theories and practices related to families and enfamilied selves within the ecological-phenomenological perspective.

8200: 621 FAMILY HEALTH NURSING II 6 credits
Prerequisites: 600, 618, 620. Focuses on the application of the ecological-phenomenological perspective relative to family health nursing practice. The study of the ecological-phenomenological perspective relative to family health nursing is continued.

8200: 670, 1 SPECIAL TOPICS 2 credits each
Prerequisite: completion of all required first-year courses. Selected topics and areas of interest to faculty. Student. Available as electives.

8200: 750 INDEPENDENT STUDY 1-4 credits
An opportunity for the graduate student to elect an area of nursing for practice and is considered as an option for the following: 1) Nursing elective credit and 2) Leadership Role of Nursing elective credit.

279
$200:973 NURSING OF FAMILIES WITH OLDER MEMBERS 3 credits
Prerequisite: graduate status. This course focuses on the diversity of roles held by older adults in various family situations such as: the new family, the multi-generational family, the family with a widowed member, the institutionalized family. Opportunities are provided to function in a leadership role in family health nursing and to become involved in community conferences which influence public policy for older adults.

$200:975 CULTURE, ETHNICITY AND HEALTH CARE 3 credits
Increase cultural sensitivity by exploration of culturally diverse health values, beliefs, practices. Life styles of selected ethnic groups, factors affecting the health of individuals in ethnic communities; the health care choices of ethnically diverse populations shall be examined from an ecological/phenomenological perspective.

$200:980 FAMILY HEALTH NURSING LEADERSHIP SEMINAR: DIRECT CARE WITH FAMILIES 3 credits
Corequisite: 621, 600, 612, 620. Examines family health nursing practice utilizing the ecological-phenomenological perspective, to identify and explore practice issues and goals.

$200:981 FAMILY HEALTH NURSING LEADERSHIP PRACTICUM: DIRECT CARE WITH FAMILIES 3 credits
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.

$200:985 FAMILY HEALTH NURSING LEADERSHIP SEMINAR: EDUCATION 3 credits
Prerequisites: 600, 612, 620. 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.

$200:986 FAMILY HEALTH NURSING LEADERSHIP PRACTICUM: EDUCATION 3 credits
Corequisite: 689. Prerequisites: 621, 685. Guided study and practice in the leadership role of a family health nurse educator within the ecological-phenomenological perspective.

$200:987 FAMILY HEALTH NURSING LEADERSHIP SEMINAR: ADMINISTRATION 3 credits
Prerequisite or Corequisite: 621. Prerequisite: 620. 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.

$200:988 FAMILY HEALTH NURSING LEADERSHIP PRACTICUM: ADMINISTRATION 3 credits
Prerequisite: 687. Guided study and practice in the leadership role of a family health nurse administrator within the ecological-phenomenological perspective.

$200:989 COLLOQUIUM 1 credit
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.

$200:999 THESIS RESEARCH 1-4 credits
Corequisite: 621. Prerequisites: 612, 621. Family health nursing research in which selected philosophies, theories, concepts are investigated within the ecological-phenomenological perspective.
School of Law

9200: Law

9200:601 CIVIL PROCEDURE I 3 credits
Survey of civil procedure in state and federal courts. Jurisdiction, pleading, motions, joinder of parties and causes of action, judgments, trial and appellate practice.

9200:602 CIVIL PROCEDURE II 3 credits
Prerequisite: 601. Continuation of 601.

9200:603 CONSTITUTIONAL LAW I 3 credits
Governmental authority and its distribution under Constitution. Introduction to individual rights and liberties.

9200:604 CONSTITUTIONAL LAW II 3 credits
Prerequisite: 603. Continuation of 603. Rights, privileges and immunity under the Constitution.

9200:605 CONTRACTS I 3 credits

9200:606 CONTRACTS II 3 credits

9200:607 CRIMINAL LAW 3 credits
Nature and source of criminal liability studied in light of modern developments. The act, mental conditions requisite to criminal responsibility, specific crimes and defenses thereto.

9200:608 EVIDENCE 3 credits
Covers basic evidence law with emphasis on the Federal Rules of Evidence and state rules patterned thereon.

9200:612 LEGAL PROFESSION 2 credits
Legal profession as an institution. Responsibilities of lawyers. Duties and privileges. Professional qualifications.

9200:614 PROPERTY I 3 credits
Possession, means by which title may be obtained; fixtures; emblements; estates in land, concurrent ownership; the deed, the mortgage, the land contract.

9200:615 PROPERTY II 3 credits
Prerequisite: 614. History of law: statute of frauds; recording, title, registration; covenants for title, devise possession; landlord-tenant relationship; legislation restricting land use, easements, licences, private restrictions; water rights.

9200:616 Torts I 3 credits
Survey of basic tort law and its function; impact of insurance and notions of allocating costs of unintentionally caused harm on tort doctrines keyed to negligence.

9200:617 Torts II 3 credits
Prerequisite: 616. Continuation of 616.

9200:618 LEGAL RESEARCH 1 credit
Familiarization with basic legal publications and computer assisted legal research necessary to perform legal research.

9200:619 BASIC LEGAL COMMUNICATIONS 1 credit
Introduction to basic skills in written exposition in a legal context through preparation of an office memorandum and other assignments.

9200:620 INTERMEDIATE LEGAL COMMUNICATION 1 credit
Enhancement of legal writing skills through preparation of an argumentative brief and other writings; development of oral advocacy skills through presentation of an argument based on a brief.

9200:621 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.

9200:622 ADMINISTRATION OF CRIMINAL JUSTICE 3 credits
Administration of criminal justice relating processes of criminal law to objectives of criminal correction. Effects of federal constitutional provisions on criminal procedure.

9200:623 ADMINISTRATIVE PROCESS 3 credits
Prerequisite: 604. Traditional police-legal theories of separation of powers and the administrative process, procedure for rule-making and adjudication, conclusiveness of administrative determination.

9200:624 AIR LAW 3 credits
Law of modern air transportation in international and domestic flight and emerging areas of outer space.

9200:625 ANTITRUST LAW 3 credits
Fundamentals of antitrust: questions of evidence in price fixing and boycotts under the Sherman Act, resale restrictions and tie-ins. Scope of an antitrust and certain exemptions.

9200:626 BASIC BUSINESS ASSOCIATIONS 3 credits

9200:627 COMMERCIAL LAW 3 credits
This course focuses on the Uniform Commercial Code with emphasis on Articles 2, 3, 4 and 9 together with appropriate cognate areas such as the Bankruptcy Act, the Uniform Fraudulent Conveyance Act, the Tax Lien Act and the FTC Holder Rule.

9200:628 COMMERCIAL TRANSACTIONS: SALES 3 credits
Law of sales of personal property under Article 2 of Uniform Commercial Code and under prior uniform acts relevant to the modern law of sales.

9200:629 COMMERCIAL LAW II 3 credits
Prerequisite: 627. Continuation of 627.

9200:630 ADORATORY 3 credits
History and jurisdiction of and practice in admiralty; carriage of goods by water and combined transport, collision, salvage and insurance, claims for personal injury and death claims, maritime lien.

9200:631 CONFLICT OF LAWS 3 credits
Problems of application of private law in jural relations containing one or more foreign law elements. Jurisdiction and enforcement.

9200:633 CORPORATIONS 4 credits
Introduction to the law relating to the typical American enterprise. Principal emphasis is on financing, control, management and regulation of corporations, both publicly owned and closely held.

9200:635 CREDITORS' RIGHTS 3 credits

9200:636 DEVELOPMENT OF LAW AND LEGAL INSTITUTIONS 2 credits
Historical introduction to Anglo-American legal system.

9200:637 EQUAL OPPORTUNITY LAW 3 credits
Legal developments, primarily federal, affecting discrimination in employment, housing and public accommodations. The major emphasis of the course will be on equal employment opportunity law.

9200:638 FAMILY LAW 3 credits
Major areas of family law; theories that have influenced its development. Functions performed by various agencies which seek to effect a non-judicial settlement of domestic problems. Adoption.

9200:639 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 laws in estate planning.

9200:640 SEMINAR IN ADVANCED CORPORATE TAXATION 3 credits
Prerequisite: 642. An analysis of federal corporate taxation problems.

281
9200:841 FEDERAL INCOME TAXATION I 3 credits
Survey of federal income tax law with primary emphasis on individual income. May be taken independently of 842.

9200:842 FEDERAL INCOME TAXATION II 3 credits
Prerequisite: 641. Survey of federal income tax law applicable to corporations.

9200:843 FEDERAL JURISDICTION AND PROCEDURE 3 credits
Prerequisite: 602. Congress, the federal courts and the Constitution; appellate and collateral review; federal question, diversity and admiralty cases; sovereign immunity, abstention and enjoining state actions; choice of law, federal common law.

9200:844 FINANCING STATE AND LOCAL GOVERNMENT 2 credits
Planning, programming and budgeting; state and federal programs; local taxes; use of public authorities and special districts; property tax limits; debt limits; state supervision of local finance.

9200:845 GOVERNMENT CONTRACTS 3 credits
Prerequisite: 600. Contracting with governmental units, primarily federal, including sovereign power to contract and limitations thereon; contract formation and performance clauses and litigation, considering applicable statutes, regulations and executive orders.

9200:846 INJURIES TO RELATIONS 2 credits
Prerequisites: 606 and 617. Theories of liability for invasion of nonpersonal and nonproperty interests arising in three-party situations. Tort remedies available for physical, appropriation and defamation harms to family, community and political relations.

9200:847 JUVENILE LAW 3 credits
Study of laws relating to juveniles (neglect, dependency, delinquency).

9200:848 INSURANCE LAW 3 credits
Legal principles of insurance of person and property, including insurable interest, measure of recovery, subrogation, rights of assignees and beneficiaries, warranty, concealment, representation and fraud. Adjustment of claims. Regulation.

9200:849 INTERNATIONAL LAW 3 credits
Nature and breadth of international law, sources and subjects; relation to municipal law, individuals and international organizations.

9200:850 LABOR LAW 3 credits

9200:851 LABOR ARBITRATION AND COLLECTIVE BARGAINING 3 credits
Prerequisite: 650. Law and practice of labor arbitration and collective bargaining, including study of grievance arbitration process pursuant to collective bargaining agreements.

9200:852 LAND USE PLANNING 3 credits
Prerequisite: 615. Assumptions, doctrines and implications of planning law; zoning, legal and administrative problems involved in allocating and developing land located in metropolitan area.

9200:853 LAW AND SOCIAL CHANGE 2 credits
Examination and study of influence of law on society and society on law to illuminate contemporary developments in law and social institutions.

9200:854 LAW OF CONSUMER CREDIT 2 credits
Recommended: 627 and 628. Consumer sale and credit transactions and their regulation, including specific statutory and administrative approaches relating to utilities, warranties, disclosure, and related issues.

