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Calendar 1984-85

Fall Semester 1984

*Labor Day Mon., Sept. 3
Day and Evening Classes Begin Tues. Sept. 4
Veterans Day (classes held) Mon., Nov. 12
**Thanksgiving Recess Thurs.-Sat., Nov. 22-24
Classes Resume Mon., Nov. 26
Final Examination Period Mon.-Sat., Dec. 17-22

Spring Semester 1985

Day and Evening Classes Begin Mon., Jan. 21
Founders Day (classes held) Tues., Feb. 12
Spring Recess Mon.-Sat., March 25-30
†May Day Fri., May 3
Final Examination Period Mon.-Sat., May 13-18
Commencement Sun., May 26

Summer 1985

First 5- and 8-Week Sessions Begin Mon., June 10
*Independence Day Thurs., July 4
First 5-Week Session Ends Fri., July 12
Second 5-Week Session Begins Mon., July 15
Eight-Week Session Ends Fri., Aug. 2
Second 5-Week Session Ends Fri., Aug. 16

Inquiries

Address Inquiries Concerning:
Admissions information, campus tours and housing, transfer of credits to
the Office of Admissions, 166 Fir Hill (216) 375-7100.
Financial aids, scholarships, loans and student employment to the Office
of Student Financial Aid and Employment, Spicer Hall, (216) 375-7032.
Athletics to the Athletic Director, Memorial Hall, (216) 375-7080.
Registration, scheduling, residency requirements and veterans’ affairs to
the Office of the Registrar, Spicer Hall, (216) 375-7844.
Continuing education and noncredit programs to Special Programs, Buck-
ingham Center for Continuing Education, (216) 375-7826.
Graduate study to the Graduate School, Buchtel Hall, (216) 375-7863.
The University Switchboard number is (216) 375-7111.
The University of Akron
Akron, Ohio 44325

*University Closed
†Classes suspended Noon to 5:00 p.m.
**University closed from Wednesday, November 21 at 5 p.m. until Monday, November 26 at 7 a.m.
section 1
About The University of Akron
The Buchtel name was perpetuated in the Buchtel College of Liberal Arts, established in 1915. Today over 20,000 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 1956. Currently, doctoral programs are offered in 14 fields.

Since Buchtel College initiated college courses in rubber chemistry (1905), it is appropriate that the University's first Ph.D. program was offered in polymer chemistry. However, the University's first major research effort was the Guggenheim Airship Institute which flourished in the 1930s and 1940s.

University of Akron scientists participated in the critical development of synthetic rubber during World War II and today the University's Institute of Polymer Science is now a world leader in polymer research and education. Currently the University's research efforts, totaling approximately $3 million, reach into many phases of research and creative projects. The 150-acre campus with 70 modern buildings is located in a metropolitan area of 1.5 million persons. The University of Akron now enrolls more than 26,000 day and evening students in credit courses and an additional 7,000 in "informal" noncredit education courses. Its students come from 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, in addition to its location and heritage, are teaching and research goals and service responsibilities to the local, regional, national and international communities served.

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

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

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

**Mission**

The University of Akron maintains a commitment to:

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

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

**Goals**

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

**GOAL I**

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

**GOAL II**

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

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

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

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

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

In addition to the recognized regional accreditations, special accreditation for particular programs has been awarded as follows:
- Accreditation Board for Engineering and Technology
- American Assembly of Collegiate Schools of Business
- American Chemical Society
- American Dietetic Association
- American Speech-Language-Hearing Association
- Committee on Allied Health Education and Accreditation of American Medical Association
- Council on Social Work Education
- National Accrediting Agency for Clinical Laboratory Sciences
- National Association of Schools of Art and Design
- National Association of Schools of Music
- National Council for Accreditation of Teacher Education
- National League for Nursing
- 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 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
- Social Services
- Volunteer Programming
- Criminal Justice Technology
- Corrections
- Security Administration
- Data Processing (2 + 2)
- Drafting Technology
- Educational Technology
- Child Development
- Elementary Aide
- Library Technician
- Electronic Technology (2 + 2)
- Fire Protection Technology
- Handicapped Services
- (Interpreting for the Deaf)
- Histologic Technology
- Hospitality Management
- Culinary Arts
- Hotel/Motel Management
- Marketing and Sales
- Individualized Study
- Labor Studies
- Manufacturing Technology
- Industrial Supervision
- Marketing and Sales Technology
- Fashion
- Industrial
- Retailing
- Mechanical Technology (2 + 2)
- Medical Assisting Technology
- Office Administration
- (effective Spring 1985)
- Executive
- Information
- Legal
- Office Information Management
- Word Processing
- Office Services Technology
- Radiologic Technology
- Real Estate
- Respiratory Therapy Technology
- Secretarial Science
- (see Office Administration)
- Surgical Assisting Technology
- Surgeon’s Assistant
- Surgical Technician
- Surveying and Construction Technology
- Construction
- Surveying
- Transportation
- Airline/Travel Industry
- Commercial Aviation

BACCALAUREATE PROGRAMS

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

- Accounting
- Art
- Art History
- Ceramics
- Crafts
- Drawing
- Graphic Design
- Metalsmithing
- Painting
- Photography
- Printmaking
- Sculpture
- Studio Art
- Biology
- Botany
- Cytotechnology
- Ecology
- Medical Technology
- Microbiology
- Physiology
- Pre-Professional
- Pre-Dental
- Pre-Medical
- Pre-Pharmacy
- Pre-Veterinary
- Zoology
- Business Administration
- Accounting
- Finance
- Management
- Marketing
- Chemical Engineering
- Chemistry
- Civil Engineering
- Classics
- Greek
- Latin
- Classical Civilization
- Communication
- Business and Organizational
- Communication and Rhetoric
- Mass Media
- Communicative Disorders
- (Speech Pathology and Audiology)
- Computer Science
- Business
- Mathematics
- Construction Technology (2 + 3)
- Cytotechnology
- Dance
- Economics
- Labor Economics
- Electrical Engineering
- Computer Engineering
- Elementary Education
- Dual Certification
- Kindergarten-Primary
- Nursery School
- Retraining
- Engineering
- Chemical
- Civil
- Electrical
- Interdisciplinary-BSE
- Mechanical
- English
- Finance
- Geography
- Geography/Cartography
- Geology
- Geophysics
- History
- Home Economics and Family
- Ecology
- Dietetics
- CUP
- Traditional
- Family and Child Development
- Child Development
- Child Life Specialist
- Family Development
- Foods and Nutrition
- Business
- Food Science/Product Development
made to make available to students the broad expanse of knowledge available on this campus.

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

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:

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

GRADUATE SCHOOL

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

- Accounting
- Biomedical Engineering
- Biological Sciences
- Business/Law Joint Program
- Chemical Engineering
- Chemistry
- Civil Engineering
- Communication

* Masters and doctoral programs.
The University of Akron

Communicative Disorders
Counseling Psychology
Economics
Labor and Industrial Relations
*Educational Administration and Supervision
*Higher Education
*Electrical Engineering
*Elementary Education
Reading Specialist or Consultant
Engineering
Biomedical Engineering
Polymer Engineering
English
Family Ecology
Child Development
Family and Child Development
Finance
Geography
Geology
Geology
Engineering Geology
Environmental Geology
*Guidance and Counseling
History
Home Economics and Family Ecology
International Business
Management
Marketing
Mass Media-Communication
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
Polymer Engineering
Political Science
*Polymer Science
*Psychology
School Psychology
*Secondary Education
Teaching Culturally
Disadvantaged
*Sociology
Special Education
Taxation
Technical and Vocational Education
Theatre Arts
Arts Management
*Urban Studies
Public Administration
Urban Planning

EVENING COLLEGE AND SUMMER SESSIONS

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

OFF-CAMPUS PROGRAMS

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

WAYNE GENERAL AND TECHNICAL COLLEGE

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, mechanical technology, retail management technology, secretarial science or social services technology.

*SCHOOLOFLAW

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

*Masters and doctoral programs
*Doctoral program only
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 Ohio Turnpike which ties together the whole eastern half of the nation. The city's suburbs touch on Interstate 71 that stretches from Lake Erie to the Gulf coast, Interstate 76 and 80 which link the nation from the east to the west coast. Interstate 77 that links the area with the southeastern coast and Interstate 90 that lies in with the New York Thruway. Bus travelers will find the Greyhound station a short walk from the campus. Airline passengers will find Akron abundant in limousine service from the Cleveland-Hopkins International Airport, which is located in Cleveland, Ohio, and the Akron-Canton Airport located south of Akron.

BUILDINGS

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

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

Art Building. Remodeling of a spacious building on East Exchange Street will allow the consolidation of the art department classrooms, offices and laboratories currently housed in Schrank Hall, South Hall, Service Building #1 and Davis Gallery. Expected completion date is fall of 1984.

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

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

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

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

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

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

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

Central Services Building. This building, 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 for $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.

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

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

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

Gallucci 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.

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 noracademic activities on campus. It provides space for bowling alleys, meeting rooms, lounges, student activity and publication offices and workrooms, game and billiard room, bookstore, bank facilities, Perkins Art Gallery, cooperative education offices, Gardner Theatre and cafeteria and 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.

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

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

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

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

Kolbe Hall. Recognized by its colonnade arch, this complex was named for the first president of the Municipal University of Akron, Parke R. Kolbe. It houses the University Theatre, the Television Production Center, as well as classrooms and offices for the College of Business Administration and the Department of 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 160,000-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 companion building to the recently completed Health and Physical Education Building. It contains offices of the Department of Physical Education, two large gymnasiums, a swimming pool, intramural sports office and classrooms.

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

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

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

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

Rubber Bowl. This off-campus stadium 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 divisions of Engineering and Science Technology and Associate Studies and the Army and Air Force ROTC units.

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

Spicer Hall. This major student contact building had renovations completed in 1975. It houses the Registrar's Office, Academic Advising Services, the Office of Student Financial Aids and Employment, University College, the Evening College and Summer Sessions, the Parking Systems Office and offices for the University auditor, controller, cashier, accounts payable and receivable and the state examiner.
Student Mailroom. 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 Institute for Futures Studies and Research, the Office of Alumni Relations, the Department of Development as well as offices for the division of Institutional Advancement 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 transfer scope, overhead map enlarger, field plotters, three-dimensional Perspektomat, headliner and vartypen, industrial camera, vacuum frame and map scale changer. A laboratory for cartographic and spatial analysis equipped with a remote computer terminal operates as a part of the department.

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

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

The Department of Physics has instrumentation for experimental research in both high resolution and broadband 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 physiographs and computerized eye movement monitors. The department also houses the Institute for Life-Span Development and Gerontology devoted to the study and assistance of the aged.

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

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

Community and Technical College

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

The Business Technology program has extensive laboratory facilities. These include four typing laboratories, a shorthand laboratory equipped
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 laboratories. In the environmental engineering laboratory, a student learns to analyze water and wastewater and assess its quality. Laboratory equipment includes analytical balances, incubators, UV-visible spectrophotometers, and a total organic carbon analyzer. Water/wastewater analytical kits and pH and dissolved oxygen meters are also available for field studies.

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

In the soil mechanics and foundation engineering 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, and seismic and electrical resistivity equipment for geophysical exploration of soil and rock deposits.

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

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

The Department of Mechanical Engineering laboratories feature a stress analysis laboratory equipped with polarisopes, 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 hydraulic control systems and various other instrument simulation and control devices; a heat-transfer laboratory equipped with a Scott Thermal Conduction System, radiation and temperature measurement system and various heat exchangers, a thermal and fluid sciences laboratory equipped with subsonic and supersonic wind tunnels, internal combustion engines, compressors, gas turbine engine and various other devices.

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

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

College of Fine and Applied Arts

The Department of Art provides a complete studio 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;
The department of theatre and dance utilizes three uniquely different performing spaces to present its annual season of eight to ten productions. Kolbe Hall, the site of the 244-seat University Theatre, complete with support facilities, is the home of both the theatre productions and dance recitals, as is the multipurpose E.J. Thomas Hall. The 244-seat University Theatre, complete with support facilities, is the home of both the theatre productions and dance recitals, as is the multipurpose E.J. Thomas Hall. The performing arts facilities include a 45-stop Mohler pipe organ, the University Orchestra, the recital hall, classrooms, teaching studios and a variety of sound modules.

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

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

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

College of Nursing

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

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

The center also has widely used computer languages, e.g., FORTRAN, COBOL, PL/1, RPG, BAL, BASIC, 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, teletypes 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 prepackaged programs for specific departments.
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

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

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

CAREER PLANNING AND PLACEMENT

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

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

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

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

Career Development Service

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

Major Objectives

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

Services

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

Contacts

Names of people to contact within organizations and addresses and locations for all types of employment are available.

Current job opportunities

Employers regularly notify the Career Planning and Placement Office of current positions available.

Computerized job matching

A computerized system matching jobs to students registered in the CPPO is in operation. This will facilitate information flow between employers and potential candidates for employment.

You are invited to contact the Career Development Service to take advantage of any of the services described. This contact may be made through the Counseling and Testing Center, Simmons Hall 163, 375-7082 or the Career Planning and Placement Office, Simmons Hall 178, 375-7747.

COUNSELING AND TESTING

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

Counseling Service

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

- Career counseling involves discovering one's interests, needs, values, aptitudes, abilities and goals, relating these to the world of work, exploring appropriate major subjects and career fields. A library of occupational information materials is available for use in connection with career exploration.
- 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 nontraditional students; understanding individual and group behavior; problem-solving and decision-making skills; communication and human relations skills; referral for social, psychological and medical services; and counseling psychology theory and technique.