9200:855 LAW REVIEW INTERNSHIP 1 credit (credit/noncredit)
Prerequisite: completion of first year and invitation predicated upon scholarship or demonstrated writing skills. Citations: preparation of casenote of recent cases; recent case analyses and criticism; correction of casenotes or comments of others (spading). Credit for 656, 7, 8, 66, 96 not to exceed ten.

9200:856 LAW REVIEW STAFF 1 credit (credit/noncredit)
(May be repeated twice)
Prerequisite: 655. Preparation of comment or article of publishable quality. Credit for 656, 7, 8, 66, 96, 98 not to exceed ten.

9200:858 LAW REVIEW EDITORIAL BOARD 1 credit (credit/noncredit)
Prerequisites: 657 and election to Editorial Board. One credit per term for service on Akron Law Review Editorial Board; total credits for 656, 657 and 658 not to exceed four. Credit for 656, 7, 8, 66, 96, 98 not to exceed ten.

9200:859 LAWYER AS NEGOTIATOR 2 credits
Prerequisite: 602. Planning negotiations and determination of strategies to effect object, weighing legal, economic, behavioral, ethical and social factors that condition outcomes.

9200:860 LABOR RELATIONS LAW IN THE PUBLIC SECTOR 3 credits
Collective bargaining in public (governmental) sector; forming and joining unions; establishing bargaining relationship; duty to bargain; union security arrangements; collective action, impasse resolution and enforcement of collective agreements.

9200:861 LEGAL CONTROL OF THE ENVIRONMENT 3 credits
Substantive and procedural problems in legal control of air and water pollution, common law precedents, federal and state environmental law, federal administrative agencies, civil actions, constitutional consideration, federal tax incentives.

9200:862 LEGAL REGULATION OF COMPETITION 3 credits
Study of law as it relates to regulation of derivative process in the publicly regulated and private unregulated sectors of the economy.

9200:863 LEGISLATION 2 credits
Process in context of legislative organization, policy formulation, drafting, statutory construction, constitutional limitations on subject matter and form and judicial interpretation, illustrative drafting problems.

9200:864 LOCAL GOVERNMENT LAW 3 credits

9200:865 MODERN REAL ESTATE TRANSACTIONS 3 credits
Prerequisite: 615. Real estate transactions such as condominiums, cooperatives, sale and leasebacks, high credit leases, leasehold mortgages, construction lending and syndication, with emphasis on financing and related tax considerations.

9200:866 MOOT COURT 1 credit (credit/noncredit)
(May be repeated once)
Credit for participation by brief writing or written argumentation in insamal National Moot Court, Jessup International or other approved moot court competitions. Not open to first-year student. Total credits for courses designated Moot Court (666, 694 and 695) not to exceed four. Credit for 656, 7, 8, 66, 94, 96, 98 not to exceed ten.

9200:867 PATENT, TRADEMARK AND COPYRIGHT LAW 2 credits
Federal protection of patents, trademarks and copyrights, registration procedures, appeals from administrative actions, right of patentees, trademark owners and copyright holders, grants, licenses and assignments, infringement, plagiarism and unfair competition.

9200:868 REMEDIES I 3 credits
Equitable remedies unjust enrichment and restitution, remedies for injuries to tangible property, and economic, dignitary and personal interests including wrongful death. May be taken independently of 669.

9200:869 REMEDIES II 3 credits
Prerequisite: 668. Disaffirmance and remedies for deception, duress, undue influence hardship, unconscionability, mistake, breach of contract and nominally unenforceable transactions. 668 may be taken independently of 669.

9200:870 SEMINAR IN CRIMINAL PROCESS 3 credits
Prerequisite: 622. Study of criminal process including decision to prosecute, grand jury, preliminary hearing, joinder and severance, discovery, plea bargaining, jury trials and double jeopardy.

9200:871 SECURITIES REGULATION 3 credits
Prerequisite: 634. 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.

9200:872 SEMINAR IN BUSINESS PLANNING 2 credits
Prerequisite: 634 or permission of instructor. Advanced course using the problem approach in planning business transactions in light of applicable corporate, tax and securities law.

9200:873 SEMINAR IN COMPARATIVE LEGAL SYSTEMS 3 credits
Study of contemporary foreign legal systems by discussion of basic problems in specific areas on comparative basis.
9200:674 SEMINAR IN CORRECTIONS AND PRISONERS' REMEDIES
Study of theoretical and practical aspects of sentencing, punishment, treatment, release and alternatives thereto; developments in field of prisoners' rights and remedies.

9200:675 SEMINAR IN ESTATE PLANNING
Prerequisites: 641, 686, or permission of instructor. Relevant tax and nontax problems in planning of estates and examination of dispositive devices in accomplishing objectives of estate planning.

9200:676 SEMINAR IN INTERNATIONAL TRANSACTIONS AND RELATIONS
Legal problems in doing business abroad. Entry, holding, property, economic activity and choice of corporate form; restrictive practices; currency and exchange. European Common Market. Relations being developed and evaluated in light of various goal values. Problems are frequently considered in connection with concrete problems and are evaluated in light of various goal values.

9200:677 SEMINAR IN JURISPRUDENCE
Examination and evaluation of principal theories of legal philosophy. Theories are frequently considered in connection with concrete problems and are evaluated in light of various goal values.

9200:678 SEMINAR IN JUDICIAL ADMINISTRATION
Problems and practices in selection, tenure and removal of judges, selection and responsibilities of court administrators, the effect of devices and procedures used to expedite movement of cases through litigation process, analysis of suggested reforms.

9200:679 SEMINAR IN LAW AND BUSINESS
Prerequisite: 650. Selected issues in labor law and labor relations such as internal union affairs, union democracy, bargaining in public sector, discrimination in employment and topical affairs.

9200:680 DEFERRED COMPENSATION AND EMPLOYEE BENEFIT PLANS
Recommended: 633, 642. Employee benefit plans; qualified pension and profit-sharing plans under Internal Revenue Code. Non-qualified contracts involving individual employees.

9200:681 SEMINAR IN LEGAL PROBLEMS OF THE DISADVANTAGED
Selected legal problems of persons disadvantaged by such factors as age, illness, mental incompetency and poverty.

9200:682 SEMINAR IN POLITICAL AND CIVIL RIGHTS
Prerequisite: 604. Study of some basic problems in relationship of individual to government and in protection of rights of minority groups.

9200:683 SEMINAR IN PRODUCT LIABILITY
Prerequisite: 617; recommended: 628. Liability for defective products and developing legal theories and remedies. Examination of government regulation of dangerous and defective products.

9200:684 SEMINAR IN SELECTED LEGAL PROBLEMS
Prerequisite: 604. Study of some basic problems in relationship of individual to government and in protection of rights of minority groups.

9200:685 WILLS, TRUSTS AND ESTATES I
Prerequisite: 685. Continuation of 685.

9200:686 WILLS, TRUSTS AND ESTATES II
Prerequisite: 685. Continuation of 685.

9200:687 SEMINAR IN SELECTED PROBLEMS IN EVIDENCE
Prerequisite: 608. Designed to give the student extensive practice in solving difficult evidence problems in order to supplement the instructions given in the basic Evidence course.

9200:688 ADVANCED LEGAL COMMUNICATIONS
Prerequisites: 619, 20. Refinement of skills in written legal analysis through performance of drafting assignments, including preparation of a written exposition on a proposed solution to a drafting problem. Required course for all students.

9200:689 APPELLATE ADVOCACY
Prerequisites: 619, 20, 88. Development of skills in written and oral advocacy through handling an appellate case from receipt of trial record through oral argument.

9200:690 FUNDAMENTALS OF TRIAL TECHNIQUES
Prerequisite: 608. Fundamental techniques of trial preparation, direct examination, cross examination, introduction of exhibits, objections, opening statements and closing arguments.

9200:691 SELECTED PROBLEMS, INTERNATIONAL LAW
Prerequisite: 649. Topical international problems and use of international law research materials in dealing with concrete international legal problems; analysis and preparation of short legal opinions.

9200:692 PROBLEMS IN TRIAL ADVOCACY
Prerequisite: 690. Preparation and actual trial of two civil cases and two criminal cases; jury selection; ethical and political considerations of trial advocacy.

9200:693 PROBATE PRACTICE
Prerequisites: 685, 86. Interstate and testamentary administration, including the probating of a will, presentation of claims, the inventory, settlement and distribution and will contests. The Ohio Probate Code will be the model.

9200:694 REGIONAL MOOT COURT
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: (1) do substantial research on the trial problem; (2) prepare preliminary drafts of arguments; (3) participate in practice rounds for oral presentations. Total credits for courses designated Moot Court (696, 694 and 595) not to exceed four. Credit for 656, 7, 8, 666, 694, 67, 8 not to exceed ten.

9200:695 NATIONAL MOOT COURT
Prerequisite: open only to National Moot Court Team members or alternates in the National Moot Court Competition (NAAC). Each person enrolled for credit will be required to: (1) read and grade all intramural competition briefs; (2) listen to and judge oral arguments in intramural competition; (3) do substantial research on current National Moot Court problem; (4) prepare drafts of briefs; (5) write a final brief; (6) practice trial arguments. Total credits for courses designated Moot Court (666, 694, and 695) not to exceed four. Credit for 656, 7, 8, 666, 694, 67, 8 not to exceed ten.

9200:696 CLINICAL SEMINAR I
Prerequisites: successful completion of 26 credit hours and permission of clinical director. Application of legal knowledge to practical problems in supervised public law office contexts. May be taken independently of 697. Credit for 656, 7, 8, 66, 67, 7, 8 not to exceed ten. Credit for 9200:696 and 697 not to exceed six credits.

9200:697 CLINICAL SEMINAR II
Prerequisite: 696. Continuation of 696.

9200:698 INDIVIDUAL STUDIES AND RESEARCH
Prerequisite: 698. Individual study of legal problems. May be repeated for a total of four credits. With permission of dean, special problems, projects or research may be taken for credit under supervision of member of faculty. Credit for 656, 7, 8, 666, 696, 698 not to exceed ten.

9200:699 NORMALIZED STATUTORY DRAFTING
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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July 1983

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July 1983

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286

JOHN F. HAMPEL, Associate Professor Emeritus of Finance (1933) (1933) B.A., The University of Akron. B.B.A., Northern Illinois University, 1931


LESLIE P. HARDY, Financial Vice President Emeritus (1934) (1934) B.S.Ed., Kent State University, M.S.Ed., M.D., The University of Akron. 1935

MARY GRACE HARRINGTON, Associate Professor Emeritus of Biology (1960) (1960) B.S. The University of Akron. B.A., University of Michigan, 1939


IRENE HOUSING, Assistant Professor Emeritus of Biology (1946) (1946) Ret. 1970) St. John's Hospital School of Nursing, N.H. 1928: B.S., Western Reserve University. 1934


SICHARD B. HOSKIN, Associate Professor Emeritus in the Community and Technical College (1967) (1967) B.A., Hiram College, M.M.E., Kent State University, 1959

FAREY K. HUTCHINS, Professor Emeritus of Music (1957) (1957) B.M., Lawrence Conservatory of Music. S.M.M. S.M.D. School of Sacred Music, Union Theological Seminary, 1951

DONATO INTERNOSSA, Professor Emeritus of Modern Languages (1938) (1938) B.A., Broadview College, M.A., Ph.D., Northwestern University, 1938

ALFRED H. JOHNSON, Associate Professor Emeritus of Education (1966) (1966) B.S. College of Wooster, M.S. Ph.D. University of Wisconsin. 1956


ROGER F. KELLER, Professor Emeritus of Biology; Professor Emeritus in the Community & Technical College (1954) (1954) B.S., University of Massachusetts, Ph.D. University of Illinois. 1940


DON D. LANDON, Professor Emeritus of Civil Engineering (1950) (1950) B.A., The Ohio State University; M.S., Kent State University, 1957

WILL LIPSCOMB, Associate Professor Emeritus of Mathematics (1921) (1921) B.S., M.S., University of Florida; M.S., University of Michigan, 1940

COLEMAN J. MAJOR, Dean Emeritus of the College of Engineering; Professor Emeritus of Chemical Engineering (1961) (1961) B.A., M.S., University of Cincinnati, 1945

ANDREW W. MALURE, Emeritus Professor of Physical Education (January 1954) (1954) B.S. The University of Akron. M.A., Kent State University, 1949

GEORGE P. MANOS, Associate Professor Emeritus of Civil Engineering (1957) (1957) B.E., The Ohio State University; M.S., University of Akron. 1971

KAREN L. MARQUETTE, Emeritus Professor of Physical Education (February 1954) (1954) B.A., Eastern College, M.A., The Ohio State University, 1959


RUTH MESSINGER, Assistant Professor Emeritus of English (1968) (1968) B.A., Case Western Reserve University, M.A. Ed., Ph.D., Case Western Reserve University. 1971

MAURICE MORTON, Regent, Professor Emeritus of Polymer Chemistry (October 1948) (1948) August 1978) B.S., Ph.D., McGill University, Canada, 1945

FREDERICK W. MOYER, Professor Emeritus of Finance (March 1970) (1970) B.S., Ph.D., The Ohio State University, 1959

MYRNA E. NAES, Associate Professor Emeritus of the College of Nursing; Professor Emeritus of Nursing (1966) (1966) B.S. The University of Akron, M.S.N. Ph.D., Saint Louis University, 1922; R.N.

EDWIN L. LIVELY, Emeritus Professor of Sociology (1963) (1963) B.A., The Ohio State University; M.A., The Ohio State University, 1959

JAN R. McGROR, Vice President Emeritus for Planning; Professor Emeritus of Social Work (1961) (1961) B.S., M.S., University of Pittsburgh, 1945

WILLIAM D. MAUPIN, Professor Emeritus of Mathematics (1945) (1945) B.S., University of Akron. M.A., University of Akron. 1959


ROBERT A. OCEJEN, Dean Emeritus of Buchtel College of Arts and Sciences; Professor Emeritus of Physics July 1970 (Ret. 1977) B.A. Ashbury College; M.S. Ph.D., University of Michigan, 1942.

SARAH ORLINFÖFF, Associate Professor Emeritus of Education (1963) (Ret. 1975) B.A., M.A.Ed., The University of Akron, Ph.D., Case Western Reserve University, 1953.


FRANK T. PHIPPS, Professor Emeritus of English (1953) (Ret. 1980) B.A., M.A. Miami University, Ph.D., The Ohio State University, 1953.


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MARGARET F. ROGNER, Assistant Professor Emeritus of Marketing (1948) (Ret. 1972) B.S., University of Nebraska; M.S., University of Denver, 1944.


LOUIS ROSS, Professor Emeritus of Mathematics (February 1945) (Ret. 1977) B.S., B.A., M.A.Ed., The University of Akron; Ph.D., Case Western Reserve University, 1955.


KENNETH P. SIBILA, Professor Emeritus of Electrical Engineering (February 1940) (Ret. 1977) B.S.E.E., M.S.E.E., Case Institute of Technology, 1937; P.E., Ohio.


HOWARD L. STEPHENS, Professor Emeritus of Polymer Science; Professor Emeritus of Chemistry (June 1956) (Ret. 1962) B.S., M.S., Ph.D., The University of Akron, 1960.


ERNEST R. THACKERAY, Distinguished Professor Emeritus of Physics (1949) (Ret. 1972) B.A., M.A., University of Saskatchewan (Canada); Ph.D., University of Wisconsin, 1948.

EVELYN M. TOVEY, Professor Emeritus of Nursing (1932) (Ret. 1975) B.S.N., M.N., Case Western Reserve University; R.N., City Hospital of Akron.


PAUL E. TWINING, Professor Emeritus of Psychology (November 1941) (Ret. 1969) B.S., Oberlin College; M.A., University of Kansas; Ph.D., University of Chicago, 1928.

PAUL UHLINGER, Professor Emeritus of Philosophy (1968) (Ret. 1979) B.A., Youngstown University; B.D., Oberlin College; Ph.D., Bowling Green University, 1953.


ALEXANDER L. ADAMS, Assistant Professor of Physical Education (1970) B.S.Ed. M.S.Ed. The University of Akron, 1970.

BENJAMIN H. BARKER, Assistant Professor of Business (1971) B.S. Edinboro State College, 1971; M.B.A. West Virginia University, 1972; Ph.D. University of Akron, 1980.


CHARLES C. BEITZ, Assistant Professor of Political Science (1970) B.S. Western Reserve University, 1968; M.A. State University of New York at Buffalo, 1970; Ph.D. State University of New York at Buffalo, 1972.

CHRISTINE L. BETHLEHEM, Assistant Professor of Child Development (1972) B.S. gravid, 1972; M.A., Indiana University, 1974; Ph.D. Michigan State University, 1976.

DAVID R. BIBLOT, Associate Professor of Business (1968) B.S. Ohio University, 1968; M.B.A. State University of New York at Buffalo, 1970; M.S. University of Akron, 1973; Ph.D. University of Akron, 1974.


JOHN J. BOURKE, Associate Professor of Business Administration (1971) B.S. University of Akron, 1971; M.B.A. State University of New York at Buffalo, 1972; Ph.D. University of Akron, 1974.


LINDA J. BOYD, Associate Professor of Business Administration (1971) B.A. Miami University, 1971; M.B.A. University of Akron, 1972; Ph.D. University of Akron, 1973.


PATRICK J. BUCHANAN, Associate Professor of Business Administration (1968) B.S. Miami University, 1968; M.B.A. State University of New York at Buffalo, 1970; Ph.D. University of Akron, 1973.


TOM L. BUSH, Assistant Professor of Business Administration (1968) B.S. Miami University, 1968; M.B.A. State University of New York at Buffalo, 1970; Ph.D. University of Akron, 1973.

WILLIAM J. BUTTS, Associate Professor of Business Administration (1970) B.S. Ohio Northern University, 1970; M.B.A. Bowling Green State University, 1972; Ph.D. University of Akron, 1974.


BERNARD A. DEITZER, Professor of Management, Director of Seminars (January 1967) A.B., Allegheny College; M.L.L., University of Pittsburgh, Ph.D., The Ohio State University, 1967.

JAMES DENNISON, Assistant Professor of Physical Education (July 1965) B.A., College of Wooster; M.Ed., The University of Akron, 1968.

ROBERT A. DEPOMPEI, Associate Professor of Communicative Disorders: Clinical Supervisor in Communicative Disorders (January 1984) B.S., M.S., Kent State University, 1969.


HAMILTON DESSAUX, Professor of Law; Holder of the B.Goodrich Chair of Law in International Transactions and Relations (1970) B.A., Yale University; LL.B., Harvard University; LL.M., McGill Institute of International Air Law, 1953.

IRWIN DETHLERS, Professor of Sociology (1975) A.B., M.S.M.A., Ph.D., University of Missouri, 1959.

LILLIAN J. DEYOUNG, Dean of the College of Nursing, Professor of Nursing (July 1975) B.S., M.S., Ph.D., University of Utah, 1975.

ROBERT D. DIAL, Associate Professor of English (1965) B.S., Central Missouri State College; M.A., Ph.D., University of Missouri, 1963.

JEFFREY C. DILTS, Assistant Professor of Marketing (1983) B.A., University of Missouri; M.A., Northwest Missouri State University; Ph.D., Oklahoma State University, 1983.

CONSTANTIN DIMITRIU, Instructor in Classics (May 1970) Baccalaureus, University of Cluj, Romania; M.A., National University of Bucharest; M.S.I., Case Western Reserve University, 1969.

RICHARD J. DIRENZO, Assistant Professor of Surveying and Construction Technology (1981) B.S.C.E., Youngstown State University; M.S., University of Missouri, 1970.


THOMAS M. DITZEL, Assistant Professor of Communication: Head of Television Services (December 1977) B.S., Marquette University; M.A., M.A., Ph.D., The Ohio State University, 1971.

JAMES S. DIVOVY, Assistant Professor of Management (1983) B.A., M.B.A., Kent State University, 1980.

DOROTHY M. DOBRDNOIT, Associate Professor of Nursing (1969) R.N., St. Elizabeth Hospital School of Nursing; B.S., St. Louis University; M.Ed., Columbia University, 1965. R.N.

SHIRLEY R. DOHERTY, Assistant Professor of Nursing (1975) B.S.N., Syracuse University; M.S.N., Wayne State University, 1969. R.N.


HELMAR H. A. DOLL, Instructor in Classics (1970) Baccalaureus, University of Cluj, Romania; M.A., National University of Bucharest; M.S.I., Case Western Reserve University, 1969.

JANICE L. ELEY, Assistant Professor of Hospitality Management (1978) B.A., Manchester College; M.A., Indiana University, 1974.


J. R. ELIAS, Research Professor in Civil Engineering (August 1983) B.Tech., Loughborough University of Technology; M.Phil., London University, 1968.


DEUTSCHER, Professor of Sociology (1975) A.B., M.S., Ph.D., University of Missouri, 1959.

SANDRA J. ELLIS, Associate Professor of Biology (1970) B.A., M.A., Ph.D., University of Southern California, 1971.


ELIZABETH B. ERICKSON, Associate Professor of Economics (1969) B.S., M.S., University of Western Australia; Ph.D., University of Illinois, 1972.

EARL L. ERTMAN, Professor of Art (1967) B.S., University of Southern Mississippi; M.A., Case Western Reserve University, 1967.


MARY D. ETHERIDGE, Editor, Public Information (May 1983) A.B., Princeton University, 1981.

JACLYN R. FACINELLI, Assistant Professor of Music (1980) B.M., Baldwin-Wallace College; M.M., Kent State University, 1979.

FRED W. FANNING, Associate Professor of Education (1972) B.S., M.A., Ph.D., The Ohio State University, 1972.

STEPHEN A. FARIA, Jr., Instructor in Modern Languages (1965) B.A., Harvard University; M.A., Cornell University, 1967.