Testing Service

The center's Testing Service offers a variety of testing programs such as the American College Test, the Admissions Testing Program of the College Entrance Examination Board, mathematics and foreign language placement test, Graduate Record Examination, Miller Analogies Test, Law School Admissions Test and the College Level Examination Program (successful completion of CLEP tests can be substituted for certain course requirements of the University College).

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

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

STUDENT HEALTH SERVICES

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

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

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

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

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

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.

UNIVERSITY LIBRARIES/LEARNING RESOURCES

Libraries

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

Library services are divided into three divisions: Information Services, Access Services, and Auxiliary Services. For both the main library and the Science-Technology Division, Information Services provides reference and research assistance, user education and bibliographic instruction, computer-based information searching and library material and resource development. Access Services provides circulation privileges for materials which can not be borrowed from the main library facility and for interlibrary lending and borrowing from other libraries around the country. This division also functions as the processing unit for ordering, receiving and cataloging all library materials. Archival Services collects and makes available materials such as correspondence, photographs and newspapers which have historical or other research interest and which relate primarily to The University of Akron, to an eight-county region in northeast Ohio or to American psychology.

The University Library's collection contains over one and a half million items: books, periodicals, pamphlets, government documents, curricular materials, microforms, maps, records, manuscripts and other archival
Learning Resources

Learning Resources Services are currently divided into three divisions: Audio-Visual Services, Instructional Television Services and Computer-Based Education Services.

Audio-Visual Services contains an extensive centralized collection of media hardware and audio-visual resources and materials in the Bierce Library building for student and faculty use. It also has a collection of instructional materials in various media formats (filmstrips, slides, etc.) for the purposes of supplementing University professors’ lectures.

Instructional Television Services produces campus-wide telecourses, videotapes for individual classes and public TV programs. Annually, an estimated seven thousand students receive part of their instruction by television. Through use of its broadcast-quality and on-location equipment, the TV center produces cultural, public affairs, sports and educational programs for distribution through broadcast, cable and videocassette. Many of these programs are done in cooperation with Kent State University and Youngstown State University as part of the consortium, Northeastern Educational Television of Ohio, which operates television channels 45 and 49. A collection of Instructional Television Services programs is housed in the Kolbe Hall production complex.

Computer-Based Education Services serves the University in the design, development, validation and delivery of Computer-Based Education courseware. The division also acts in the capacity of consultant on projects. The CBE center supplies courseware for both on-campus and off-campus users. For over a decade, the center has supported a regional network that provides courseware to area schools and other local agencies. As a result of its participation in 1978 in a research project, “Exemplary Cases in Academic Computing,” which was sponsored by the National Science Foundation and conducted by the Human Resources Research Organization, the CBE Center was selected as an “exemplar” of its type of service. The American Association of State Colleges and Universities for Innovation and Change in Higher Education awarded the center the Theodore Mitau Award.

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 Buiger Residence Hall. Presently the dorm system includes 16 facilities housing approximately 2,508 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.
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 the environment and sponsoring group activities for its residents.

Residence Halls

<table>
<thead>
<tr>
<th>Residence Hall</th>
<th>Number of Residents</th>
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</thead>
<tbody>
<tr>
<td>Alpha Gamma Delta House (women)</td>
<td>52</td>
</tr>
<tr>
<td>464 E. Carroll Street</td>
<td></td>
</tr>
<tr>
<td>Battrock Hall (women)</td>
<td>24</td>
</tr>
<tr>
<td>421 E. Carroll Street</td>
<td></td>
</tr>
<tr>
<td>Berns Hall (men and women)</td>
<td>106</td>
</tr>
<tr>
<td>503/505 Vine Street</td>
<td></td>
</tr>
<tr>
<td>Bugler Hall (men)</td>
<td>491</td>
</tr>
<tr>
<td>Buchtel Avenue Complex</td>
<td></td>
</tr>
<tr>
<td>Gallicci Hall (men)</td>
<td>461</td>
</tr>
<tr>
<td>200 E. Exchange Street</td>
<td></td>
</tr>
<tr>
<td>Grant Residence Center</td>
<td>470</td>
</tr>
<tr>
<td>Highnse (women) 151 Wheeler Street</td>
<td></td>
</tr>
<tr>
<td>Townhouses (men and women) Sherman and Grant Streets</td>
<td></td>
</tr>
<tr>
<td>James Street (graduate women)</td>
<td>12</td>
</tr>
<tr>
<td>277 James Street</td>
<td></td>
</tr>
<tr>
<td>Mitchell Hall (women)</td>
<td>19</td>
</tr>
<tr>
<td>419 E. Carroll Street</td>
<td></td>
</tr>
</tbody>
</table>

HOURLY PRE-SCHOOL

The Hourly Pre-School is open to children of students or faculty members 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 $1.30-$1.55 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 to apply for technical positions. The experimental theatre in Guzzetta Hall is one of the most flexible theatre designs to date. The University Theatre in Kolbe Hall, with its intimate proscenium stage, is the scene for many University productions.

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

A University student interested in music may audition for membership in the famous 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 nilliwriffl. 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 undergraduates which provides student input into University governance and recommends budget allocations to campus organizations; Black United Students offers enrichment for the Black student; African Awareness Week and other cultural programs; the Residence Hall Program Board schedules entertaining activities such as coffee-houses, dances, films and video entertainment in order to fill residence hall leisure time.

ALL-CAMPUS ADVISORY BOARDS

Students at The University of Akron have the opportunity to hold positions on the all-campus activities board called the University Program Board (UPB) of the Gardner Student Center. Although non-technically a student organization, UPB is open to interested students and functions as a student organization with the same benefits and avenues for personal development as their members.

As the heart of the University, the Gardner Student Center is the home of this diversified program board. Students are actively involved in the selection, promotion and presentation of concerts, films, evening and afternoon entertainment, dances, lectures, recreational activities, festivals and many other special events for the University community.
### Extracurricular Activities

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 capturing.

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

Arefe 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 1984**

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**Communications and Publications**

- Akros (literary magazine)
- Amateur Radio Club
- The Buchtelite (newspaper)
- Forensic Union
- Tel-Buch (yearbook)
- WAGU
- WHKA
- 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

**Biological Club**

- Collegiate Nursing Students
- Computer Science Club
- Council for Exceptional Children
- Data Processing Management
- Der Deutsche Studentenkub
- Electronics Club
- Finance Club
- Geography Club
- Institute of Electronic and Electrical Engineers
- International Food Service Executive Association
- Johnson Club (Engish)
- Math Club
- Medical Assisting Club
- Medical Technology Club
- Philosophy Club
- Psychology Club
- Slavics Club
- 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)

**Graduate Student Group**

- Chinese Student Association
- Graduate Student Council

**Association of College Honor Society Members**

- Alpha Kappa Delta (sociology)
- Alpha Lambda Delta (freshmen; 3.5 full-time enrollment toward bachelor’s degree)
- Eta Kappa Nu (electrical engineering)
- Kappa Delta Pi (education)
- Omega Kappa Phi (home economics)
- Mortar Board (seniors-scholarship, leadership, service)
- Omicron Delta Kappa (student activities)
- Phi Alpha Theta (history)
- Phi Eta Sigma (freshmen)
- Pi Delta Phi (French)
- Sigma Delta Pi (Spanish)
- Tau Beta Pi (engineering)

**Other Honor Societies**

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

**Professional Fraternities**

- Alpha Epsilon Rho (broadcasting)
- Beta Alpha Psi (accounting)
- Delta Nu Alpha (transportation)
- Delta Sigma Pi (business)
- Phi Delta Kappa (education)
- Pi Lambda Theta (education)

**Recognition Societies**

- Gamma Theta Upsilon (geography)
- Horizons Club
- Kappa Kappa Psi (band)
- Pi Sigma Epsilon (marketing)
- Tau Beta Sigma (band)

**Law Groups**

- ARETE
- Black American Law Students Association
- Bracion’s Inn
- International Law Society
- Law Association for Women’s Rights
- Student Bar Association

**Military Recognition Societies**

- Arnold Air Society — AFROTC
- Pathfinders — Army ROTC
- Pershing Rifles — Army ROTC
- Silver Wings

**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 Club
- Akron Simulation Society
- American Congress on Surveying and Mapping
- Associated General Contractors
- Associated Student Government
- Black United Students (BUS)
- Campus Campaign for Reproductive Rights
- Chess and Go Club
- Chinese Martial Arts Club
- College Republicans
- Democrats Club
- Future Physicians Club
- Glee Club
- Heilonic Club
- Indian Students Association
- International Affairs Society
- International Students Club
- Malaysian Students Organization
- Minority Business Students Association
- Nigerian Student Union
- Outing Club
- The Palestine Club
- Pre-Law Club
- Public Relations Student Society of America (PRSSA)
- Residence Hall Council
- Residence Hall Program Board
- Senior Class Board
- Stargate
- Student Toastmasters Club
- Turkish-American Student Association
- Vietnamese Student Club

**Religious Organizations**

- The Alpha Omega Christian Fraternity
- American Friends Service Committee
- Bahai Club
- Baptist Student Union
- Ecumenical Christian Association
- Intervarsity Christian Fellowship
- Kappa Phi Club
- Students for Christ
- True Vine Campus Ministry
- University Christian Outreach (formerly Bread of Life)

**Social Fraternities**

- Alpha Delta Pi
- Delta Tau Delta
- Lambda Chi Alpha
- Phi Beta Sigma
- Phi Delta Theta
- Phi Kappa Psi
- Phi Mu Epsilon
- Pi Sigma Kappa
- Pi Kappa Phi
- Sigma Pi
- Tau Kappa Epsilon
- Theta Chi
- Interfraternity Council

**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
- 2 units of a foreign language

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

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

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

CLASSIFICATION OF STUDENTS

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

- **Undergraduate** — A student who has not earned the baccalaureate degree and is eligible to enroll in undergraduate-level credit courses.
- **Postbaccalaureate** — A student who holds the baccalaureate degree from an accredited institution, who is eligible to enroll in credit courses on the undergraduate level and who has not been admitted to the Graduate School. A postbaccalaureate student applies for admission to the college (Arts and Sciences, Education, etc.) where undergraduate credit is to be earned.
- **Graduate** — A student who holds the baccalaureate degree from an accredited institution, has been admitted to the Graduate School and is eligible to enroll in graduate-level credit courses.
- **Professional** — A student who holds the baccalaureate degree from an accredited institution and has been admitted to the School of Law.
- **Special Student** — A student who does not meet the regular admissions 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 who must obtain written permission from the dean of the student’s college before enrolling (transient student status) for credit work at another institution. Credit for such work may be granted at the discretion of the dean.

ADMISSION PROCEDURE

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

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

Recent High School Graduates

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

- Obtain an application form from the Office of Admissions. If your request is by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to The University of Akron, and should specify what fees and for which student payment is being made.
- At the time of application, a student transcript must be sent to the Office of Admissions. This record must be received before any admission action can be taken by the University.
- Take entrance tests. Arrangements can be made through the student’s high school to take the ACT or SAT. The University’s Counseling and Testing Center serves as a testing site for the ACT test. Those test scores must be submitted before an applicant can be formally admitted to the University.
- The University requires enrollment in basic mathematics and/or English if the student’s academic adviser determines that deficiencies exist in one or both of these areas. This recommendation will be based on the 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 the first term of attendance. In order to arrange for the mathematics test contact the Testing Bureau, Summerson 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 scores interpreted by contacting the dean of the College of Arts and Sciences, Spencer Hall 214, at 375-7066 two days after taking the appropriate test(s). Please note that failure to take the required test(s) prohibits enrollment in college-level mathematics and/or English courses.
Transfer Students

A student applying for admission who has formerly attended another institution 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 your request is by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to: The University of Akron, and should specify what fees and for which student payment is being made.
- If the student is under 25 years of age the student must request a transcript from the local high school. This official record must be received and evaluated before admission action can be taken.
- If the student is under 21 years of age the student must submit results of either the ACT or SAT. The University of Akron’s Counseling and Testing Center serves as a testing center for the ACT test. These test scores are needed before an applicant is formally admitted to the University.
- A 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.
- In the letter of admission, postbaccalaureate students must request the registrar of the institution(s) from which the student graduated to send an official transcript to the University.
- A student who has graduated from a regionally accredited Ohio secondary school and completes the GED test is eligible to enroll.
- In the letter of admission, postbaccalaureate students are advised by the University College admissions office to complete and return this application form 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 student who holds the baccalaureate degree from an accredited college and wishes to continue educationally but has not been admitted to the Graduate School, should apply as a postbaccalaureate student through the Office of Admissions.

Transfer Students

Adult Students

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

The following application procedures should be followed:

- Obtain an application form from the Office of Admissions. If your request is by mail, use this address: Office of Admissions, The University of Akron, Akron, OH 44325. Fill it out and return it as soon as possible with the non-refundable application fee (a one-time charge). All checks should be made payable to: The University of Akron, and should specify what fees and for which student payment is being made.
- If the student is under 25 years of age the student must request a transcript from the local high school. This official record must be received and evaluated before admission action can be taken.
- If the student is under 21 years of age the student must submit results of either the ACT or SAT. The University of Akron’s Counseling and Testing Center serves as a testing center for the ACT test. These test scores are needed before an applicant is formally admitted to the University.
- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.
- In the letter of admission, the student will receive directions concerning academic counseling. University College freshmen and some sophomore day students receive academic advisement through Academic Advising Services of the University College. A student in the Community and Technical College or a degree-granting college will be advised by a faculty member in the appropriate department.
- In the letter of admission, postbaccalaureate students must request the registrar of the institution(s) from which the student graduated to send an official transcript to the University.
- In the letter of admission, the student will receive directions concerning academic counseling. All freshmen receive academic advisement through Academic Advising Services of the University College. Evening students at the same level will be advised by the Evening College.