MICHAEL F. FARONA, Professor of Chemistry (1964) B.S., Case Western Reserve University; M.S., Ph.D., The Ohio State University, 1964.

LEONA W. FARRIS, Director of the Community Involvement Component of Home Economics (1969) B.S., The Ohio State University; M.A., Kent State University, 1959.

ROBIN R. FAST, Assistant Professor of English (1980) B.A., University of California, Santa Barbara; M.A.; Hunter College; Ph.D., University of Minnesota, 1979.

RICHARD M. FAWCETT, Associate Professor in the Community and Technical College (1969) B.A., M.Ed., Kent State University, 1959.

JAMES V. FEE, Professor of Communication (1967) B.S.Ed., M.S.Ed., Southern Illinois University; Ph.D., The Ohio State University, 1964.

ROBERT J. FERNICK, Associate Professor of Sociology (1978) B.A., University of Oklahoma; M.A., California State University, Ph.D., Duke University, 1978.

ROBERT E. FERGUSON, Professor of Education (1965) B.S., M.A., Kent State University; Ed.D., Case Western Reserve University, 1965.

DEMETRE G. FERTIS, Professor of Civil Engineering (1965) B.S., M.S., Michigan State University; Ph.D., Engineering, National Technical University (Athens, Greece), 1964.

LEWIS J. FETTERS, Professor of Chemistry, Professor of Polymer Science (1967) B.A., College of Wooster; Ph.D., The University of Akron, 1962.

JOHN R. FINAN, Professor of Law (1967) B.A., Fordham University; J.D., Columbus University, 1961.
JOHNSON, A. Johnson, Associate Professor in the Community and Technical College (1969) B.A., North Park Junior College; B.S., University of Minnesota; M.Ed., Kent State University, 1968.

MARY JOHNSON, Assistant Professor of Secretarial Science (1965) B.S., Carnegie Institute of Technology; M.Ed., University of Pittsburgh, 1974.

SCOTT A. JOHNSTON, Assistant Professor of Music (1979) B.M., University of Wisconsin-Madison; M.M., The Ohio State University, 1974.

MIYAMOTI, Assistant Professor of Biology (Ooh 1970) B.S., St. John College; M.S.L.S., Case Western Reserve University, 1969.

TUCKER, Assistant Professor of Music (1960) B.M. North Texas State University, M.A. University of Connecticut, 1977.

DAVID J. JOHNSON, Associate Professor of English (February 1961) B.A., M.A., Ph.D., Harvard University, 1959.

JOHN J. JOHNSTON, Professor of Accounting (1975) B.S., The Ohio State University.


WILLIAM D. JONES, Executive Director of Personnel, Appointing Authority, Adjunct Assistant Professor in the Community and Technical College (1960) B.S., New York University, M.A. University of Delaware, 1978.


SEBASTIAN V. KANAKKANATT, Professor of General Technology (July 1965) B.S., Madison University (India); M.S. Ph.D. The University of Akron, 1963.

GARY W. KANE, Associate Professor of Education (1972) A. Santa Ana College; B.S. State University College at New Paltz; M.Ed., Ed.D., University of Rochester, 1970.


CHAMAN KASHKARI, Associate Professor of Electrical Engineering (1969) B.A. Jamia Millia Islamia; B.E., M.S., University of Delaware, 1969; Ph.D., University of Michigan, 1969.

DARLENE R. KASCH, Associate Professor of Accounting (1969) B.A., M.S. The University of Akron; B.A.; Kent State University, 1976; C.P.A., Ohio.

JOLITA KAVALIKAS, Associate Professor of Modern Languages (1970) B.A., Ph.D., Case Western Reserve University, 1972.

AZMI KAYA, Professor of Mechanical Engineering (1970) Diploma, Technical College for Men (Turkey); M.S. New York University; M.S.E.E., University of Wisconsin; M.S.E.E., Ph.D., University of Minnesota, 1970; P.E., Ohio.


FRANK K. KELLEY, Professor of Polymer Science, Director of the Institute of Polymer Science (1978) B.S., M.S., Ph.D. The University of Akron, 1961.

LAWRENCE R. KELLEY, Budget Director (1980) B.A.S., M.S. Ohio State University of Akron.


SAMUEL G. KELLY, Assistant Professor of Mechanical Engineering (August 1962) B.S., M.S., Ph.D., Virginia Polytechnic Institute and State University, 1979.


FRANK J. KENDRICK, Associate Professor of Urban Studies, Associate Professor of Political Science (1971) B.A., Grinnell College; M.A., Ph.D., University of Chicago, 1972.

JOSEPH P. KENNEDY, Outstanding Professor of Polymer Science, Distinquished Professor of Chemistry (April 1970) B.S., University of Budapest; B.A., Rutgers University; Ph.D., University of Vienna, 1954.


DENNIS L. KIMMELL, Professor of Accounting (1976) B.S., University of Wisconsin-Madison; M.S., Southern Illinois University; B.A., Kent State University, 1978; C.P.A., Missouri, Ohio, Wisconsin.

SHARON L. KIMMELL, Assistant Professor of Accounting (1921) B.A. College of Wooster; M.B.A., University of Wisconsin, 1975; C.P.A., Ohio.


LILLIAN KING, Associate Professor of Education (1966) B.S.Ed., The University of Akron; M.Ed., Kent State University, 1965.


DAYAL KIRINGODA, Assistant Professor of Accounting (1981) B.A., Vidyodaya University of Ceylon; B.Com., M.B.A. University of Windsor, Canada, 1977.
ALVIN M. RICHARDS, Professor of Civil Engineering (June 1949) B.C.E., The University of Akron; M.S., Harvard University, Ph.D., University of Cincinnati. 1966; P.E., Ohio. Fellow.

JAMES E. RICHARDSON, Professor and Director of Students' Studies; General Studies Course Director; Institutions in the United States (1967) B.A., B.S., College Park, Ph.D., New York University, 1961.

PAUL RICHETT, Law Librarian; Associate Professor of Law (July 1977) A.B., M.S., University of Illinois, J.D., Howard University, J.S.D., University of Louisville, 1977.


KATHLEEN M. ROBINS, Assistant Professor of Dance (1981) B.S. University of New Mexico, M.A., Columbia University Teachers College, 1975.

CAROLYN B. ROBERTS, Instructor in Nursing (January 1971) B.S.N., Hampton Institute; M.S., Loyola University, 1974.

MARIA J. ROBERTS, Instructor in Nursing (1980) B.S.N. University of North Carolina at Chapel Hill; M.A. The University of Akron, 1979

RICHARD S. ROBERTS, Professor of Accounting (1964) B.B.A., University of Cincinnati; M.B.A., Ph.D., The Ohio State University. 1966; C.P.A., Ohio.

ROBERT W. ROBERTS, Robert Iredell Professor of Chemical Engineering; Columbus University; Ph.D., Tuane University of Petroleum Science (1966) B.S., M.E., Washington University; M.S., Ph.D., University of Iowa, 1967.

RUTH S. ROBERTS, Associate Professor of Education Director of Special Education (1971) B.A., Hunter College; M.Ed. Ph.D., Kent State University. 1915.

BARBARA ROBINSON, Lecturer in English Language and Literature, Assistant Director of the English Language Institute (1961) B.A., Dartmouth College; M.S., Georgetown University, 1964.

DAVID J. ROBINSON, Associate Professor of Electronic Technology (January 1970) B.S.E., The University of Akron; M.S.E. Case Western Reserve University; J.D., The University of Akron, 1975.

SAYO N. ROBINSON, Professor of Civil Engineering (January 1983) B.S., Northwestern University; M.S., Ph.D. Brown University, 1969.


LOUISE R. ROEHRIC, Professor of Electrical Engineering (1968) B.S., M.S., E.E., Ph.D., University of Delaware. 1967; P.E. Ohio.


WILLIAM A. ROGERS, Executive Dean of Continuing Education; Director of the Public Services; Associate Professor of Education; Leader of the College of Medicine (1967) B.A., E.D. Ed. D., State University of New York at Buffalo, 1967.


HERDY S. ROSENQUIST, Associate Professor of Psychology (1965) B.B.A., M.A., University of Wisconsin, 1965;


WILLIAM ROTH, Professor of Law (1962) A.A., Mount Saint Mary's College, B.A., University of California-Santa Barbara, J.D., University of California, Los Angeles, 1967.

EDWIN C. ROWLAND, Assistant Professor of Biology (1953) B.S., Mount Union College; M.S., Ph.D., Wake Forest University, 1977.

JOHN A. RUCKER, Associate Professor of Accounting (1963) B.A., M.A., Western Illinois University, 1972.

MARION ALBERT RUESCH, Dean of the College of Education (1971) B.A., M.A., University of Northern Iowa; Ph.D. Iowa State University, 1969.

ROBERT E. RUECHMAN, Assistant Director of Purchasing (March 1978) B.B.A. Kent State University, 1968.


ROBERT P. RUPERT, Instructor in Physical Education (March 1960) B.S. Ohio Northern University; M.A., Bowling Green State University, 1959.

JAMES N. RUSH, Assistant Professor of Hospitality Management (January 1983) A.A.S., B.S., M.S. Tech Ed. R.D. The University of Akron, 1983.


HELEN L. ROY, Assistant Professor of Modern Languages (1968) B.A., Ohio Wesleyan University; M.A. (Spanish), M.A. (French), D.M.L., Middlebury College, 1968.


DANIEL B. SCHEFFER, Assistant Professor of Biology (July 1980) B.S. M.Ed., Northern Texas University, Ph.D., Texas A&M University, 1978.

WALTER ALVIN SHETTLE, Professor of Biology (1968) B.S., College of William and Mary; M.A., Ph.D., University of British Columbia, 1958.


RICHARD SHIREY, Associate Professor of Music (1967) B.M., Oberlin College; M.M., University of Illinois, 1965.


S. MARC SILLING, Coordinator of Testing Services (November 1981) B.A., Marietta College; M.A., Cleveland State University; Ph.D., Kent State University, 1981.

KENNETH T. SILGAC, Associate Professor of Communicative Disorders; Director of Speech and Hearing Center (1971) B.S., M.Ed., Ph.D., Wayne State University, 1971.

STANLEY S. SILVERMAN, Assistant Professor in the Community and Technical College Department (1981) B.S., The Ohio State University; M.A., Middle Tennessee State University, 1973.


FRANKLIN B. SIMMONS, III, Assistant Professor of Management (January 1982) B.A., M.A., Ph.D., University of Cincinnati, 1981.

ANDREW L. SIMON, Professor of Civil Engineering; Executive Director of Institute for Technological Assistance (1965) C.E. Diploma, Technical University of Budapest; Ph.D., Purdue University, 1960; P.E., Ohio, West Virginia, Indiana.

JOHN A. SIMPSON, Assistant Professor of Aerospace Studies (June 1981) B.S., University of Nebraska; M.S., Central Michigan University, 1980; Captain, USAF, Aircraft Maintenance Officer.

PAUL D. SIMPSON, Assistant Professor of Construction Technology (January 1983) B.S.C.E.; M.S.C.E., The University of Akron, 1976; P.E., Ohio.

GARY J. SIPP, Assistant Professor of Psychology (1981) B.A., Rutgers University; M.A., Ph.D., University of Maryland, 1981.

HOLLY C. SLACK, Assistant to the Dean of Community and Technical College; Inspector in the Community and Technical College (July 1981) B.A., M.E., Corelton State University, 1972.


HOWARD K. SLEIGHTER, Professor of Theatre Arts (1967) A.A., San Francisco City College; B.A., University of California, M.A., University of Hawaii; Ph.D., University of Pittsburgh, 1966.

SALLY KENNEDY SLOCUM, Associate Professor of English (1966) A.B., Columbia College; M.A., Ph.D., University of Tennessee, 1968.

DANIEL J. SMITH, Associate Professor of Chemistry (1977) B.S., Wisconsin State University; Ph.D., University of California—Berkeley, 1974.

FORREST SMITH, Assistant Professor of Biology (Wayne General and Technical College) (January 1975) B.A., Hiram College; M.S., Purdue University, 1974.

FREDERICK K. SMITH, Professor of English (1975) B.S., Loyola College; M.A., Ph.D., University of Virginia, 1974.

HERBERT W. SMITH, JR., Professor of Kindred Languages (1968) A.B., Brigham Young University; M.Ed., University of Wisconsin, 1956.

JONATHAN E. SMITH, Assistant Professor of Psychology (1980) B.A., Wofford College; M.Div., Emory University; M.S., Ph.D., University of Georgia, 1980.


LARRY D. SNIDER, Assistant Professor of Music (1977) B.S., Illinois State University; M.M., North Texas University; D.M.A., University of Illinois, 1973.

GLENN H. SNYDER, Assistant Professor of Community Services, Technology (1973) B.A.Ed., The University of Akron; M.Ed., Kent State University, 1972.

NANCY M. SOMERICK, Assistant Professor of Communication (1979) B.S.A., Ohio University; M.A.J., Kent State University; Ph.D., Ohio University, 1974.

MARK E. SOPPELANO, Assistant Professor of Art (1976) B.F.A., University of Colorado; M.F.A., The Ohio State University, 1976.

DIANA J. SOUSA, Instructor in Nursing (1979) B.S.N., Salve Regina College; M.S.N., University of Pennsylvania, 1979; R.N.

ROBERT J. SOVCHIK, Associate Professor of Education (1973) B.S., Kent State University; M.A., Cleveland State University; Ph.D., Kent State University, 1974.
ROBERT C. WEYRICK, Dean of the Community and Technical College; Professor in the Community and Technical College (February 1965): B.F.E. The University of Akron; M.S., Case Institute of Technology, 1965. F.E. Ohio.

JAMES L. WHITE, Professor of Polymer Engineering; Director of the Center of Polymer Engineering (July 1983): B.S.CHE., Polytechnic Institute of Brooklyn; M.S.CHE., Ph.D., University of Delaware, 1965.


JEAN R. WILLIAMS, Associate Professor of Home Economics; Assistant Director-Curriculum, University Nursing Center (January 1973): B.S. Iowa State University; M.S., The University of Akron, 1971.


MICHAEL W. WILLIAMS, Assistant Professor of General Technology (1964): B.S., Bowling Green State University; M.S., University of Wisconsin, 1973.

RICHARD A. WILLIAMS, Associate Professor of Electrical Engineering (1969): B.S.; M.S., The Ohio State University, 1962, Ohio.


MAX S. WILLIS, Jr., Professor of Chemical Engineering (1968): B.S., Ch.E., Pennsylvania State University; M.S.CHE., Ph.D., Iowa State University, 1982, Ph.D., Science and Technology, 1982.


CHARLES W. WILSON III, Professor of Physics; Physician of Polymer Science; Research Associate, Institute of Polymer Science, 1965) B.S.E, M.S., University of Michigan, Ph.D., Washington University, 1952.

ERNST LEE WILSON, Assistant to the Dean, College of Business Administration; Assistant Professor of Accounting; Director of College Internships (1972), (1974), (1976): B.S.BA., The Ohio State University; M.B.A., The University of Akron, 1965; CMA.


PAUL S. WINGARD, Associate Dean of Buchtal College of Arts and Sciences; Professor of Geology (February 1966): B.A., M.S., Valmi University Ph.D., Department of Illinois, 1962.

BERNARD S. WINK, Assistant Professor of Business Law (1979): B.S.B.A. The Ohio State University, J.D., The University of Akron, 1964.


JAMES L. WITHEROW, Assistant Professor of Physical Education (1972): B.S., Med., Kent State University, 1956.


CHARLES L. WOOD, Associate Professor of Education (1956): B.A., Simpson College; M.A., Ph.D., University of Iowa, 1966.

JOHN W. WORKS, Associate Professor of Finance (1981): B.A., Brown University; J.D., Ohio Northern University; M.B.A., Ph.D., Northwestern University, 1968.


BRIAN YEAGER, Professor of Military Science (July 1982): B.S., University of Scranton; M.B.A., The Ohio State University; Graduate of U.S. Army Command and General Staff College; Lieutenant Colonel, Infantry.

ISAAC YEE, Professor of Modern Languages (1975): B.A., Hebrew University of Jerusalem; Ph.D., University of Wisconsin, 1970.

WALTER H. YODER, Jr., Assistant to the Dean, College of Education; Professor of Education; Director of Educational Field Experience (1971): B.A., Tufts University; M.A., New York University; M.A., Ed.D, Indiana University, 1971.


PAUL H. ZAREFSKY, Assistant Professor of Law (1982): B.A., Oberlin College; J.D., University of Pennsylvania; LL.M., Georgetown University, 1982.


HANS O. ZBINDEN, Assistant Professor of Modern Languages (1965): B.A., Wittemberg University; M.A., University of Pennsylvania; Ph.D, Pennsylvania State University, 1968.

DONALD A. ZIMMERMAN, Assistant Professor of Marketing and Sales Technology (1973): B.S.B.A., Defiance College; M.B.A., University of Pennsylvania, 1968.


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Full-Time Teaching Faculty
(by College, School and Department and the University Library)

July 1983

University College

General Studies

HEAD: David C. Reade

COURSE DIRECTORS: John O. Bee, Robert H. Holland, Robert N. Gandee, Jim L. Jackson, James F. Richardson.

Division of Allied Health Technology

ACTING CHAIRMAN: Assistant Professor Lavenie C. Yoube.

ASSISTANT PROFESSORS: Raymond Sabhängig, Genevieve H. Turk.

INSTRUCTORS: Jean M. Farina, Dorothy C. Mosen.

Division of Associate Studies

CHAIRMAN: Professor Bob B. Scattered.


Division of Business and Office Technology

CHAIRMAN: James W. Taggart

PROFESSORS: David T. Dolan, Mary Jean Johnston, George J. Makar, Abasius E. Misko


Division of Engineering and Science Technology

CHAIRMAN: Professor Thomas P. Hebert


INSTRUCTORS: Clare F. Corak, Barbara A. Gisettman, Michel S. Haddad, Paul J. John.
Division of Public Service Technology
CHAIRMAN: Professor Joseph R. Lemiri.
ASSOCIATE PROFESSORS: Robert W. Higham, Kenneth L. McCormick.
INSTRUCTOR: David H. Hoover.

Buchtel College of Arts and Sciences

Biology
HEAD: Professor Dale L. Jackson.
INSTRUCTORS: Wei Jien Chang, Dorothy Mose.

Chemistry
HEAD: Professor Michael F. Farina.
DISTINGUISHED PROFESSOR: Joseph P. Kennedy.
ASSISTANT PROFESSORS: James K. Hardy, David H. O'Keefe, Peter C. Preusch, Michael J. Tschirn.

Classics
HEAD: Assistant Professor Jacqueline Hegbar.
ASSOCIATE PROFESSOR: Robert E. Gaebel.
ASSISTANT PROFESSOR: Gary H. Ohal.
INSTRUCTOR: Constantine Dimitri.

Economics
HEAD: Associate Professor Randall H. King.
ASSISTANT PROFESSORS: Devinder M. Malhotra, Steven C. Myers.
INSTRUCTOR: Hader A. Khan.

English
HEAD: Professor Paul Memis.
PROFESSORS: Gerald H. Levin, D'Orsay W. Pearson, John S. Phillipson, Frederick N. Smith, Gerald M. Sweeney.
INSTRUCTORS: Jutta T. Blendsmeer, Alice MacDonald, Arlene A. Tolth.

History
HEAD: Professor Robert H. Jones.
ASSISTANT PROFESSOR: Mark B. Tausig.

Mathematical Sciences
HEAD: Professor William H. Beyer.
PROFESSORS: Douglas E. Cameron, Leonard Sweet.
INSTRUCTOR: Mary E. Maxwell.

Modern Languages
HEAD (ACTING): Professor Hugo Lijeron.
ASSOCIATE PROFESSORS: Jolfa Kavaliauskaite, Phillip W. Stuhvesant, Russell Weigandt.

Philosophy
HEAD: Associate Professor Alan Hart.
PROFESSOR: William S. Mackahan.
ASSOCIATE PROFESSORS: David F. Cox, James H. Buchanan.
ASSISTANT PROFESSORS: James C. Anderson.

Physics
HEAD: Professor Charles W. Wilson III.
ASSOCIATE PROFESSORS: Peter N. Henniksen, II, Harry T. Pinnick, Ronald E. Schneider.
ASSISTANT PROFESSORS: Purushottam Das Guirat.

Political Science
HEAD: Professor Jesse F. Marquette.
PROFESSORS: Yong H. Cho, Yigong Malik, Paul A. Weidner.

Polymer Science
HEAD: Professor Ira Purna.
DISTINGUISHED PROFESSOR: Joseph P. Kennedy.
PROFESSORS: Lewis J. Fettke, Alan N. Gent, James E. Haywood, Frank N. Kelley, Donald McIntyre, Eberhard A. Monecke, Charles W. Wilson III.
ASSOCIATE PROFESSORS: John E. Frederick.
ASSISTANT PROFESSORS: Purushottam Das Guirat, Gary R. Harned.

Psychology
HEAD: Professor Gerald V. Barrett.

Sociology
HEAD: Associate Professor Richard J. Gigiotti.
College of Engineering

Chemical Engineering
HEAD: Professor Howard L. Greene.
PROFESSORS: Glenn A. Atwood, Jozsif M. Betty, Robert W. Roberts, Max S. Wells, Jr.
ASSOCIATE PROFESSORS: Lawrence G. Focht, Robert F. Savinell.

Civil Engineering
HEAD: Professor Andrew L. Simon.
ASSISTANT PROFESSORS: Josef F. Saed, Paul D. Simpson.
INSTRUCTOR: Kenneth L. Kilka.