Postbaccalaureate Students

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

This procedure should be followed:

- Obtain an application form from the Office of Admissions. If 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.
- A postbaccalaureate student must request the registrar of the institution(s) from which the student graduated to send an official and complete transcript. These transcripts should be received and evaluated before any admission action can be taken by the University.
- A health record will be sent from the Office of Admissions after the student has been admitted. Please complete the form and return it. This provides the University with the information necessary for a complete health record on every student.
- In the letter of admission, the student will receive information on registration and instructions for academic counseling by a faculty member in the appropriate department.
Special Students and the High School/College Program

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

A special student may not take more than 16 credits unless official status as a regular student is gained. This procedure should be followed:

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

Transient Students

An undergraduate transient student must apply to the Office of Admissions. A graduate student must apply through the dean's office of the University as a transient student:

- A special student is one who does not qualify for regular admission to the University or who is participating in a special short-term academic program.
- A graduate student must apply through the dean's office of the University for admission as a transient student.

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

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

International Student Program

The University of Akron welcomes qualified students from other countries and seeks to make their educational experiences pleasant and meaningful. During the 1983-84 academic year, approximately 668 students with citizenship other than the United States attended the University. These students represent 82 countries and are pursuing studies in a number of major fields.

Orientation

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

English Language Institute

The University offers an intensive English Language Institute for the international student whose command of the English language has not reached a level of proficiency to enable the student to begin full-time 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, full-time international graduate and undergraduate student advisers and instructors of English as a Second Language. If an international applicant has questions about housing, climate or immigration regulations, the student is encouraged to contact the international student adviser directly.

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

Special International Education Programs

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

ORIENTATION

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

COUNSELING

During orientation, and each term thereafter, a student meets with a counselor individually to discuss progress to date and the next logical step in the progression of the academic program. The counselor and student together review the areas of success as well as the problems which have been encountered in previous terms 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 designee.

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 adviser who declined to approve the withdrawal.

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

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

Transfer Credit

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 Community and Junior Colleges (WASC-Jr.), as designated in Accredited Institutions of Postsecondary Education - Programs/Candidates as published for The Council on Postsecondary Accreditation (COPA) by the American Council on Education will be listed on The University of Akron official academic record. Each course will reflect the course number, title, grade and credit value; no grade-point value will appear on the record and no grade-point average will be calculated for coursework listed, however, grade point average may be considered for purposes of evaluating, ranking or otherwise determining admissibility to the University or to specific programs. In addition, the name of the institution will be listed on The University of Akron official academic record as well as the time period during which the courses were taken.
For courses which have been taken at an 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. The name of the institution will be listed on the University official academic record as well as the date that the coursework was taken.

**Transitory 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. 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 this Bulletin by each department enable a student to earn "bypassed" credit. A student who completes such a course with a grade of "C" or better is entitled to credit for designated prerequisite courses which carry the same departmental code number. Credit for such bypassed prerequisites shall be included in the total credits earned and 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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<td><strong>Economics</strong></td>
<td>3250:400</td>
<td>3250:401</td>
</tr>
<tr>
<td><strong>Geography</strong></td>
<td>3350:314</td>
<td>3350:315</td>
</tr>
<tr>
<td><strong>Mathematical Sciences</strong></td>
<td>3450:112</td>
<td>3450:113</td>
</tr>
<tr>
<td><strong>Modern Languages</strong></td>
<td>3520:028</td>
<td>3520:029</td>
</tr>
<tr>
<td><strong>Philosophy</strong></td>
<td>3600:374</td>
<td>3600:375</td>
</tr>
<tr>
<td><strong>Nursing BSN-RN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Limited to Licensed Registered Nurses)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Engineering</td>
<td>4200:102</td>
<td>4200:103</td>
</tr>
<tr>
<td><strong>GRADE POLICIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Credit/Noncredit Option</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(undergraduate and postbaccalaureate only)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| A student who takes a course on a "credit" or "noncredit" ("CR/NC") basis, who earns a grade equivalent of "C" through "C-", will 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 credits (“CR”), or a grade (“A-F”) after receiving a grade of "NC."

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

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

**Re-Examination**

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

**Repeating Courses**

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

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

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

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

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

- All grades for attempts at a course will be used in grade-point calculation for the purposes 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.

The number of credits deleted from the grade-point average shall not exceed 30 percent of the credits required for the degree objective of the student. If the number of credits earned before the three year interval exceeds 30 percent of the student’s degree requirement, the 30 percent factor will apply to the first credits earned.

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

In the determination of graduation with honors and 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>C-</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>0.70</td>
</tr>
<tr>
<td>CR (Credit)</td>
<td>0.70</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 and that for any 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."

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").

"I" instructors work to extend the "I" grade beyond the following term for which the student is registered prior to the end of the term they must notify the Office of the Registrar in writing of the extension and indicate the date of its termination. It is the responsibility of the student to make arrangements to make up the incomplete work. The faculty member should submit the new grade to the Office of the Registrar in writing.
**Importance of Grades**

A student 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 a change of courses, suspension or some other form of discipline. Academic discipline is determined by the dean of the college in which the student is enrolled. Reinstatement of a student is determined by the dean of the college from which the student was dismissed.

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

**Graduation with Honors**

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

<table>
<thead>
<tr>
<th>will be designated</th>
<th>if the overall grade-point average is</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3.80 or higher</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>between 3.60 and 3.79</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>between 3.40 and 3.59</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>will be designated</th>
<th>if the overall grade-point average is</th>
</tr>
</thead>
<tbody>
<tr>
<td>with highest distinction</td>
<td>3.80 or higher</td>
</tr>
<tr>
<td>with distinction</td>
<td>between 3.60 and 3.79</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>will be designated</th>
<th>if the overall grade-point average is</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3.75 or higher</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>between 3.50 and 3.74</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>between 3.25 and 3.49</td>
</tr>
</tbody>
</table>

**Requirements for Baccalaureate and Associate Degrees**

A candidate for the baccalaureate or the associate degree must:

- File an application for graduation with the registrar. If the candidate plans to complete degree requirements at the end of fall semester, submit an application by or before May 15. If the plan is to complete degree requirements at the end of spring semester, submit an application by or before September 15.
- Earn a minimum 2.00 grade-point average as compiled by the Office of the Registrar for work attempted at the University consistent with the Repeating Courses policy. The grade-point average achieved at the time of completion of requirements for a degree will be used to calculate rank in class and honors.
- Most all degree requirements which are in force at the time of transfer shall be the date of transfer, as defined below. In the event the student fails to complete the degree requirements within five calendar years from the date of transfer, the University reserves the right to make changes in the number of credits and/or courses required for a degree.
- The date of transfer for a student enrolled in an associate degree program in the Community and Technical College, the date of transfer refers to the date of entrance into the program.
- Earn the last 32 credits in the baccalaureate degree total or 16 credits in the associate degree total in residence at The University of Akron unless excused in writing by the dean of the college in which the student is enrolled.
- If a student who has transferred from another institution wishes to present for the student's major, fewer than 14 credits earned at The University of Akron, written permission of both the dean and head of the department concerned is required.
- Discharge all other obligations at the University.

**Requirements for Additional Baccalaureate and Associate Degrees**

- Meet requirements given in Section 3, Requirements for Baccalaureate and Associate Degrees.
- Earn a minimum of 32 credits which have not counted toward the first baccalaureate degree or 16 credits which have not counted toward the first associate degree.
- Earn the above credits in residence at the University.
Change of Requirements

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

Unless the change in a rule or regulation specifies otherwise, it shall become effective immediately with respect to the student who subsequently enters the University, whatever the date of matriculation.

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

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

The dean of the college, in consultation with the department or division head of the student's major field of study, may grant waivers in writing, in the event a change in rules affecting degree requirements operates with undue hardship upon a student enrolled before the change was effective. The action of the dean of the college in granting or refusing a waiver must be reviewed by the senior vice president and provost on his own motion, or at the request of the dean of the college of the student affected or at the request of the student affected.

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

<table>
<thead>
<tr>
<th>College</th>
<th>Arts and Sciences</th>
<th>Engineering</th>
<th>Education*</th>
<th>Business Administration</th>
<th>Fine and Applied Arts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Arts</td>
<td>128</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>128</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science inCybertechnology</td>
<td>128</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Geophysics/Cartography</td>
<td>126</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Labor Economics</td>
<td>128</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Political Science/Criminal Justice</td>
<td>131</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Political Science/ Public Policy Management</td>
<td>126</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Medical Technology</td>
<td>136</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Information Systems</td>
<td>136</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Accounting</td>
<td>136</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Finance</td>
<td>128</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Marketing</td>
<td>128</td>
<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>Bachelor of Science in Business Administration/Accounting</td>
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<td>136</td>
<td>126</td>
<td>128</td>
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</tr>
<tr>
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<td>136</td>
<td>126</td>
<td>128</td>
<td>128</td>
</tr>
</tbody>
</table>

COURSE NUMBERING SYSTEM

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

1300:220 English Literature

In the above example, the first four digits of the number (1300) indicate the college and department. In this case, 1300 represents the Buchtel College of Arts and Sciences; 100 refers to the Department of English. The second set of digits (220) following the colon, indicates exactly which course in the Department of English is being specified. The course number also indicates the level at which the course is being taught and the point at which the student is ready to take the course.

An explanation of that numbering system follows:

- 100-149 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-level courses
- 700-799 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.

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

Fees subject to change without notice.

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

<table>
<thead>
<tr>
<th>Commuting</th>
<th>Residents of Ohio living on campus</th>
<th>Non-Ohio Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Tuition and Fees (regular load)</td>
<td>$1,650</td>
<td>$1,650</td>
</tr>
<tr>
<td>Books (average costs)</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Room and Board</td>
<td>2,406</td>
<td>2,406</td>
</tr>
<tr>
<td>$1,950</td>
<td>$4,356</td>
<td>$6,372</td>
</tr>
</tbody>
</table>

Following are comprehensively outlined fees for the student at the University who is studying for credit and noncredit in all areas of instruction. Included also are the additional expenses required for special academic services available to a student such as private music lessons, thesis binding, etc.

It is the responsibility of the student to know the correct amount of all fees including the non-Ohio resident surcharge.

In any question concerning fees, surcharge or residence, it is the responsibility of the student, parents or Court appointed guardian, to furnish such proof as may be required by The University of Akron. A student who is in doubt about residency status should consult with the University Registrar.

It is the responsibility of the Registrar to assess fees and surcharges at the time of registration; information given by the student at that time is used in the assessment. Each registration is later audited by the University auditor, and appropriate additional charges or refunds will be made.

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

### Fees

- **Instructional Fee (all students)**
  - Undergraduate: $656 per credit
  - 1-13 credits
  - 14 credits and over: $696 per semester
- **Tuition Surcharge**
  - Non-residents of Ohio pay the surcharge in addition to the instructional fee:
    - Undergraduate: $65 per credit
    - 1 or more credits

- **General Fee**
  - Undergraduates: $13 per credit to a maximum of $165 per semester
  - (Maximum general fee for two combined summer sessions is $169)
- **Graduate and Professional (Law)**
  - 1-14 credits: $6 per credit
  - 15 credits and over: $78 per semester

- **Admission Application Fee**
  - (Non-refundable)
    - Undergraduate and postbaccalaureate: $25
    - Entering postbaccalaureate and graduate student: $25
    - Entering School of Law student: $25
    - Transient student (first enrollment only): $25

- **Special Fees**
  - Late Registration Fee: Charged to student who has not completed registration and paid fees before close of registration or by final date of payment
    - $25
  - Music Fees
    - Private lessons in band instrument, organ, piano, violin and voice
    - In addition to normal instructional fees
    - One hour lesson per week (undergraduate and graduate): $130
    - One 1/2 hour lesson per week (undergraduate and graduate): $65
  - Thesis and Binding Fees
    - Binding (per volume): $9
    - Microfiling (for Ph.D. degrees only): $45
  - Graduation fees (non-refundable): Each degree (except law)
    - Each Juris Doctor degree: $40
    - In Absentia, per degree (M.D.): $5
    - Graduate Late Application Fee: $10
  - Minor Application Fee and/or Second Major Application Fee: $5
  - Department of Special Programs and ICE
    - (Course change based on number of Continuing Education Units)
      - One CEU (10 contact hours): $5
      - Transcript fee: $2

- **Miscellaneous Fees**
  - ACT Test: $7
  - ACT Special Testing: $21
  - Education Administration Battery: $10
  - Miller Analogies Test: $20
  - Transcripts (if more than one copy is ordered at the same time, the fee is $4 for the first transcript and $2 for each additional one): 4
  - I.D. late or lost: $5
  - Credit by Examination
    - Undergraduate and postbaccalaureate per credit: $19.50
  - Student parking fee: $30
  - Locker fee (2 refundable): $8
  - Lockers (refundable): $5
  - Locker fee, physical education and Schrank Hall: $2 (per semester)
  - Change of course registration: for each authorization change processed: $10
  - Laboratory bursarage and self service deposit (refundable): $15
  - "Insufficient Funds" or returned check charge: $5
  - Co-op course fee: $5
  - Bypass aid credit per course: $5
  - CLEP (each authorization): $20
  - Day and Evening CAFE
    - (per hour according to parents' ability to pay)
    - $1.30-1.55
    - Registration, per semester: $5
    - Registration, per Summer Session: $5
    - Registration, per combined Summer Sessions: $5
  - Nursery School
    - per term (for 3 mornings): $146.25-174.38
    - per term (for 4 afternoons): $195.00-232.50
    - Registration, per semester: $20
  - Dance Institute
    - Academic Year (3 sessions)
      - Intermediate: $90
      - Intermediate I: $84
      - Advanced beginner: $275
      - Summer (4 weeks)
      - Intermediate II: $360
      - Intermediate I: $288
      - Advanced Beginner: $120
      - Beginner: $120
      - Pre-schooler: $40
  - Audition Fee: $12

- **English Language Institute**
  - Jukin Fee: $900
  - Application Fee: $25
  - Kwan K. Kinder Camp:
    - Enrollees: $90
    - (half-day session, 5 days per week)
### Rental by other organizations:
- Rental of all facilities per diem:
  - group size — under 25
    - 56
    - 55
  - 25–50
    - 51–75
    - 110
  - 76 and over
- Rental of all facilities per diem (exceeding swimming pool):
  - group size — under 25
    - 40
  - 25–50
    - 50
  - 76–100
  - 101 and over
- Rental of building only per diem:
  - group size — under 25
    - 25
  - 25–50
  - 50–75
  - 75 and over

### Room and Board
Residence hall facilities are available for the housing of a limited number of undergraduate students. The current total cost of housing accommodations and food service is $1,203 per semester or $2,406 per year. All students who live in the residence halls must participate in the provided 20 meals per week board plan.