Electrical Engineering
HEAD (ACTING): Professor Chau-Shin Chen.
PROFESSORS: Chun-Fu Chen, Joseph Edminster, Louis E. Roemer, Donald C. Thom.
ASSISTANT PROFESSOR: James Grover.

Mechanical Engineering
HEAD: Professor Rudolph Saracco, Jr.

Polymer Engineering
HEAD: Professor James I. White.
ASSOCIATE PROFESSOR: Avam I. Hayayv.

College of Education

Counseling and Special Education
HEAD (ACTING): Associate Professor Theodore L. Gieckler.
ASSISTANT PROFESSORS: Alice E. Christie, Steven E. Perkins.

Educational Administration
HEAD: Professor Andrew Bough.
PROFESSORS: Don Birdsell, James C. King, Marvin H. Mair, Richard F. Yerger.
ASSOCIATE PROFESSORS: W. Penny Cone, William A. Rogers, Charles L. Wood.

Educational Foundations
HEAD: Professor Gerald J. Blunsveld.
ASSISTANT PROFESSORS: M. K. Alderman, William A. Mavrides.

Elementary Education
HEAD: Professor Bernard L. Esposito.
ASSISTANT PROFESSORS: Mary Ellen Atwood.
INSTRUCTOR: Jackie M. Verron.

Physical Education
HEAD: Associate Professor Robert N. Gandee.
PROFESSORS: J. Thomas Adolph.
LECTURERS: Douglas W. Trauman.

Secondary Education
HEAD: Professor Larry G. Bradley.
PROFESSORS: Joseph P. Arnold, Joy S. Lindbuck, Marion A. Ruelbel.
ASSISTANT PROFESSOR: Fred M. Carr.

College of Business Administration

Accounting
HEAD: Professor Richard S. Roberts.
DISTINGUISHED PROFESSOR: Orville R. Keister.
INSTRUCTOR: Peter Dorff.

Finance
HEAD: Associate Professor Arthur G. Went.
ASSOCIATE PROFESSORS: David Hawk, Robert J. Shorez, James R. Web, John W. Works.
ASSISTANT PROFESSORS: David A. Redle, Bernard S. Winnick.
INSTRUCTOR: Anita M. Moore.

Management
HEAD: Professor Howard L. Taylor.
College of Fine and Applied Arts

Art
HEAD: Professor Earl L. Erman
PROFESSORS: Irving A. Achon, Dennis A. Keilson, William A. Neumann, Ronald D. Taylor
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Communication
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ASSOCIATE PROFESSORS: Dennis Lynch, Thomas T. Mires, Linda L. Moore, Nancy M. Somencik
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Communicative Disorders
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ASSOCIATE PROFESSORS: Rochelle DePompeo, Donald E. Hall, John M. Resch, Kenneth T. Sinacico
ASSISTANT PROFESSORS: Joan L. Bissler, Karyn Bobkoff, Carol A. Flexer, Sharon A. Leisher, James M. Lynn, Karen B. Turner, Wintfred Watson-Florence
INSTRUCTORS: Thomas S. Black, Denise Wray

Home Economics and Family Ecology
HEAD: Professor Mary C. Rainey
PROFESSORS: Barbara N. Armstrong, Virginia Tappender
ASSISTANT PROFESSORS: Carolyn Albarese, Harriet K. Horskowitz, Sue W. Williams, David D. Will
INSTRUCTORS: Dana L. Chaplin, Elise Krigline, Patricia M. Kuhn, Karen T. Price

Music
HEAD: Professor Frank V. Bradsby
PROFESSORS: Richard J. Jakobeit, Gerard L. Knieper, John A. McDonald, Wallace H. Smith, Sherman D. Vander Aik
ASSOCIATE PROFESSORS: David S. Barron, Michael Haber, Martin Litt, Barbara L. MacGregor, Eugene R. Martin, Laurence O. Shapiro, Richard N. Shively, Larry Snider, Ralph B. Turek
INSTRUCTORS: Roland Palucchio, James J. Homeo

Social Work
HEAD: Associate Professor Gaulli S. D. Olale
ASSOCIATE PROFESSORS: Robert Detichman, John H. Ramey
ASSISTANT PROFESSORS: Bernard J. Clifford, Virginia L. Fitch, Aaron R. Mann

Theatre Arts and Dance
ACTING HEAD: Assistant Professor Lyle Dyk, Jr.
PROFESSOR: Howard K. Slaughter

College of Nursing

PROFESSORS: Lillian J. DeYoung, Kathryn M. Homeier
INSTRUCTORS: Linda L. Bacon, Cathy M. Ceccev, Janet L. Chamberlain, Helen C. Dammen, Mary F. Dugan, Cynthia L. Gildons, June A. Hudson, Diane M. Keating, Diane C. Kulasa, Gaynor E. Lank, Susan M. McLaughlin, Christine M. McQuillan, Nancy J. Pico, Carolyn B. Roberts, Maria J. Roberts, Camilla J. Rogers, Dana J. Soult

School of Law

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Wayne General and Technical College

PROFESSOR: Laverne D. Mendenhall
ASSOCIATE PROFESSORS: Scott D. Hegen, Ellen S. Poitelle, Edwin Thall, Tyrone M. Turner
INSTRUCTORS: John Crow, Monica L. Harrison, Carl L. Huston, Louis M. Janette

University Library

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ASSOCIATE PROFESSORS: David R. Drink, Barbara L. Clark, Roger W. Durbin, Julie A. Garthwaite, Margaret S. Guss, Jack E. Hibbs, Jr., Marvin A. Joliet, John V. Miller
INSTRUCTORS: Justin L. Fitzgerald, Norma J. Pearson

Reserve Officers’ Training Corps

July 1983

Army

BRIAN YEAGER, Professor of Military Science (July 1982) B.S., University of Scranton, M.B.A., The Ohio State University; graduate of the U.S. Army Command and General Staff College; Lieutenant Colonel, Infantry.
James L. Anderson, Assistant Professor of Military Science (June 1983) B.S. West Virginia University, 1966. USAF, Infantry

Leonard D. Leffner, Assistant Professor of Military Science (June 1983) B.A., Loyola University, 1970. Chair, College, 1974. Captain, Military Intelligence

Richard C. Denis, Assistant Professor of Military Science (June 1983) B.A., Indiana University of Pennsylvania, 1975. Captain, Infantry

Jearell K. Bennett, Sergeant Major (June 1982)

Phillip A. Urbansky, Operations NCO (February 1982) Sergeant First Class

Fausto E. Castillo, Supply Sergeant (August 1982) Staff Sergeant

Air Force


Lawrence H. Forsythe, Assistant Professor of Aeronautical Studies (January 1982) B.A., The Ohio State University, 1975. Major, USAF, Intelligence Officer

John A. Simpson, Assistant Professor of Aeronautical Studies (June 1981) B.S., University of Nebraska, 1980. Captain, USAF, Aircraft Maintenance Officer

Craig S. Mendenhall, Assistant Professor of Aeronautical Studies (July 1980) B.S., Mount St. Mary's College, 1972. University of Southern California, 1976. Captain, USAF, Missile Staff Officer


Suzanne M. Thompson, NCOIC, POC Records (July 1981) Staff Sergeant, USAF, Administration


Institute of Polymer Science

Prank N. Kelley, Director of the Institute of Polymer Science. Professor of Polymer Science (1978) B.S., M.S., Ph.D., The University of Akron, 1961

Patricia M. Dreyfuss, Research Associate, Institute of Polymer Science (1974) B.S., University of Rochester, Ph.D., The University of Akron, 1964

Alan N. Gent, Professor of Polymer Physics (April 1961) B.S., Ph.D., University of London, 1965

Lewis J. Fettman, Professor of Polymer Science. Professor of Chemistry (1967) B.A., College of Wooster, Ph.D., The University of Akron, 1962

Edward M. Finley, Research Associate, June 1975 (Ph.D., University of Bridgeport and University of Maryland, 1973. The University of Akron, 1973

John E. Frederick, Associate Professor of Polymer Science. Associate Professor of Chemistry (1966) B.C.Ch., Denison State College, Ph.D., University of Wisconsin, 1964

Gary R. Hamed, Assistant Professor of Polymer Science (1980) B.S.C.E., M.S.C.E., CPE. University of Akron, Ph.D., The University of Akron, 1978

H. James Harwood, Professor of Polymer Science. Professor of Chemistry (1959) B.S. The University of Akron, Ph.D. Yale University, 1956

Joseph P. Kennedy, Distinguished Professor of Polymer Science. Professor of Chemistry (1910) B.S., Ph.D., University of Iowa. M.B.A., General Business. Rutgers University, Ph.D. University of Akron, 1961

Donald McIntyre, Professor of Polymer Science. Professor of Chemistry (1959) B.A., Lafayette College, Ph.D., Cornell University, 1954

Bernhard A. Meinecke, Professor of Polymer Science. Professor of Mechanical Engineering (October 1961) B.S. Engineer, Institute of Technology, Braunschweig, Germany, 1960

Irja Piirma, Professor of Polymer Science (December 1933) Diploma in Chemistry, Technische Hochschule Darmstadt, M.S., Ph.D., The University of Akron, 1960

Everett A. Santee, Professor of Polymer Science. Professor of Chemistry (1966) B.S. West Virginia State College, 1962

Charles W. Wilson III, Research Associate Professor of Physics. Professor of Polymer Science (1955) B.S., M.S., University of Michigan, Ph.D., Washington University, 1952


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A

Academic Advising Services, 56
Accounting, Degree Program, 85, 143, 251
Accreditation, 5
Administrative Officers, University, 286
Admissions, 24
 Adult Student, 25
 Financial Aid, 40
 Graduate School, 116
 High School/College Program, 26
 International Student, 26
 Orientation, Freshman, 28
 Postbaccalaureate Student, 26
 Procedures, 24
 Recent High School Graduate, 24
 Recommended High School Courses, 24
 Special Student, 26
 Transfer Student, 25
 Transient Student, 26
 Adult Resource Center, 166
 Advisory Committees, 308
 Aerospace Studies Air Force, (ROTC), 58, 170
 Afro-American Studies:
 Certificate Program, 105
 AGAPE, 19
 Air Force ROTC, 58, 170
 Allied Health, 45, 181
 Anthropology, 71, 130, 222
 Applied Mathematics, 67
 Applied Music, 267
 Army ROTC, 58, 170
 Art, Degree Program, 88, 258
 Art Education, 90
 Art History, 89
 Ceramics, 89
 Crafts, 89
 Drawing, 89
 Graphic Design, 89
 Honors Program, 90
 Metalsmithing, 89
 Painting, 89
 Photography, 90
 Printmaking, 90
 Sculpture, 89
 Studio Art, 89
 Arts, Degree Program, 46
 Arts and Sciences, Buchtel College of, 61
 Admission, 61
 Credits and Grade-Point Requirements, 33
 Degrees Offered, 61
 Doctor of Philosophy Degree, 123
 Humanities Division, 61
 Major Field, 62
 Master's Degree, 125
 Natural Sciences Division, 61
 Objectives, 61
 Programs of Instruction, 62
 Requirements, 61
 Social Sciences Division, 61
 Teacher Certification, 62

B

Baccalaureate Degree Programs, Listing of, 6
BEOG, (see Pell Grant), 40
Bierce Library, 17
Bilingual Multicultural Education, Degree Program, 83, 135
Biology, Degree Programs, 62, 125, 186
 Botany, 62
 Cytotechnology, 62, 63
 Ecology, 63
 High School Teaching, 63
 Medical Technology, 63
 Microbiology, 63
 Physiology and Pre-Professional, 63
 Zoology, 63
 Biomedical Engineering Research, Institute for, 162
 Board, Room and, (See Residence Halls)
 Board of Trustees, 286
 Botany, 62
 B.S./M.D. Degree Program, 73
 Buchtel College of Arts and Sciences (See Arts and Sciences)
 Buildings, Campus, 9
 Business Administration Master of, Degree Programs, 141
 Business Administration, College of, 84, 141
 Admission, 84
 Cooperative Education, 84
 Credit and Grade-point Requirements, 33
 Degrees Offered, 85
 Graduation, 85
 Joint Law Program, 144
 Master's Degree, 141
 Admission, 141
 Requirements, 141
 Objectives, 84
 Programs of Instruction, 85
 Transfer of Courses, 84
 Business and Office Technology, 47
 Business Management Technology, Degree Program, 48, 176
 Banking, 48
 Credit Union, 48
 Data Administration, 48
 Small Business Management, 48
 Bypassed Credit, 29

C

Calendar, 2
Campus, 9
Buildings, 9
Location, 9
Map, 318
Career Planning and Placement, Office of, 16
Cartographic Specialization, Certificate Program, 105
Centers (see Research Centers and Institutes)
Certificate Programs, Listing of, 7, 105, 170
Afro-American Studies, 105, 170
Cartographic, 105
Computer Physics, 106
Computer Science, 106
Environmental Studies, 107, 170
Higher Education, 113
Interior Design, 107
Latin American Studies, 107
Life-Span Development: Adulthood and Aging, 110
Life Span Development: Gender Identity and Roles, 111
Linguistics Studies, 107
Manual Communication, 108
Mid-Careers in Urban Studies, 112
Peace Studies, 108, 171
Planning, 108
Professional Communication, 109
Public Policy, 111
Secretarial Science, 109
Soviet Area Studies, 110
Word Processing, 109
Certification, State Teachers, 79
Chemical Engineering, Degree Programs, 74, 131, 225
Chemistry, Degree Programs, 64, 123, 126, 189
Cooperative Program, 64
Chemical Technology, Degree Program, 51, 181
Environmental, Forensic, Geology, Industrial, Rubber Plastics, 51
Child Care, 19
Child Life Specialist, Degree Program, 91
Civic and Educational Research, Institute for, 162, 165
Civic Education, Institute for, 165
Civil Engineering, Degree Program, 75, 131, 226
Classics, Degree Program, 65, 192
Classification of Students, 24
Commercial Art, Degree Program, 47, 174
Communication, Degree Program, 93, 147, 269
Business and Organizational Communication, 93
Communication and Rhetoric, 93
Mass Media-Communication, 93
Communicative Disorders, Degree Program, 94, 147, 271
Community and College Counseling, Degree Program, 137
Community and Technical College, 44, 172
Associate Degrees, 45
Baccalaureate Degrees, 44
Cooperative Education, 45
Credit and Grade-Point Requirements, 34
Objectives, 44
Programs of Instruction, 45
Requirements, 44
Community Services Technology, Degree Program, 54, 174
Alcohol Services, 54
Gerontology, 54
Social Services, 54
Volunteer Programming, 54
Computer Center, 14
Computer Physics Certificate, 70, 106
Computer Science, Degree Program, 68, 205
Computer Science, Certificate Program, 68, 106
Construction Technology, Degree Program, 76, 234
Continuing Education and Public Services, 165
Adult Resource Center, 166
Civic Education, Institute for, 165
Special Programs, Department of, 166
Cooperative Education Program, 7, 45, 64, 67, 70, 74, 84
Cost, 35
Counseling, Freshman, 28
Counseling, Degree Program, 137, 244
Elementary, 137
Special Education, 137
Community and College, 137
Secondary, 137
Counseling and Testing Center, 17
Counseling Service, 17
Testing Service, 17
Course Listings, 168
Course Numbering System, 34, 168
Culinary Arts, Degree Program, 47
Credit by Examination, 29
Credit-Noncredit, 30
Criminal Justice Technology, Degree Program, 53, 173
Security Administration, 53
Cytotechnology, Degree Program, 63, 189

Data Processing, Degree Program, 49, 177
Day Care, 19
Departmental Numbering System, 34, 168
Departmental Organizations, 21
Developmental Programs, 57, 169
Dietetics, Degree Program, 91
Dining Hall Facilities, 18
Diploma Nursing Program, 57
Discipline, 31
Dismissal, 32
Doctoral Degree Programs, Listing of, 8
Dormitories (See Residence Halls)
Drafting Technology, Degree Program, 52, 184

Earth Science, Degree Program, 126
Ecology, Degree Program, 63
Economic Education, Center for, 162
Economics, Degree Program, 65, 125, 192
Labor Economics, 65
Labor and Industrial Relations, 125
Ecumenical Campus Ministry, 19
Education, College of, 78
Admission, 78
Bachelor Degrees, 78
Bilingual Multicultural Education, 83, 135
Certification, 79
Clinical and Field-Based Experiences, 79
Credit and Grade-Point Requirements, 33
Doctor of Education, 133
Doctor of Philosophy, 133
Elementary, 79
Master's Degree, 133
Non-Majors, 79
Objectives, 78
Programs of Instruction, 79, 133
Secondary, 81
Special, 82
Student Teaching, 79
Technical, 82
Educational Administration, 248
Educational Foundations, 140, 235
Educational Technology, Degree Program, 52, 172, 250
Child Development, 53
Elementary Aide, 53
Library Aide, 53
Electrical Engineering, Degree Program, 76, 132, 229
Electronic Technology, Degree Program, 51, 182
Elementary Education, Degree Program, 79, 134, 236
Counseling, 137
Dual Certification, 81
Elementary, 79
Foreign Language, 80
Kindergarten — Primary, 80
Music, 81
Non-Professional Degree Holder, 80
Nursery School, 80
Principal, 136
Reading Specialist, 134
Retraining, 80
Engineering, Degree Program, 77, 132, 225
Engineering, College of, 74, 131
Admission, 74
Cooperative Plan, 74
Credit and Grade-Point Requirements, 33
Degrees Offered, 74
Doctor of Philosophy, 131
Facilities, Laboratories and Equipment, 12
Graduation, Requirements for, 74
Master's Degree, 131
Objectives, 74
Programs of Instruction, 74
Requirements, 74
Engineering and Science Technology, 51
Engineering Computer Science, 231
Engineering Geology, Degree Program, 126
English, Degree Program, 66, 126, 194
English Language Institute, 27, 169
Environmental Studies, Certificate Program, 107
Environmental Studies, Center for, 162
Evening College, 8, 114
Expenses and Fees (See Fees)
Extracurricular Activities, 20
All-Campus Advisory Board, 21
Departmental Organizations, 20
Listing of, 21
Performing Arts, 20
Personal Interest Organizations, 20
Sports, 20
Student Publications, 21

F
Facilities, Laboratories and Equipment, 11-14
Arts and Sciences, 11
Community and Technical, 12
Computer Center, 14
Education, 12
Engineering, 12
Fine and Applied Arts, 13
Learning Resources, 14
Nursing, 14
Faculty, Alphabetical, Listing of, 289
Faculty, by Division, Listing of, 303
Faculty, Emeritus, 287
Family and Child Development, Degree Program, 91
Family Development, Degree Program, 145
Fees and Expenses, 35
Refunds, 38
Finance, Degree Program, 85, 252
Financial Aid and Employment, Office of, 40
Application, 41
Computation, 41
Eligibility, 42
Federal Programs, 40
Inquiries, 42
ROTC, 59
State Programs, 40
University Programs, 40
Fine and Applied Arts, College of, 88
Admission, 88
Credit and Grade-Point Requirements, 33
Degrees Offered, 88
Facilities, Laboratories and Equipment, 12
Graduation, 88
Master's Degree, 145
Objectives, 88
Programs of Instruction, 88
Fire Science Technology, Degree Program, 53, 173
Foods and Nutrition, 91
Foreign Languages, Degree Program (See Modern Languages)
Foreign Language, Graduate School, 122
Fraternities, 22
French, Degree Program, 126, 207
Future Studies and Research, Institute for, 162
G
General Studies, 56, 169
Geography, Degree Programs, 66, 126, 197
   Facilities, Laboratories and Equipment, 11
Geology, Degree Programs, 66, 126, 198
   Geophysics, 66, 126
German, 208
Goals of the University, 5
Government, Residence Halls, 18
Grade Policies, 30
   Academic Reassessment, 31
   Credit-Noncredit, 30
   Discipline, 31
   Grading System, 31
   Graduation With Honors, 32
   Probation-Dismissal, 32
   Re-Examination, 30
   Repeating Courses, 31
Graduate School, 8, 116
   Admission, 117
   Classification, 117
   Commencement, 120
   Degree Programs, Listing of, 8, 116
   Doctoral Degree Requirements, 121
      Admission, 121
      Advancement to Candidacy, 122
      Dissertation and Oral Defense, 122
      Graduation, 122
      Language Requirement, 122
      Residence Requirement, 121
      Time Limit, 121
   Fees, 119
   Financial Aid, 120
   Grades, 118
   Graduate Council, 116
   History, 116
   International Students' Standards, 118
   Master's Degree Requirements, 120
      Admission, 120
      Advancement to Candidacy, 121
      Graduation, 121
      Residence Requirements, 120
      Time Limit, 120
   Objectives, 116
   Refunds, 119
   Regulations, 117
   Repeating a Course, 119
   Transfer Student, 119
Graduation, 32
   Associate Requirements, 32
   Baccalaureate Requirements, 32
   Credit and Grade-Point Requirements, 33
   With Honors, 32
   Grants and Loans, Student, 40
   Greek, (See Classics)
   Guidance and Counseling, 137, 244

H
Handicapped Services, Degree Program, 53, 173

I
Individualized Study, Degree Program, 47, 172
Industrial Accounting, Degree Program (See Management)
insurance, Student, 16, 36
Intercollegiate Sports, 20
Interdisciplinary Programs (See Certificate Programs)
Interior Design, Certificate Program, 92, 107
International Education Programs, 27
International Programs, Center for, 163
International Student Program, 26
   Admission Procedure, 26
   English Language Institute, 27
   Orientation, 27
Institutes (See Research Centers and Institutes)
Instrumentation Technology, 183
Italian, Degree Program, 209