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

### Veterans Expenses
A disabled veteran who is eligible for admission to the University may register for courses without payment of fees if the disabled veteran has been authorized for training by the VA. 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 provisions 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.

### 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.

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

**The University will provide additional restroom facilities.

### THE UNIVERSITY OF AKRON

#### RESIDENCY REQUIREMENTS

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

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

#### 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. This rule is adopted pursuant to Chapter 119 of the revised code, and under the authority conferred upon the Ohio Board of Regents by section 3333.31 of the revised code.

For purposes of this rule a "Resident of Ohio" shall mean any person who maintains a 12-month place of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be subjected to tax liability under section 5747.02 of the revised code; provided such person has not, within the time prescribed by this rule, declared himself or herself to be 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 at least 12 consecutive months 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 college students.
- Persons who are gainfully employed on a full- or part-time basis in Ohio and are residents of Ohio.

#### 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 resides in Ohio for all other legal purposes and his or her dependents shall be considered residents of Ohio for these purposes as long as he or she remains the state of such person's domicile.
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 associate provost 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 thereby 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 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 or 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 residence 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 or a refund or reduction of indebtedness in cases of failure or inability to attend class or in cases of withdrawal. The student assumes the risk of all changes in business or personal affairs.

Fees Subject to Refund—Credit

Certain fees are subject to refund:

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

Amount of Refund—Credit

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

- In full
  - if the University cancels the course;
  - if the University does not permit the student to enroll or continue;
  - if the student dies before or during the term or is drafted into military service by the United States, or if the student enlisted in the National Guard or Reserve prior to the beginning of the term called to active duty, presents notice of induction or 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:

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 through 12 calendar days</td>
<td>75%</td>
</tr>
<tr>
<td>13 through 24 calendar days</td>
<td>50%</td>
</tr>
<tr>
<td>25 through 33 calendar days</td>
<td>30%</td>
</tr>
<tr>
<td>Thereafter</td>
<td>0%</td>
</tr>
</tbody>
</table>

• If the student requests in writing to the dean or designate official withdrawal after the second day of any Summmer session the following refund percentages apply:

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 through 7 calendar days</td>
<td>60%</td>
</tr>
<tr>
<td>8 through 15 calendar days</td>
<td>40%</td>
</tr>
<tr>
<td>Thereafter</td>
<td>0%</td>
</tr>
</tbody>
</table>

• 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 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

<table>
<thead>
<tr>
<th>Courses of 6 to 11 weeks:</th>
<th>Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>After the first class meeting</td>
<td>60%</td>
</tr>
<tr>
<td>After the second class meeting</td>
<td>45%</td>
</tr>
<tr>
<td>After the third class meeting</td>
<td>30%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses of 12 weeks or more:</th>
<th>Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>After the first class meeting</td>
<td>60%</td>
</tr>
<tr>
<td>After the second class meeting</td>
<td>45%</td>
</tr>
<tr>
<td>After the third class meeting</td>
<td>30%</td>
</tr>
<tr>
<td>After the fourth class meeting</td>
<td>0%</td>
</tr>
</tbody>
</table>

- 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 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.

### Notice Requirements

All notices of intent to break the 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 notice of termination must be co-signed by the student’s parent or legal guardian.
Financial Aid

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

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

Generally, financial aid is provided in three forms: gift aid, loans and work. It is not unusual for a student to have all three forms of aid. This is called a "financial aid package." If a person receives a proper financial aid package, it is assumed that the family will not be expected to contribute more than is necessary for a family member's education. The word "family" is crucial because the financial aid system assumes that the family will work together to assist a family member meet college expenses.

Sources of Aid

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 and continuing students must have a 2.00 grade-point average to be eligible for the SEOG.

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 must be made at a bank, savings and loan or credit union. This loan must be repaid six months after graduation. The interest on the loan is eight percent for new borrowers, and it is paid by the federal government while the student is in school.

Nursing Student Loan
Low-interest loans are available to an eligible student who is pursuing the Bachelor of Science in Nursing. These are based on need, and the amounts are determined by the Office of Student Financial Aid. These programs are generally reserved for students who have 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 sent to the student who will attend.

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

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

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

University Programs

Scholarships
The University offers scholarships to the student with high academic achievement. Academic scholarships are awarded to the continuing student as well as the outstanding high school student who plans to enroll. These academic scholarships are renewable each year based on continued high academic performance. A University Financial Aid/Scholarship Application must be submitted, but a need analysis form is not required. The majority of awards for the 1983/84 academic year ranged from $300 to $500.

The Presidential Scholarship Program was initiated for the 1975/76 academic year. At the present time, approximately 25 to 35 scholarships are awarded each year to new freshmen. For the 1983/84 school year, the scholarship amount was $1,125. This scholarship is considered to be the most prestigious.

The Honors Program at the University awards a number of scholarships each year to new freshmen. In 1983/84, the scholarships ranged from $550-$1,000.

Loans
The University offers short-term loans to the student who needs temporary help in paying tuition. These loans must be repaid in full before the end of the term for which

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 six months after graduation. The interest on the loan is five percent for new borrowers, and it is paid by the federal government while the student is in school.

The University of Akron
the money was borrowed. Information and applications are available at the Student Financial Aid and Employment Loan Office (Spicer 115). Special long-term loans are available to selected students in certain fields who need partial help.

Application for Financial Aid

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

Computation of Financial Aid

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

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

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

Independent Students

An independent student is one who:

- Has not been or will not be claimed as an exemption for federal income tax purposes by either of the student's parent(s) or adoptive parent(s) for the school year in which aid is received as well as the prior calendar year.
- 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 of 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 22 years of age or under, the student's parent(s) must sign an Independent Student Status Certification to document the student's self-supporting status. The Independent Student Status Certification may be obtained through the Office of Student Financial Aid. This form must be completed each year for which financial aid is desired.

Notification of Award

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

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

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

Distribution of Aid

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

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

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 second week of the semester. The expense check is picked up in the office.

The student must maintain satisfactory enrollment status to be eligible for the expense check.

Revision of Awards

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

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

Eligibility for Aid as it Applies to Certain Classifications of Students

Transfer Students

A student transferring to The University of Akron at the beginning of fall semester must have the previous college complete a financial aid tran-
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.

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

4 Undergraduate Academic Programs
Community and Technical College

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

OBJECTIVES

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

- Consistent with the philosophy of learning as a life-long experience, the college provides educational opportunities for the student no matter the age, background and need: full-time 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 satisfactory completion of two years of full-time studies; and in-service through the Evening College where employed persons may pursue the same degrees while working full time. To provide information about potential careers, the Office for Career Planning has been established in the college.

COLLEGE REQUIREMENTS

Baccalaureate Degrees

The baccalaureate-level programs in engineering technology are intended to fill the widening gap in modern industry between the professional engineer and the engineering technician. The graduate of a program works in close support of engineers, translating conceptual ideas into functioning systems and providing supervisory direction for the implementation of these ideas by technicians and craftsmen.

These programs are designed as transfer programs to permit the qualified engineering technology student to continue education to the baccalaureate degree. During the first and second years, a student follows an associate degree program in the corresponding engineering technology. The third and fourth years provide the additional study required for the baccalaureate degree. Emphasis is placed on advanced training in the student's field of specialization, broadened knowledge of related technical fields, extended general education and basic management training.

The programs are available in electronic technology and mechanical technology. It is intended that a graduate will find employment in manufacturing, technical sales and service, application engineering, inspection and testing and the more standardized aspects of engineering design.

The requirements for the Bachelor of Science in Electronic Technology degree or the Bachelor of Technology in Mechanical Technology degree are:

- Compliance with the general University requirements for a baccalaureate degree as listed in this Bulletin.
- Compliance with the requirements of the general studies program as outlined in this bulletin.
- Completion of the requirements for the associate degree in the 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.

### Third- and fourth-year requirements:

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:106</td>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>1100:112</td>
<td>English Composition</td>
<td>4</td>
</tr>
<tr>
<td>1100:320</td>
<td>Western Cultural Traditions</td>
<td>4</td>
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<tr>
<td>1100:321</td>
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<tr>
<td>1100:336</td>
<td>Eastern Civilizations</td>
<td>2</td>
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<tr>
<td>1100:337</td>
<td>Eastern Civilizations</td>
<td>2</td>
</tr>
<tr>
<td>2020:334</td>
<td>Mathematics for Technical Applications</td>
<td>3</td>
</tr>
<tr>
<td>2920:101</td>
<td>Introductory Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>2920:350</td>
<td>Advanced Circuits</td>
<td>4</td>
</tr>
<tr>
<td>2920:353</td>
<td>Industrial Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td>2920:352</td>
<td>Digital Systems</td>
<td>4</td>
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<tr>
<td>2920:355</td>
<td>Control Systems</td>
<td>4</td>
</tr>
<tr>
<td>2920:400</td>
<td>Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>2920:406</td>
<td>Communications Systems</td>
<td>3</td>
</tr>
<tr>
<td>2920:410</td>
<td>Technology Project</td>
<td>1</td>
</tr>
<tr>
<td>2920:350</td>
<td>Planning and Testing</td>
<td>3</td>
</tr>
<tr>
<td>2920:351</td>
<td>Production and Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>4450:205</td>
<td>Assembly Programming Electives*</td>
<td>2</td>
</tr>
</tbody>
</table>

Prior to enrolling in the program and to taking 2860:350 Advanced Circuits, a student must have completed at least 45 credits of a two-year Electronic Technology Associate degree program; maintained a grade-point ratio of 2.0 or higher in major courses (Mathematical Analysis or equivalent, Basic Physics or equivalent, and technical courses in the 2860 or 2920 series or equivalent); and maintained a minimum overall grade-point ratio of 2.0.

Bachelor of Mechanical Technology

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

### Third- and fourth-year requirements:

<table>
<thead>
<tr>
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<td>2020:342</td>
<td>Mathematics for Technical Applications</td>
<td>3</td>
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<tr>
<td>2840:101</td>
<td>Introductory Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>2840:102</td>
<td>Introductory Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>2860:231</td>
<td>Control Principles</td>
<td>3</td>
</tr>
<tr>
<td>2860:270</td>
<td>Survey of Electronics I</td>
<td>3</td>
</tr>
<tr>
<td>2860:271</td>
<td>Survey of Electronics II</td>
<td>3</td>
</tr>
<tr>
<td>2880:241</td>
<td>Quality Control Procedures</td>
<td>3</td>
</tr>
<tr>
<td>2920:346</td>
<td>Mechanical Design I</td>
<td>3</td>
</tr>
<tr>
<td>2920:347</td>
<td>Production Machines and Processes</td>
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<tr>
<td>2920:348</td>
<td>Intro to Numerical Control</td>
<td>3</td>
</tr>
<tr>
<td>2920:495</td>
<td>Inspection Tour</td>
<td>1</td>
</tr>
<tr>
<td>2920:496</td>
<td>Mechanical Projects</td>
<td>1</td>
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<td>2920:497</td>
<td>Numerical Control Programming</td>
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<tr>
<td>4450:296</td>
<td>Fortran (Science and Engineering)</td>
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</tr>
<tr>
<td>6400:301</td>
<td>Management Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:301</td>
<td>Quantitative Business Analysis I</td>
<td>3</td>
</tr>
</tbody>
</table>

Prior to enrolling in the program, a student must have completed at least 45 credits of the two-year program with a grade-point ratio of 2.0 or higher in Mathematics Analysis, Basic Physics and technical courses (2920 and 2980 series) in the two-year program; and a minimum overall grade-point ratio of 2.0.

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

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

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

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

**Requirements for Graduation**

Candidates for the associate degree must:

- Complete the required courses listed in the program.
- Complete as a minimum, the number of credits listed for each program.
- Earn a minimum grade-point average of 2.00 in all work taken at The University of Akron.
- Be recommended by the faculty.
- Spend the last semester in residence (earning a minimum of 16 credits) at the University unless excused by the dean of the college.
- Complete other University requirements as in "Requirements for Graduation," Section 3 in 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 and a minimum of 2.00 for all coursework applicable to program of study.
- Completion of specific courses and/or credits for a particular program as approved by the college faculty.

**Minor Areas of Study**

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

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**Programs of Instruction**

**Allied Health**

2730: **Histologic Technology**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:106</td>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>1100:108</td>
<td>Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>2020:121</td>
<td>English</td>
<td>3</td>
</tr>
<tr>
<td>2020:130</td>
<td>Introduction to Technical Mathematics</td>
<td>3</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>2740:222</td>
<td>Histotechnology Practicum</td>
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</tr>
<tr>
<td>2740:120</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>2740:130</td>
<td>Medical Assisting Technology</td>
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</tr>
<tr>
<td>2840:101</td>
<td>Introduction to Chemistry</td>
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<td>2840:102</td>
<td>Chemistry</td>
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<tr>
<td>3100:111</td>
<td>Principles of Biology</td>
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<tr>
<td>3100:112</td>
<td>Principles of Biology</td>
<td>3</td>
</tr>
<tr>
<td>3100:30</td>
<td>Principles of Microbiology</td>
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<td>3100:265</td>
<td>Medical Assisting Technology</td>
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<tr>
<td>3100:365</td>
<td>Medical Terminology</td>
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<tr>
<td>3100:366</td>
<td>History I</td>
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<td>3100:383</td>
<td>Laboratory Techniques and Instrumentation</td>
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</tr>
<tr>
<td>3100:384</td>
<td>Technical and Instrumentation Laboratory</td>
<td>2</td>
</tr>
</tbody>
</table>

**2740: Medical Assisting Technology**

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

<table>
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<tr>
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<tbody>
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<td>2020:121</td>
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<td>2740:120</td>
<td>Medical Terminology</td>
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<tr>
<td>2740:130</td>
<td>Medical Assisting Technology</td>
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<td>2740:230</td>
<td>Pharmacology in Medical Assisting</td>
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<tr>
<td>2740:231</td>
<td>Medical Assisting Techniques I</td>
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<tr>
<td>2740:232</td>
<td>Medical Assisting Techniques II</td>
<td>2</td>
</tr>
<tr>
<td>2740:240</td>
<td>Medical Machine Transcription</td>
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</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>2840:101</td>
<td>Basic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>3100:206</td>
<td>Anatomy and Physiology</td>
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</tr>
<tr>
<td>5500:211</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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</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>2760:106</td>
<td>Anatomy for Radiologic Technology</td>
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</tr>
<tr>
<td>3100:206</td>
<td>Anatomy and Physiology</td>
<td>3</td>
</tr>
</tbody>
</table>
276: Respiratory Therapy Technology**
This program prepares persons, under the supervision of a physician, to administer medical gases, medications and operate equipment in the medical care of patients with respiratory disorders.

1100—— Physical Education 1
1100.106 Effective Oral Communication 3
2020.121 English 4
2020.120 Introduction to Technical Mathematics 3
2020.222 Technical Report Writing 3
2020.240 Human Relations 7
2020.242 American Urban Society 3
2790.121 Introduction to Respiratory Therapy 3
2790.122 Patient Care: Respiratory Therapy 3
2790.123 Mechanical Ventilators 3
2790.131 Clinical Application I 3
2790.132 Clinical Application II 2
2790.133 Clinical Application III 5
2790.134 Clinical Application IV 5
2790.141 Pharmacology 2
2790.142 Pulmonary Rehabilitation and the Respiratory Therapy Department 2
2840.100 Basic Chemistry 3
3100.103 Introduction to Microbiology 3
3100.205 Anatomy and Physiology 3
3100.207 Anatomy and Physiology 3
3 General Elective 2

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.

1100—— Physical Education 1
1100.105 Introduction to Public Speaking 3
1100.106 Effective Oral Communication 3
1100.111 English Composition 4
1100.112 English Composition 4
1100.113 Science Requirement 6
1100.114 Eastern Civilizations 2
1100.115 Western Cultural Traditions 4
1100.121 Western Cultural Traditions 4
2020.224 Human Relations‡ 3
2020.242 American Urban Society‡ 3
2020.247 Survey of Basic Economics‡ 3
3450—— General Elective 22

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 skills as artists and designers for employment involving the development of materials included in visual advertising and communication for art studies, advertising agencies and industry.

1100—— Physical Education 1
2020.121 English 4
2020.131 Mathematical Analysis 1 4

‡See “The University College,” Section 6 of this Bulletin for alternate course options.

*Deadline for application to the program is March 15.
(See “The University College,” Section 6 of this Bulletin for alternate course options.)
2280: Hospitality

Restaurant Management

Service management, Options

"Not required for hospitality marketing and sales emphasis.

2270: Labor Studies

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

1100 — Physical Education
1100:105 Effective Oral Communication
2020:121 English
2020:222 Technical Report Writing
2020:244 Human Relations
2020:247 Survey of Basic Economics
2270:101 Introduction to Labor Studies
2270:111 Collective Bargaining I
2270:122 Legal Framework for Collective Bargaining
2270:123 Labor Legislation and Economic Security
2270:212 Collective Bargaining II
2270:221 Occupational Health and Safety Standards
2270:241 Union Leadership
2270:251 Problems in Labor Studies
2240:170 Business Mathematics
2420:211 Basic Accounting I
2880:141 Safety Procedures
3700:106 Government and Politics in the United States

electives 12

Business Technology

2280: Hospitality Management

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

Options

Restaurant Management

1100 — Physical Education
1100:135 Introduction to Public Speaking
1100:106 Effective Oral Communication
2020:121 English
2020:222 Technical Report Writing
2020:247 Survey of Basic Economics
2420:170 Business Mathematics
2420:211 Basic Accounting I
2420:212 Basic Accounting II
2540:263 Business Communications
2420:104 Principles of Advertising
2420:106 Food and Beverage Cost Control
2420:107 Business Mathematics
2420:211 Basic Accounting I
2420:212 Basic Accounting II
2540:263 Business Communications
2420:260 Essentials of Law
2540:119 Business English

Marketing and Sales Emphasis

2540:202 Retailing Fundamentals
2540:212 Principles of Salesmanship

2420: Business Management Technology

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

Options

General

1100 — Physical Education
1100:105 Introduction to Public Speaking
1100:106 Effective Oral Communication
2020:121 English
2020:247 Survey of Basic Economics
2420:104 Principles of Distribution
2420:105 Role of Supervision in Management
2420:106 Introduction to Business
2420:107 Business Mathematics
2420:202 Personnel Practices
2420:211 Basic Accounting I
2420:212 Basic Accounting II
2420:221 Administrative Office Supervision

Culinary Arts

1100 — Physical Education
1100:105 Introduction to Public Speaking
1100:106 Effective Oral Communication
2020:121 English
2020:222 Technical Report Writing
2020:247 Survey of Basic Economics
2280:122 Fundamentals of Food Preparation I
2280:123 Meat Technology
2280:124 Fundamentals of Food Preparation II
2280:125 Meat Technology II
2280:126 Menu Planning and Purchasing
2280:232 Dining Room Service and Training
2280:233 Restaurants and Operations and Management
2280:235 Food and Beverage Cost Control
2280:257 Internship
2280:240 Systems Management and Personnel
2280:243 Food Equipment and Plant Operations

*Not required for hospitality marketing and sales emphasis.
Banking

1100: Physical Education
1100:106 Effective Oral Communication
2002:121 English
2005:240 Personal Practices
or
3750:100 Introduction to Psychology
2430:247 Survey of Basic Economics
2420:211 Employees of Distribution
2420:211 Rate of Supervision in Management
2420:104 Introduction to Business
2420:113 Introduction to Banking
2420:123 Federal Regulation of Banking
2420:170 Business Mathematics
2420:202 Personal Practices
2420:211 Basic Accounting I
2430:212 Basic Accounting II
2420:233 Installment Credit
2420:243 Survey in Finance
2420:235 Elements of Bank Management
2420:273 Monetary Systems and the Payments Mechanism
2450:280 Essentials of Law
2450:280 Real Estate Principles
2430:246 Real Estate Finance
2420:124 Introduction to Information Processing
2540:119 Business English
2540:263 Business Communications

Credit Union

1100: Physical Education
1100:106 Effective Oral Communication
2002:121 English
2005:240 Personal Practices
or
3750:100 Introduction to Psychology
2430:247 Survey of Basic Economics
2420:211 Employees of Distribution
2420:211 Rate of Supervision in Management
2420:104 Introduction to Business
2420:113 Introduction to Banking
2420:123 Federal Regulation of Banking
2420:170 Business Mathematics
2420:202 Personal Practices
2420:211 Basic Accounting I
2430:212 Basic Accounting II
2420:233 Installment Credit
2420:243 Survey in Finance
2420:235 Elements of Bank Management
2420:273 Monetary Systems and the Payments Mechanism
2450:280 Essentials of Law
2450:280 Real Estate Principles
2430:246 Real Estate Finance
2420:124 Introduction to Information Processing
2540:119 Business English
2540:263 Business Communications

Recommended Electives:

2420:212 Basic Accounting II
2420:211 Basic Accounting I
2420:227 Entrepreneurship
2420:233 Installment Credit
2540:126 Business Machines
2540:140 Typewriting for Non-Secretarial Majors
2540:286 Business Communications

Small Business Management

1100: Physical Education
1100:106 Effective Oral Communication
2002:121 English
2005:240 Personal Practices
or
3750:100 Introduction to Psychology
2430:247 Survey of Basic Economics
2420:211 Employees of Distribution
2420:211 Rate of Supervision in Management
2420:104 Introduction to Business
2420:118 Small Business Management I
2420:119 Small Business Management II
2426:170 Business Mathematics
2420:202 Personnel Practices
2420:211 Basic Accounting I
2420:227 Entrepreneurship
2420:233 Installment Credit
2540:126 Business Machines
2540:286 Business Communications

Recommended Electives:

2020:254 The Black American
2420:111 Public Relations
201:106 Visual Promotion
2520:201 Principles of Wholesaling
2520:202 Retailing Fundamentals
2520:210 Consumer Service Fundamentals
2520:211 Mathematics for Retail Distribution
2520:212 Principles of Salesmanship
2520:233 Installment Credit
2540:126 Business Machines
2540:140 Typewriting for Non-Secretarial Majors

2430: Real Estate

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

1100: Physical Education
1100:105 Introduction to Public Speaking
2002:121 English
2005:240 Personal Practices
or
1100:104 Effective Oral Communication
2005:240 Personal Practices
2020:240 Human Relations
2020:247 Survey of Basic Economics
2420:104 Introduction to Business
2420:170 Business Mathematics
2420:202 Personnel Practices
2420:211 Basic Accounting I
2420:211 Basic Accounting II
2420:126 Administrative Office Supervision
2420:243 Survey in Finance
2520:119 Business English
2540:286 Business Communications

Recommended Electives:

2420:105 Principles of Accounting
2420:286 Business Communications

*Prerequisites are 2420:104, 211.
### 2440: Data Processing

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

<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>3</td>
</tr>
<tr>
<td>1100:106</td>
<td>Effective Oral Communication</td>
<td>3</td>
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<tr>
<td>2020:121</td>
<td>English</td>
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<tr>
<td>2020:141</td>
<td>Mathematics for Data Processing I</td>
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<tr>
<td>2020:142</td>
<td>Mathematics for Data Processing II</td>
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<td>2020:240</td>
<td>Survey of Basic Economics</td>
<td>3</td>
</tr>
<tr>
<td>2020:247</td>
<td>Survey of Basic Economics - Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>2420:104</td>
<td>Survey of Business Mathematics</td>
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</tr>
<tr>
<td>2420:211</td>
<td>Basic Accounting II</td>
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</tr>
<tr>
<td>2420:212</td>
<td>Basic Accounting II</td>
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<td>2420:243</td>
<td>Survey in Finance</td>
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<td>2440:235</td>
<td>Current Programming Topics</td>
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<td>2440:239</td>
<td>COBOL Programming</td>
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<td>2440:241</td>
<td>Advanced COBOL Programming</td>
<td>3</td>
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<tr>
<td>2540:119</td>
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<td>3</td>
</tr>
<tr>
<td>2540:221</td>
<td>Technical Requirements</td>
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</tr>
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<td>Technical Report Writing</td>
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</tr>
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<td>2540:130</td>
<td>Introduction to Information Management</td>
<td>3</td>
</tr>
<tr>
<td>2540:133</td>
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### Options

**Fashion**

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<th>Credits</th>
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<td>Textiles</td>
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<tr>
<td>7400:317</td>
<td>History of Costumes</td>
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<tr>
<td>7400:419</td>
<td>Clothing Communication</td>
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<tr>
<td>7400:459</td>
<td>Fashion</td>
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**Industrial**

<table>
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<th>Course Title</th>
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<td>Personnel Practices</td>
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<td>2420:240</td>
<td>Survey of Finance</td>
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<tr>
<td>2440:212</td>
<td>Introduction to Information Processing</td>
<td>2</td>
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<td>7520:203</td>
<td>Fundamentals of Industrial Distribution</td>
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</table>

**Retailing**

<table>
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<th>Course Title</th>
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<td>Personnel Practices</td>
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</tr>
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<td>2420:243</td>
<td>Survey of Finance</td>
<td>3</td>
</tr>
<tr>
<td>2440:120</td>
<td>Introduction to Information Processing</td>
<td>2</td>
</tr>
</tbody>
</table>

### 2540: Secretarial Science (Office Administration)

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

#### Core Program

<table>
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<td>2540:119</td>
<td>Business English</td>
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<tr>
<td>2540:221</td>
<td>Technical Requirements</td>
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<tr>
<td>2540:120</td>
<td>Technical Report Writing</td>
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</tr>
<tr>
<td>2540:130</td>
<td>Introduction to Information Management</td>
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</tr>
<tr>
<td>2540:133</td>
<td>General Elective</td>
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#### Options

**Executive Secretarial Science**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
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<td>2420:202</td>
<td>Personnel Practices</td>
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<td>2420:211</td>
<td>Basic Accounting I</td>
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</tr>
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<td>2420:247</td>
<td>Survey of Basic Economics</td>
<td>3</td>
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<td>Office Problems</td>
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<td>2540:253</td>
<td>Advanced Typewriting</td>
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</tr>
<tr>
<td>2540:276</td>
<td>Executive Dictation and Transcription</td>
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<tr>
<td>2540:281</td>
<td>Machine Transcription</td>
<td>2</td>
</tr>
<tr>
<td>2540:286</td>
<td>Keyboarding on Word Processing Equipment</td>
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</tbody>
</table>