K
Kindergarten-Primary, Elementary Education, Degree Program, 80

L
Labor Economics, Degree Program, 65
Labor Studies, Degree Program, 47, 175
Lain, (See Classics)
Latin American Studies, Certificate Program, 107
Law, School of, 8, 153, 208
   Academic Information, 153
   Activities, 158
   Admission, 151
   Bar Admission Requirements, 156
   BF Goodrich Company Chair of Law, 157
   Clinical Training, 155
   Curriculum, 154
   Enrichment Programs, 156
   Fees, 35, 119
   Grades, 154
   Graduation, 155
   History, 151
   Honor System, 155
   Honors, 157
   Joint Business Program, 144, 153
   Law Review, 154
   Library, 153
   Objectives, 151
   Pre-Legal Education, 151
   Scholarships, 157
   Writing Program, 154
Legal Programs, Office of Student, 17
Library, 17
Life-Span Development and Gerontology, Institute for, 163, 171
Life-Span Development: Adulthood and Aging, Certificate Program, 110
Life-Span Development: Gender Identity and Roles, Certificate Program, 111
Linguistic Studies, Certificate Program, 66, 107
Loans, Student, 40
Mathematical Sciences, Degree Program, 67, 127, 203, 207
   Applied Mathematics, 67, 128
   Cooperative Program, 67
   Mathematics, 67, 127
   Statistics, 68, 127
Mechanical Engineering, Degree Program, 76, 132, 231
Mechanical Technology, Degree Program, 52, 183
Medical Assisting, Degree Program, 45, 179
Medical Studies, 171
   B.S./M.D., Degree Program, 73
Medical Technology, Degree Program, 63, 188
Microbiology, 63
Mid-Careers in Urban Studies, Certificate Program, 112
Middle School, Degree Program, 135
Military Science (Army ROTC), 58, 170
Ministry, Ecumenical Campus, 19
Mission of the University, 4
Modern Languages, Degree Programs, 69, 207
   French, 207
   German, 208
   Italian, 209
   Russian, 209
   Spanish, 209
Multicultural Education, 83, 135, 248
Music, Degree Program, 92, 145, 263
   Accompanying, 92, 146
   History and Literature, 92, 146
   Jazz Studies, 93
   Music Education, 93
   Organizations, 22
   Performance, 92, 146
   Theory-Composition, 93, 146
Music Education, 93, 145
Musical Organizations, 22, 266

M
Management, Degree Program, 86, 141, 254
   Industrial Accounting, 86
   Production, 86
   Personnel, 86
Manufacturing Technology, Degree Program, 51, 183
   Industrial Supervision, 51
Map of Campus, 318
Map of Ohio, Interstate Access Routes, 318
Marketing, Degree Program, 87, 256
   Industrial, 87
   International, 87
   Marketing Communications, 87
   Physical Distribution, 87
   Retail, 87
Marketing and Sales Technology, Degree Programs, 49, 178
   Fashion, 49
   Industrial, 49
   Retailing, 49
Mathematical Sciences, Degree Program, 67, 127, 203, 207
   Applied Mathematics, 67, 128
   Cooperative Program, 67
   Mathematics, 67, 127
   Statistics, 68, 127
Mechanical Engineering, Degree Program, 76, 132, 231
Mechanical Technology, Degree Program, 52, 183
Medical Assisting, Degree Program, 45, 179
Medical Studies, 171
   B.S./M.D., Degree Program, 73
Medical Technology, Degree Program, 63, 188
Microbiology, 63
Mid-Careers in Urban Studies, Certificate Program, 112
Middle School, Degree Program, 135
Military Science (Army ROTC), 58, 170
Ministry, Ecumenical Campus, 19
Mission of the University, 4
Modern Languages, Degree Programs, 69, 207
   French, 207
   German, 208
   Italian, 209
   Russian, 209
   Spanish, 209
Multicultural Education, 83, 135, 248
Music, Degree Program, 92, 145, 263
   Accompanying, 92, 146
   History and Literature, 92, 146
   Jazz Studies, 93
   Music Education, 93
   Organizations, 22
   Performance, 92, 146
   Theory-Composition, 93, 146
Music Education, 93, 145
Musical Organizations, 22, 266

N
Natural Sciences, Division Major, 72
NDSL, 40
Northeastern Ohio Universities College of Medicine (NEOUCOM), 102, 188
   Admission, 102
   Cost, 102
   History, 102
   Location, 102
   Program, 102
   Purpose, 102
Nursery, Pre-School, 19
Nursing, Degree Program, 98, 149, 279
   Admission, 99
   Agencies, 101
   Credit and Grade-Point Requirements, 34
   Diploma, 57
   Facilities, Laboratories and Equipment, 14
   Graduation, 99
   Master of Science Degree, 149
   Admission, 149
Off-Campus Programs, 8
Office Services Technology, Degree Program, 50
Organizational Development, Center for, 163
Orientation, Freshmen, 28
Counseling, 28
OIG, 40
Outdoor Education, Degree Program, 82, 138, 243

Peace Studies, Center for, 163
Pell Grant, (See Financial Aid)
Performing Arts, 20
Personal Interest Organizations, 20
Philosophy, Degree Program, 69, 128, 211
Physical Education, 11-12, 82, 138, 241
Outdoor Education, 82, 138
Athletic Training, 82
Physics, Degree Program, 69, 128, 212
Applied Physics/Engineering Physics, 69
Biophysics, 70
Chemical Physics, 70
Computer Physics, 70
Computer Physics, Certificate Program, 70
Cooperative Program, 70
Facilities, Laboratories and Equipment, 12
Geophysics, 70
Physics/Astrophysics/Astronomy, 70
Polymer Physics, 70
Physiology and Pre-Professional, 63
Placement Office, 16
Planning, Certificate Program, 108
Political Science, Degree Program, 70, 128, 214
Political Science/Criminal Justice, 70
Political Science/Public Policy Management, 71
Polymer Engineering, Center for, 163
Polymer Engineering, Degree Program, 181, 233
Polymer Science, Degree Program, 123, 129, 222
Polymer Science, Institute of, 163
Postbaccalaureate Student, 26
Pre-School, Nursery, 19
Probation-Dismissal, 32
Professional Communication, 109
Professional Student, 24
Program Board, Residence Hall, 18
Psychologist, School, 139
Psychology, Degree Programs, 71, 124, 129, 216
Public Policy, Certificate Program, 111
Public Service Technology, 52, 174
Publications, Student, 21

Radiologic Technology, 45, 180
Radio Stations
WAUP-FM, 20
WRHA, 18
Reading Specialist, Degree Program, 134, 238
Real Estate, Degree Program, 49, 177
Refunds, Credit, 38
Noncredit, 38
Registration, 28
Repeating a Course, 31
Research Centers and Institutes, 162
Biomedical Engineering Research, Institute for, 162
Civic and Educational Research, Institute of, 162
Economic Education, Center for, 162
Environmental Studies, Center for, 162
Futures Studies and Research, Institute for, 162
International Programs, Center for, 163
Life-Span Development and Gerontology, Institute for, 163, 171
Organizational Development, Center for, 163
Peace Studies, Center for, 163
Polymer Engineering, Center for, 163
Polymer Science, Institute of, 163
Technological Assistance, Institute of, 164
Urban Studies, Center for, 164

Residence Halls, 18
Cost, 18
Dormitories, Listing of, 18
Food, 18
Refunds, 39
Residence Hall Council (RHC), 18
Residence Hall Program Board (RHPB), 18
WRHA Radio Station, 18
Residency Requirements, 36
Reserve Officers’ Training Corps (ROTC), 58
Aerospace Studies (Air Force), 58, 170
Admission, 58
Commissioning, 59
Financial Allowances, 59
Programs, 58
Scholarships, 59
Military Science (Army), 59, 170
Admission, 60
Commissioning, 60
Financial Allowances, 60
Programs, 59
Scholarships, 60
Special Reserve and National Guard Programs, 60

315
Respiratory Therapy Technology, Degree Program, 46, 181
Retraining Certification, Education, 80
Robertson Dining Hall, 18
Room and Board (See Residence Halls)
Russian, Degree Program, 209

S
Schedules, Student, 28
  Bypassed Credit, 29
  Credit by Examination, 29
  Modification of, 28
  Transfer Credit, 29
  Transient Student, 29
  Withdrawal, 28
Scholarships, 40
School and Community Relations, Certification, 139
School Psychology, Degree Program, 139, 247
Secondary Education (All Fields), Degree Programs, 134, 239
  Counseling, 137
  Principal, 136
Secretarial Science, Certificate Program, 50, 139
Secretarial Science, Degree Programs, 49, 178
  Executive, 50
  International, 50
  Legal, 50
  Word Processing, 50
SEOG, 40
Social Sciences Division Major, 72
Social Work, Degree Program, 94, 148, 274
Social Worker, School, Certification, 138
Sociology, Degree Programs, 71, 124, 129, 218
  Sociology/Anthropology, 71, 130, 222
Sororities, 22
Soviet Area Studies, Certificate Program, 110
Spanish, 130, 209
Special Education, Degree Programs, 138, 246
Special Education Programs, 249
Special Programs, Department of, 166
Special Student, 24
Speech and Hearing Clinic, 13
Speech Pathology and Audiology, Degree Program,
  (See Communicative Disorders)
Sports Activities, 20
Statistics, Degree Program, 68, 127, 206
Student Development, Office of, 16
Student Financial Aid and Employment, Office of, 16
Student Health Services, 16
Student Legal Programs, Office of, 17
Student Organizations, 21
Student Publications, 21
Student Services, 16
Student Teaching, 79
Summer Sessions, 8, 114

T
Taxation, Degree Program, 144, 153
Technical and Vocational Education, 135, 240
Technological Assistance, Institute for, 164
Testing Service, 17
Textiles and Clothing, Degree Program, 91
Theatre Arts and Dance, Degree Programs, 96, 147, 275
  Acting, 96
  Arts Management, 147
  Dance, 97
  Design/Technology, 96
  Musical Theatre, 96
  Theatre Arts, 96
TOEFL, 26
Transfer Credits, 29
Transfer Student, 24
Transient Student, 26
Transportation, Degree Program, 50, 179
  Airline/Travel Industry, 50
Tuition, (See Fees)

U
Undergraduate Student, 24
University College, 56, 169
  Academic Advising Services, 56
  Developmental Programs, 57
  Diploma Nursing Program, 57
  General Studies, 56
  Objectives, 56
  Program of Instruction, 56
  Urban Studies, Degree Program, 130, 223
  Urban Planning, 130
  Public Administration, 130
  Urban Studies, Center for, 164

V
Veterans Information, 36
Visiting Teacher, School Social Worker Certification Program, 138
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WAUP-FM, 20
Withdrawal from Class, 28
Work-Study Program, 40
WRHA Radio Station, 20

W
Wayne General and Technical College, 8, 55
Admission, 55
Credit and Grade-Point Requirements, 34
History, 55
Mission and Goals, 55
Philosophy, 55
Programs of Instruction, 55

Z
Zoology, 63