**International Secretarial Science**

<table>
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<td>Office Problems</td>
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<td>2540:253</td>
<td>Advanced Typewriting</td>
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<tr>
<td>2540:276</td>
<td>Executive Dictation and Transcription</td>
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</tr>
<tr>
<td>2540:277</td>
<td>Legal Dictation and Transcription</td>
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<td>2540:278</td>
<td>Legal Dictation and Transcription</td>
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<tr>
<td>2540:279</td>
<td>Legal Office Procedures</td>
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**Legal Secretarial Science**

<table>
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<tbody>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
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<td>2020:247</td>
<td>Survey of Basic Economics</td>
<td>3</td>
</tr>
<tr>
<td>2420:211</td>
<td>Basic Accounting I</td>
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<td>2420:280</td>
<td>Essentials of Law</td>
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<tr>
<td>2540:277</td>
<td>Legal Dictation and Transcription</td>
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<td>2540:279</td>
<td>Legal Office Procedures</td>
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<tr>
<td>2540:286</td>
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</table>

**Office Information Management**

<table>
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<td>1100:106</td>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>2020:121</td>
<td>English</td>
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</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>2020:247</td>
<td>Survey of Basic Economics</td>
<td>3</td>
</tr>
<tr>
<td>2420:104</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>2420:202</td>
<td>Personnel Practices</td>
<td>3</td>
</tr>
<tr>
<td>2420:211</td>
<td>Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>2440:120</td>
<td>Introduction to Information Processing</td>
<td>2</td>
</tr>
<tr>
<td>2540:119</td>
<td>Business English</td>
<td>3</td>
</tr>
<tr>
<td>2540:130</td>
<td>Introduction to Information Management</td>
<td>3</td>
</tr>
<tr>
<td>2540:141</td>
<td>Computerized Document Control</td>
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<tr>
<td>2540:150</td>
<td>Beginning Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>2540:151</td>
<td>Intermediate Typewriting</td>
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<tr>
<td>2540:243</td>
<td>Internship</td>
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<td>2540:244</td>
<td>Automated Office Systems</td>
<td>4</td>
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<tr>
<td>2540:253</td>
<td>Advanced 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>
</tbody>
</table>

*Not required to take 2420:111.

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

†New degree is effective Fall 1986.
Word Processing

This program prepares students to perform various services that are vital part of the modern business office with emphasis on clerical and traffic, personnel practices, and supervision.

2560: Transportation

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

Options

Airlne/Travol Industry

1100 - - - Physical Education 1
1100:016 Introduction to Public Speaking 3
2020:247 Survey of Basic Economics 3
2420:014 Business Mathematics 3
2420:017 Business Accounting 3
2420:120 Introduction to Information Processing 3
2440:150 Business Communications 3
2540:119 Business English 3
2540:121 Office Procedures 3
2540:150 Beginning Typewriting 3
2540:151 Intermediate Typing 3
2540:241 Information Management 3
2540:263 Advanced Typewriting 3
2540:266 Business Communications 3
2540:280 Word Processing Concepts 2
2540:281 Machine Transcription 2
2540:286 Keyboarding on Word Processing Equipment 3
2540:287 Word Processing Applications 3
2560:220 Transportation Terminal Management and Safety 3
2560:221 Traffic and Distribution Management 3
2560:222 Technical Report Writing 3
2560:229 Passenger Ticketing 2
2560:230 Tour Planning and Packaging 2
2560:231 Electives 2

General

1100 - - - Physical Education 1
1100:015 Introduction to Public Speaking 3
1100:016 Effective Oral Communication 3
2020:121 English 4
2020:222 Technical Report Writing 3
2020:246 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
2420:280 Essentials of Law 3
2440:120 Introduction to Information Processing 2
2440:119 Business English 3
2540:263 Business Communications 3
2560:110 Transportation Economic Policy 3
2560:115 Motor Transportation 3
2560:116 Air Transportation 2
2560:117 Water Transportation 2
2560:118 Transportation Rate System 3
2560:229 Transportation Terminal Management and Safety 2
2560:221 Transportation Traffic Principles and Practices 3
2560:234 Transportation Regulations 4
2560:277 Transportation of Hazardous Materials and Waste 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

1100 - - - Physical Education 1
1100:015 Introduction to Public Speaking 3
2020:121 English 4
2020:222 Technical Report Writing 3
2840:010 Introductory Chemistry 3
2840:102 Introductory and Analytical Chemistry 3
2840:103 Chemical Calculations 2
2840:121 Organic Principles 4
2840:151 Basic Physics: Mechanics 3
2840:152 Basic Physics: Electricity and Magnetism 2
2840:153 Basic Physics: Heat, Light and Sound 2
2840:201 Quantitative Analysis 4
2840:202 Instrumental Methods 4
2840:255 Literature of Science and Technology 3
2840:270 Natural and Synthetic Organic Polymers 4
General Electives 9
Option Requirements 13

Options

Environmental

2340:151 Technical Computations 3
3100:100 Principles of Microbiology 3
3370:200 Environmental Geology 3
Technical Electives 6
(3100:426 Applied Aquatic Ecology Recommended)

Forensic

2220:100 Introduction to Criminal Justice 3
2220:250 Criminal Case Management 6
294:151 Technical Computations 1
Technical Elective 3
Geology
2020:132 Mathematical Analysis II 3
2040:131 Technical Computations 1
3370:101 Introductory Physical Geology 4
3370:230 Mineralogy 3
2020:132 Technical Elective 2

Industrial
2020:132 Mathematical Analysis 3
2840:151 Technical Computations 1
2020:222 Technical Report Writing 3
2020:222 Technical Electives 9
(3940:401 Introduction to Elastomers recommended)

Rubber and Plastics
2020:132 Mathematical Analysis II 3
2840:151 Technical Computations 1
2020:222 Technical Electives 9
(3940:301 Introduction to Plastics recommended)

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.

1100: — Physical Education 1
2020:121 English 4
2020:131 Mathematical Analysis I 4
2020:132 Mathematical Analysis II 3
2020:222 Technical Report Writing 3
2020:233 Mathematical Analysis III 3
2020:240 Humn Relations 5
2020:241 American Urban Society 3
2820:124 Survey of Basic Economics 3
2940:151 Basic Physics: Heat, Light, and Sound 3
2940:153 Technical Elective 2
2860:120 DC Circuits 4
2860:121 AC Circuits 3
2860:222 Electronics I 4
2860:225 Electronics II 4
2860:231 Control Principles 3
2860:237 Digital Circuits I 3
2860:242 Digital Circuits II 3
2860:243 Electronics and Controls 4
2860:251 Electronic Design and Construction Manufacturing 2
2960:260 Electronic Project 2
2940:151 Technical Computations 1

2880: Manufacturing Technology
Through the study of basic technical subjects and through concentration on work measurement, safety procedures, plant layout and quality control, the program educates the student in the areas of analysis, design and management of the resources, facilities and people involved in industrial processes.

1100: — Physical Education 1
2020:121 English 4
2020:131 Mathematical Analysis I 4
2020:132 Mathematical Analysis II 3
2020:222 Technical Report Writing 3
2020:240 Human Relations 3
2020:241 American Urban Society 3
2880:100 Introduction to Manufacturing Management 9
2880:101 Introduction to Computer Aided Manufacturing 5
2880:143 Work Measurement Procedures I 7
2880:144 Safety Procedures 3
2880:209 Manufacturing Productivity 3
2880:210 Consulting and Scheduling Production 2
2880:217 Plant Layout 3
2880:232 Labor-Management Relations 3
2880:242 Quality Control Procedures II 3
2890:121 Technical Drawing I 3
2890:247 Technology of Machine Tools 3
2890:131 Technical Computations 1
2890:132 Technical Electives 9

Industrial Supervision Option
1100: — Physical Education 1
1100:106 Effective Oral Communication 3

2020:121 English 4
2020:131 Mathematical Analysis I 4
2020:222 Technical Report Writing 3
2020:240 Human Relations 3
2020:247 Survey of Basic Economics 3
2420:103 Role of Supervision in Management 3
2420:202 Personnel Practices 3
4220:211 Basic Accounting I 3
4220:212 Basic Accounting II 3
4220:280 Essentials of Law 3
2880:100 Introduction to Manufacturing Management 3
2880:130 Work Measurement Procedures I 2
2880:141 Safety Procedures 3
2880:200 Manufacturing Productivity 3
2880:210 Consulting and Scheduling Production 2
2880:232 Labor Management Relations 3
2880:241 Work Measurement Procedures II 2
2880:243 Quality Control Procedures 3
2890:247 Technology of Machine Tools 3

Technical Electives (2 credits required from following):
2020:132 Mathematical Analysis I 3
2840:120 Introduction to Information Processing 2
2420:243 Survey in Finance 3
2920:141 Technical Drawing I 3
2920:148 Introduction to Numerical Control 2
2920:146 Numerical Control Programming 3

2820:124 American Urban Society 3
2020:251 The Black American 2
2020:301 Work Relationships 2

2860: Electronic Technology
(ABET accredited engineering technology curriculum)
This program prepares individuals for work as technicians in developing, designing, manufacturing, testing and servicing mechanical equipment.

1100: — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:131 Mathematical Analysis I 4
2020:132 Mathematical Analysis II 3
2020:222 Technical Report Writing 3
2020:233 Mathematical Analysis III 3
2020:240 Human Relations 3
2020:241 American Urban Society 3
2840:151 Basic Physics: Electricity and Magnetism 3
2840:153 Basic Physics: Heat, Light, and Sound 2
2820:121 Technical Drawing I 3
2820:122 Technical Drawing II 3
2820:142 Design Materials 2
2920:243 Numerics 2
2920:244 Dynamics 2
2920:245 Mechanical Design I 5
2920:247 Technology of Machine Tools 3
2920:149 Fluid Power 2
2920:251 Fluid Power 2
2920:252 Thermofluids Laboratory 1
2940:151 Technical Computation 1
2980:125 Statics 3
2980:241 Strength of Materials 3
2980:245 Technical Elective 3

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 complete detailed drawings based on rough sketches, specifications and calculations made by engineers, architects and designers.

1100: — Physical Education 1
1100:106 Effective Oral Communication 3
2020:121 English 4
2020:131 Mathematical Analysis I 4
2320:222 Technical Report Writing 3
2020:240 Human Relations 3
2920:121 Technical Drawing I 5
2920:122 Technical Drawing II 3
2920:247 Technology of Machine Tools 3
2940:150 Drafting Design Problem 3
2940:151 Technical Computations 1
2940:160 Manufacturing and Construction Processes 2
2940:170 Surveying Drafting 3
2940:200 Advanced Drafting
2940:210 Computer Drafting
2940:230 Mechanical Systems Drafting
2940:240 Electrical, Electronic and Instrumentation Drafting
2940:250 Architectural Drafting
2942:250 Drafting Technology Project
2980:250 Structural Drawing
3350:340 Cartography

General Electives:
2020:241 Man and Technology
2020:242 American Urban Society
2020:247 Survey of Basic Economics
2020:251 Work Relationships
2020:254 The Black American

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

Construction

<table>
<thead>
<tr>
<th>Course</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education</td>
</tr>
<tr>
<td>2020:121</td>
<td>English</td>
</tr>
<tr>
<td>2020:131</td>
<td>Mathematical Analysis I</td>
</tr>
<tr>
<td>2020:132</td>
<td>Mathematical Analysis II</td>
</tr>
<tr>
<td>2020:222</td>
<td>Technical Report Writing</td>
</tr>
<tr>
<td>2020:233</td>
<td>Mathematical Analysis III</td>
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<tr>
<td>2840</td>
<td>Basic Physics (elective)</td>
</tr>
<tr>
<td>2840:151</td>
<td>Basic Physics Mechanics</td>
</tr>
<tr>
<td>2840:152</td>
<td>Technical Drawing I</td>
</tr>
<tr>
<td>2840:153</td>
<td>Technical Drawings II</td>
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<td>Cost Analysis and Estimating</td>
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Surveying

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<th>Options</th>
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<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>2020:132</td>
<td>Mathematical Analysis II</td>
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<td>2020:222</td>
<td>Technical Report Writing</td>
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<td>2020:233</td>
<td>Mathematical Analysis III</td>
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<tr>
<td>2840</td>
<td>Basic Physics (elective)</td>
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<tr>
<td>2840:151</td>
<td>Basic Physics Mechanics</td>
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<td>2840:152</td>
<td>Technical Drafting I</td>
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<tr>
<td>2840:153</td>
<td>Technical Drafting II</td>
</tr>
<tr>
<td>2840:245</td>
<td>Cost Analysis and Estimating</td>
</tr>
<tr>
<td>2840:250</td>
<td>Structural Drafting</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education</td>
</tr>
<tr>
<td>1100:105</td>
<td>Effective Oral Communication</td>
</tr>
<tr>
<td>2020:121</td>
<td>English</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
</tr>
<tr>
<td>2020:242</td>
<td>American Urban Society</td>
</tr>
<tr>
<td>2540:150</td>
<td>Beginning Typewriting*</td>
</tr>
<tr>
<td>3450</td>
<td>Modern University Mathematician</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
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<tr>
<td>5100:150</td>
<td>Introduction to Professional Education</td>
</tr>
<tr>
<td>5100:250</td>
<td>Human Development and Learning</td>
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<tr>
<td>5104:10</td>
<td>Audio-Visual Education</td>
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Electives

<table>
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<th>Options</th>
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<tbody>
<tr>
<td>5550:201</td>
<td>First Aid</td>
</tr>
<tr>
<td>5850:295</td>
<td>Education Technician Field Experience</td>
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Options

Child Development††

<table>
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<th>Course</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>2200:245</td>
<td>Infant/Toddler Day Care Program</td>
</tr>
<tr>
<td>2200:250</td>
<td>Observing and Recording Children's Behavior</td>
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<tr>
<td>5000:360</td>
<td>Nursery School Laboratory</td>
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<td>7400:132</td>
<td>Early Childhood Nutrition</td>
</tr>
<tr>
<td>7400:265</td>
<td>Child Development</td>
</tr>
<tr>
<td>7400:275</td>
<td>Play and Creative Expression</td>
</tr>
<tr>
<td>7400:290</td>
<td>Administration of Child Care Centers</td>
</tr>
<tr>
<td>7400:485</td>
<td>Seminar: Parent-Child Relations</td>
</tr>
</tbody>
</table>

Library Technician†

<table>
<thead>
<tr>
<th>Course</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200:100</td>
<td>Introduction to Library Technology</td>
</tr>
<tr>
<td>2200:201</td>
<td>Processing, Cataloging and Classifying Materials</td>
</tr>
<tr>
<td>2200:202</td>
<td>Organizing and Operating Library Mesa Centers</td>
</tr>
<tr>
<td>2200:203</td>
<td>Materials Selection</td>
</tr>
<tr>
<td>2200:204</td>
<td>Reference Procedures</td>
</tr>
<tr>
<td>2200:205</td>
<td>Information Retrieval Systems in Library Technology</td>
</tr>
</tbody>
</table>

2210: Handicapped Services

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education</td>
</tr>
<tr>
<td>1100:106</td>
<td>Effective Oral Communication</td>
</tr>
<tr>
<td>2020:121</td>
<td>English</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
</tr>
<tr>
<td>2020:240</td>
<td>American Urban Society</td>
</tr>
<tr>
<td>2210:100</td>
<td>Introduction to Interpreting for the Deaf</td>
</tr>
<tr>
<td>2210:200</td>
<td>Sign Language Gesture and Mime</td>
</tr>
<tr>
<td>2210:300</td>
<td>Specialized Interpreting</td>
</tr>
<tr>
<td>2210:400</td>
<td>Handicapped Services Practicum</td>
</tr>
</tbody>
</table>

*May substitute 2540:140, 3 credits.
†May substitute 2020:130, 3 credits. Child development and library students may substitute 2420:110, 3 credits.
††Must complete 1100:106, 271 and 5200:265 before doing 5850:295. 7400:290 can be taken concurrently. See coordinator the previous semester.
†‡Must complete required courses before doing 5850:295. See coordinator the previous semester.
††Library courses are offered in alternate years. See advisor or coordinator.
‡‡Must be repeated for a total of 6 credits.
2220: Criminal Justice Technology

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

1100 --- Physical Education
1100.106 Effective Oral Communication
2020.121 English
2020.131 Mathematical Analysis I
2020.222 Technical Report Writing
2200.100 Introduction to Criminal Justice
2200.105 Criminal Law for Police
2200.104 Evidence and Criminal Legal Process
2200.106 Juvenile Justice Process
2200.110 Social Values and Criminal Justice
2200.200 Criminal Justice Theory and Practice
2200.240 Dynamics of White Crime and Substance Abuse
2200.250 Criminal Case Management
2200.260 Administration and Supervision in the Public Service
2240.100 Basic Chemistry
2370.100 Introduction to Psychology
2380.100 Introduction to Sociology
2 General Electives
2 Technical Electives

Security Administration

1100 --- Physical Education
1100.106 Effective Oral Communication
2020.121 English
2020.131 Mathematical Analysis I
2020.222 Technical Report Writing
2020.240 Human Relations
2020.242 American Urban Society
2220.101 Introduction to Security
2220.102 Criminal Law for Police
2220.104 Evidence and Criminal Legal Process
2220.240 Dynamics of Vice Crime
2220.250 Criminal Case Management
2220.260 Administration and Supervision in the Public Service
2240.100 Basic Chemistry
2370.100 Introduction to Psychology
2 General Electives
2 Technical Electives

Social Work Emphasis

1100 --- Physical Education
1100.106 Effective Oral Communication
2020.121 English
2020.131 Mathematical Analysis I
2020.222 Technical Report Writing
2020.240 Human Relations
2055.242 American Urban Society
2220.180 Introduction to Criminal Justice
2220.102 Criminal Law for Police
2220.104 Evidence and Criminal Legal Process
2220.106 Juvenile Justice Process
2220.110 Social Values and Criminal Justice Process
2220.200 Criminal Justice Theory and Practice
2250.260 Administration and Supervision in the Public Service
2370.100 Introduction to Sociology
3750.100 Introduction to Social Welfare
3 General Electives

A student with a particular interest in correctional work may take the program studying the following subtopics: 3850.330 Criminality, 3 credits; 3050.432 Probation and Parole, 3 credits; and 2260.275 Techniques of Community Work, 4 credits; and 3850.431 Corrections, 4 credits; for others: 2220.250 Criminal Case Management, 4 credits; 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 prepares persons to serve governmental, industrial and other fire protection agencies in fire fighting and prevention, property protection and in handling emergency situations.

1100 --- Physical Education
1100.105 Introduction to Public Speaking
2020.121 English
2020.131 Mathematical Analysis I
2020.222 Technical Report Writing
2020.240 Human Relations
2020.242 American Urban Society
2220.100 Introduction to Fire Protection
2230.102 Fire Safety in Building Design and Construction
2230.140 Fire Investigative Methods
2230.202 Fire Suppression Methods
2230.202 Fire Hazard Recognition
2230.205 Fire Detection and Suppression Systems
2230.260 Fire Detection and Suppression Systems II
2230.250 Hazardous Materials
2230.254 Fire Codes and Standards
2230.256 Fire Protection for Business and Industry
2250.260 Administration and Supervision for Public Services
2340.151 Basic Physics: Mechanics
2550.211 First Aid
2 General Electives
2 Technical Electives

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.

1100 --- Physical Education
1100.106 Effective Oral Communication
2020.121 English
2020.131 Mathematical Analysis I
2020.222 Technical Report Writing
2020.240 Human Relations
2020.242 American Urban Society
2260.100 Introduction to Criminal Justice
2260.100 Introduction to Community Services
2260.150 Introduction to Gerontological Services
2260.260 Alcohol Use and Abuse
2260.275 Techniques of Community Work
2260.279 Technical Experience: Community and Social Work
2 General Electives

Alcohol Services

2260.261 Alcoholics Treatment
2260.262 Basic Helping Skills in Alcohol Problems
2260.269 Special Topics: Alcohol Services

Gerontology

2260.251 Community Services for Senior Citizens
2260.252 Resident Activity Coordination

Volunteer Programming

2260.280 Fundamentals of Volunteer Management
2260.281 Recruitment and Interviewing of Volunteers

*These are recommended: 119, Life Saving; 135, Swimming; 174, Self-Defense; or 174, Karate.

**All degree titles effective Spring 1985.
Technical Electives (suggested):

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200:245</td>
<td>Infant/Toddler Day Care Programs</td>
<td>3</td>
</tr>
<tr>
<td>2220:106</td>
<td>Juvenile Justice Process</td>
<td>5</td>
</tr>
<tr>
<td>2260:240</td>
<td>Community Based Residential Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:241</td>
<td>Drug Unit and Abuse</td>
<td>3</td>
</tr>
<tr>
<td>2260:290</td>
<td>Special Topics in Community Services Technology</td>
<td>2-4</td>
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<tr>
<td>2540:140</td>
<td>Typewriting for Non-Secretarial Majors</td>
<td>3</td>
</tr>
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</table>

Social Services Emphasis†

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100:101</td>
<td>Physical Education</td>
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<tr>
<td>1100:105</td>
<td>Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>1100:116</td>
<td>Effective Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>1100:112</td>
<td>English Composition</td>
<td>4</td>
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<tr>
<td>2001:121</td>
<td>Technical Report Writing</td>
<td>4</td>
</tr>
<tr>
<td>2003:240</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>2260:100</td>
<td>The Black American</td>
<td>2</td>
</tr>
<tr>
<td>2260:120</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>2260:190</td>
<td>Alcohol Use and Abuse</td>
<td>3</td>
</tr>
<tr>
<td>2260:275</td>
<td>Techniques of Community Work</td>
<td>5</td>
</tr>
<tr>
<td>2260:276</td>
<td>Technical Experience: Community and Social Service</td>
<td>4</td>
</tr>
<tr>
<td>3750:120</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3750:210</td>
<td>Introduction to Sociology</td>
<td>4</td>
</tr>
<tr>
<td>7750:120</td>
<td>Social Work Electives</td>
<td>6</td>
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<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>

†For students who wish to pursue a baccalaureate degree in social work in a "2+2" arrangement.
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 1984 Wayne College Bulletin.
University College

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

OBJECTIVES

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

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

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

PROGRAM OF INSTRUCTION

The required General Studies courses are:

- **1100:105** Introduction to Public Speaking 3
- **1100:106** Effective Oral Communication 3
- **1100:115** English Composition 3
- **1100:116** Institutions in the United States 3
- **1100:120** Physical Education 1
- **1100:300** Western Cultural Traditions 8
- **1100:330** Eastern Civilizations** 4
- **1100:350** Mathematics 3
- **1100:360** Natural Sciences 6

**ACADEMIC ADVISING SERVICES**

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

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

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

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 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 student’s eventual scholastic goal.

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.

DEVELOPMENTAL PROGRAMS

The Department of Developmental Programs provides academic support for all University students, especially those who wish to strengthen their educational preparation in specific areas or who have been out of school for a number of years and feel the need for remediation. Through devel-

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

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

- 3250:214 Introduction to Economic Analysis, three credits. (A student majoring in engineering is advised to take one of the student’s selections.)
- 3250:201 Principles of Macroeconomics, three credits. (A student majoring in business, economics is advised to take this as one of the student’s selections. A student doing so should plan to take 3250:202, three credits.)
- 3250:100 Introduction to Economics, three credits.
- 2400:201 United States History, four credits.
- 3400:202 United States History since 1945, four credits.
- 3850:101 Introduction to Sociology, four credits.
- 3870:150 Cultural Anthropology, four credits.

B. For an engineering student who 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 any combination of two of four of the natural science courses, 3110:221, 222, 223 (three credits each).
opmental courses, individual tutoring and work in the writing and reading laboratories, such a student can develop the skills necessary for acceptable performance at the college level.

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

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

DIPLOMA NURSING PROGRAM

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

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

The following courses are offered:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>3100:130</td>
<td>Microbiology</td>
</tr>
<tr>
<td>3100:206</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>3100:207</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>3150:124</td>
<td>Chemistry</td>
</tr>
<tr>
<td>3750:130</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>3750:130</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>3850:100</td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>7400:133</td>
<td>Nutrition Fundamentals</td>
</tr>
</tbody>
</table>
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 programs are open to the full-time male and female student who will have completed at least one course in mathematical reasoning and a baccalaureate degree at commissioning.

Programs

Four-Year Program

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 requirements may be completed in time for summer field training. The POC consists of three hours of classroom work and one hour of Aerospace Studies Laboratory (Leadership Laboratory) each week, and provides three semester credits.

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 in an Air Force flying career. When enrolled in FIP, the student will receive flight instruction at an FAA-approved, civilian-operated flying school near the campus. In addition to the flight training, the student will participate in a ground school covering aircraft systems, navigation and regulations pertaining to flying.

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 25.
  - 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 (AFC-QT).
- Pass an Air Force physical examination.
- Be interviewed and selected by a board at Air Force Officers.
- Enlist in the Air Force Reserve prior to entry into the Professional Officer Course.

Requirements for Commissioning

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

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

- CEEB Scholastic Aptitude Test (SAT) or the American College Test (ACT) results.
- High school academic record.
- Extracurricular and athletic activities.
- 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.
- College grade-point averages.
- Extracurricular and athletic activities.
- Screening and nomination board rating.
- Academic major and potential active duty career.

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

Financial Allowances

A cadet enrolled in the POC will receive a 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 arts; provide some technical training in basic military skills; and develop an understanding of the relationship between the student's basic degree field and its application in one of 47 management fields in the United States Army.

Programs

Four-Year Program

A full-time student enrolled in The University of Akron or Wayne General 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, backpacking, rappelling, cross-country skiing, small unit operations and Army organization. Enrollment in MS I or MS II constitutes no obligation to military service or continuity into the advanced course; there is no requirement to wear a uniform, and the credits received can be applied toward elective requirements. A student who completes the basic course (MS I and MS II) is qualified and may apply for enrollment in the advanced course which is described below.

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

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**SPECIAL RESERVE AND NATIONAL GUARD PROGRAMS**

**Reserve and National Guard Early Commissioning Program**

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

**Simultaneous Membership Program (SMP)**

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

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

- The commitment to humanity — that loyal devotion to the heritage contained in those disciplines growing out of the ancient liberal arts which teach man both his limitations and possibilities. The college seeks to provide an appropriate environment for a student to acquire an ability to evaluate, integrate and understand the conceptions of man's existence, to understand himself in the natural world and in a particular civilization or society. No course or combination of courses can insure such understanding, and there is no schooling that can guarantee wisdom. Therefore, the college requires the student to study ideas and experiences that are the subject matter of a variety of disciplines:
  - the nature of society — those actions whereby virtue, the advancement of society, and wise and humane government are encouraged;
  - the advancement of learning — that substantive knowledge discovered and cultivated by critical curiosity, tested by experimentation, propagated by instruction and capable of affecting the life of man so that he may in a free society exercise a responsible liberty. The most enduring contribution which the college can make is to help the individual acquire the skill, motivation, and breadth of knowledge to continue his intellectual development throughout his life.

The college recommends each student for the appropriate bachelor's, master's or doctoral degrees in accordance with the level of accomplishment.

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

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

The college is composed of the following three administrative divisions.

Humanities Division

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

Natural Sciences Division

It is the most professionally-oriented division in this college, with the highest number of graduates continuing their education in specific areas of advanced study. In undergraduate years, a natural sciences student has a course of study with a strong emphasis in biology, chemistry, computer science, geology, mathematics, physics or statistics.

Social Sciences Division

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

COLLEGE REQUIREMENTS

Admission

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

Degrees Awarded

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

Baccalaureate Degrees

A student transferring into the college must have completed the equivalent of or taken, 1100:1112 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:
  - 30/400-level courses both in and outside the student's major;
  - any courses outside major department as specified in and approved by the student's major adviser and the department or division head (permission should be obtained prior to enrollment), except General Studies courses.
- Demonstration of ability to use English and another language:
  - for English, this ability will be shown by the completion of the General Studies sequence of 1100:1112 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 credits necessary for
the first degree; 16 of these credits must be 300/400-level courses or other approved courses.

**Major Field**

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

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

A student who desires a broader education than the humanities, social sciences, or certain courses in other departments may elect a divisional major and qualify in the general area of the humanities, natural sciences or social sciences. The exact requirements for these majors will be found on the following pages. As soon as the student contemplating a divisional major is transferred to the college, the chairman of the student’s major division becomes the academic adviser.

**Preparation for High School Teaching**

A student interested in a teaching career on the high school level may qualify for secondary school certification by the Ohio State Department of Education while enrolled in the Buchtel College of Arts and Sciences. Generally, the arts and sciences major subject will also constitute a teaching major, although a second teaching field usually is required. The education and psychology courses required for the secondary school teaching certificate may be taken as electives toward the arts and sciences degrees. Additional elective credits will generally enable the student to meet the requirements of a second teaching field, without exceeding the credits necessary for graduation.

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

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:150</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>6350:265</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>5300:356</td>
<td>Content Reading in Secondary School</td>
<td>3</td>
</tr>
<tr>
<td>5300:357</td>
<td>Human Relations in Secondary Education</td>
<td>1</td>
</tr>
<tr>
<td>5300:375</td>
<td>Managing Classroom Behavior at the Secondary Level</td>
<td>1</td>
</tr>
<tr>
<td>5300:376</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>5300:440</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>5300:460</td>
<td>Student Teaching</td>
<td>1</td>
</tr>
<tr>
<td>5300:465</td>
<td>Student Teaching</td>
<td>1</td>
</tr>
</tbody>
</table>

**Minor Areas of Study**

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

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**PROGRAMS OF INSTRUCTION**

**3100: Biology**

**Bachelor of Science**

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

**Core requirements:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:111</td>
<td>Principles of Biology</td>
<td>3</td>
</tr>
<tr>
<td>3100:211</td>
<td>General Genetics</td>
<td>3</td>
</tr>
<tr>
<td>3101:217</td>
<td>General Ecology</td>
<td>3</td>
</tr>
<tr>
<td>3101:316</td>
<td>Evolutionary Ecology</td>
<td>3</td>
</tr>
<tr>
<td>3101:317</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>3102:384</td>
<td>Techniques and Instrumentation Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>3102:392</td>
<td>Principles of Chemistry</td>
<td>7</td>
</tr>
<tr>
<td>3102:404</td>
<td>Qualitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td>3102:405</td>
<td>Organic Chemistry and Biochemistry I and II</td>
<td>6</td>
</tr>
<tr>
<td>3102:565:556</td>
<td>Organic Chemistry</td>
<td>7</td>
</tr>
<tr>
<td>3400:178</td>
<td>Elementary Functions I and II</td>
<td>6</td>
</tr>
<tr>
<td>3450:111:23</td>
<td>Modern University Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>3450:121:23</td>
<td>Modern University Mathematics II</td>
<td>3</td>
</tr>
<tr>
<td>3470:261:23</td>
<td>Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

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

**Areas of Specialization**

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

**Botany**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:440</td>
<td>Mycology</td>
<td>4</td>
</tr>
<tr>
<td>3100:443</td>
<td>Botany</td>
<td>4</td>
</tr>
<tr>
<td>3100:445</td>
<td>Plant Morphology</td>
<td>4</td>
</tr>
<tr>
<td>3100:446</td>
<td>Plant Physiology</td>
<td>3</td>
</tr>
<tr>
<td>3100:448</td>
<td>Plant Bionanomastics</td>
<td>2</td>
</tr>
</tbody>
</table>

**Electives:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100:341:2</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>3100:516</td>
<td>Specialized Writing</td>
<td>3</td>
</tr>
<tr>
<td>3250:495</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>3450:211:2</td>
<td>Analytic Geometry-Calcus I and II</td>
<td>6</td>
</tr>
<tr>
<td>3470:221:6</td>
<td>Statistics</td>
<td>6</td>
</tr>
<tr>
<td>4450:206</td>
<td>Furman Programming</td>
<td>6</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>7</td>
</tr>
<tr>
<td>3100:440</td>
<td>Mycology</td>
<td>4</td>
</tr>
<tr>
<td>3100:443</td>
<td>Physiological</td>
<td>4</td>
</tr>
<tr>
<td>3150:453</td>
<td>Quantitative Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3350:427</td>
<td>Analytical Chemistry Lecture</td>
<td>3</td>
</tr>
<tr>
<td>3100:521</td>
<td>Invertebrate Zoology</td>
<td>3</td>
</tr>
<tr>
<td>3100:353</td>
<td>Genetic Entomology</td>
<td>4</td>
</tr>
</tbody>
</table>

*Second year of foreign language and Eastern Civilization: not required for B.S. in Medical Technology.
*Not required for B.S. in Medical Technology.
**Not required for B.S. in Medical Technology.
††Required for B.S. in Cytotechnology.
Bachelor of Science in Medical Technology

- See Bachelor of Science for additional requirements.

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 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; normal tuition will be charged. The University is affiliated with the following hospital schools: Akron City Hospital, Akron General Medical Center, Canton Aultman Hospital, Cleveland Clinic Foundation, Cleveland Metropitan General Hospital, Mt. Sinai Hospital in Cleveland, North Columbus 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.

Bachelor of Science in Cytotechnology

- See Bachelor of Science for additional requirements.

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 3130 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:

  3100:206,7 Anatomy and Physiology
  3100:331,2 Microbiology
  3100:385,6 Laboratory Techniques and Instrumentation in Biology
  3100:457 Immunology

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
  3400:478 Western Science since 1800
  3400:479 Western Technology
  3600:484 Philosophy of Science

- At least 24 credits in the biological sciences which must include:

  3100:311,2 Principles of Biology
  3100:311 General Genetics
  3100:217 General Ecology
  3100:311 Cell Biology
  3100:310 Principles of Microbiology
  3100:316 Evolutionary Biology

- At least one year of chemistry, including, preferably, some biological chemistry (3150:129,30 General Chemistry is suggested).

Bachelor of Science in Medical Technology

- See Bachelor of Science for additional requirements.

A foreign language and Eastern Civilizations are not required.

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

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

Bachelor of Arts

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

Chemistry

- At least 45 departmental credits including:
  - Principles of Chemistry I
  - Principles of Chemistry II
  - Qualitative Analysis
  - Organic Chemistry Lecture I
  - Organic Chemistry Lecture II
  - Organic Chemistry Laboratory I
  - Organic Chemistry Laboratory II
  - Physical Chemistry Lecture I
  - Physical Chemistry Lecture II
  - Physical Chemistry Laboratory I
  - Physical Chemistry Laboratory II
  - Quantitative Analysis
  - Quantitative Analysis Laboratory
  - Analytical Chemistry Lecture
  - Analytical Chemistry Laboratory
  - Advanced Inorganic Chemistry

- At least two advanced courses:
  - Biochemistry Lecture I
  - Biochemistry Lecture II
  - Biochemistry Laboratory I
  - Biochemistry Laboratory II
  - Chemical Instrumentation
  - Instrumental Methods of Analysis
  - Qualitative Organic Analysis
  - Advanced Organic Chemistry
  - Research Problems
  - Methods of Mathematical Physics
  - Polymer Science

- Mathematics:
  - Differential Equations
  - Elementary Classical Physics I
  - Elementary Classical Physics II

- Recommended:
  - Fortran (Science and Engineering)

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;
- received acceptance by a cooperative education coordinator or director following a series of interviews.

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

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

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

Schedule

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

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

Registration

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

3000.301 Cooperative Education (may be repeated)

A certificate is awarded upon completion of the program. Course required for certification is 3000.301 and is optional.

A registration fee for each work period is charged to 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 satisfaction or dissatisfaction 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.
### Bachelor of Arts

**Bachelor of Science in Labor Economics**
- The General Studies.
- At least 30 departmental credits including:
  - **A1:** 3250:201 Principles of Macroeconomics 3
  - **A2:** 3250:202 Principles of Microeconomics 3
  - **A3:** 3250:330 Labor Problems 3
  - **A4:** 3250:410 Microeconomics 3
  - **A5:** 3250:420 Mathematical Economics I 3
- Two of the following:
  - 3250:333 Labor Economics 3
  - 3250:430 Human Resource Policy 3
  - 3250:431 Labor and the Government 3
  - 3250:432 Collective Bargaining 3
  - 3450:149 Pre-calculus Mathematics or equivalent 4
- Electives in Economics 9
- **Statistics (one of the following):**
  - 6500:311, 2 Quantitative Business Analysis I and II 6
  - or 3470:251 Descriptive Statistics and Problems 1
  - 3470:252 Distributions 1
  - 3470:253 Hypothesis Testing 1
  - 3470:256 Time Series and Index Numbers 1
  - or 3470:461 Applied Statistics 4
- Electives — 45-47 credits.

### Bachelor of Science in Geography
- The General Studies.
- At least 26 departmental credits including:
  - 3350:310 Physical and Environmental Geography 3
  - 3350:320 Economic Geography 3
  - 3350:330 Rural and Urban Settlement 3
  - 3350:340 Cartography 3
  - 3350:341 Maps and Map Reading 3
- Electives — 40 credits.

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

#### 3200: Classics
- **Courses:**
  - 3200:189 Mythology 3
  - 3200:313 Archaeology of Greece 3
  - 3200:314 Archaeology of Rome 3
  - 3200:361 Literature of Greece 3
  - 3200:367 Literature of Rome 3
- **Two of the following courses:**
  - 3400:304 The Ancient Near East 3
  - 3400:305 Greece 3
  - 3400:306 Rome 3
  - 3400:307 The Eastern Roman Empire (324-1453) 3
- **Electives in Classics** 6
- **Language courses must be above the 200 level in order to be included in the total of 39 credits.** In the case of a Latin major, three credits in this language (preferably in Latin grammar and idiom) must be taken during the senior year.
- The student wishing to be certified for public school teaching with Latin as the language must complete 26 credits in that language. In addition, the required credits for a second academic teaching field must be completed. See "Teaching Fields," College Bulletin, Section 4 of this Bulletin.

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

#### 3250: Economics
- **Bachelor of Arts**
  - The General Studies and the second year of a foreign language.
  - At least 30 departmental credits including:
    - 3250:201 Principles of Macroeconomics 3
    - 3250:202 Principles of Microeconomics 3
    - 3250:400 Macroeconomics 3
    - 3250:410 Microeconomics 3
    - 3250:420 Mathematical Economics I 3
  - Electives — 15 credits.
  - **Statistics (one of the following):**
    - 6500:321, 2 Quantitative Business Analysis I and II 6
    - or 3470:251 Descriptive Statistics and Problems 1
    - 3470:252 Distributions 1
    - 3470:253 Hypothesis Testing 1
    - 3470:255 Regression and Correlation 1
- **Electives — 30-32 credits.**

### 3300: English
- **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
      - 5900:341 American Literature I 3
      - 3300:342 American Literature II 3
    - **Distribution requirements:**
      - One language or English language course, a minimum of four 400-level courses.
      - Of the total number of courses taken for the major, at least two must be in literature written before 1600 and two after. 3300:301, 2, 316, 341 and 342 may not be used to meet this requirement. Courses which satisfy the language requirement and the literature before and after 1800 requirements are identified in the course descriptions.
      - **Recommended:**
        - 3309:280 Poetry Appreciation 3
        - 3300 — an advanced course in composition 3
  - **Electives — 40 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 requirement.
- 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:**

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
3350:493 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 47 departmental credits including:

3370:101 Introductory Physical Geology 4
3370:102 Introductory Historical Geology 4
3370:210 Geomorphology 3
3370:290 Crystallography and Non-Silicate Mineralogy 3
3370:231 Silicate Mineralogy and Petrology 3
3370:324 Sedimentation and Stratigraphy 3
3370:350 Structural Geology 4
3370:360 Introductory Invertebrate Paleontology 4
3370:460 Geology Field Camp 6
Elective courses (minimum eight credits at the 300/400-level) 19

- Non-geology courses required for majors:

3150:132 Principles of Chemistry I 4
3450:421 Field Geology 4
3450:422 Principles of Geology (or equivalent) 4
At least seven credits from the following:

3150:132 Principles of Chemistry I 4
3450:421 Field Geology 4
3450:422 Principles of Geology (or equivalent) 4

3400: History

Bachelor of Arts

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

3370:101 Introductory Physical Geology 4
3370:102 Introductory Historical Geology 4
3370:231 Silicate Mineralogy and Petrology 3
3370:350 Structural Geology 4
3370:360 Introductory Invertebrate Paleontology 4
3370:460 Geology Field Camp 6
Geology Electives (as approved by geophysics adviser) 6

- Non-geology courses required:

3150:132 Principles of Chemistry I 7
3450:221 Analytical Geometry-Calculus I, II and III 12
3450:235 Differential Equations 3
3450:311 Abstract Algebra 3
3450:412 Advanced Calculus I and II 6
3450:445 Introduction to Topology 3
Mathematics Electives 10
(These credits must be approved 300/400-level courses in the department.)

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 Analytical Geometry-Calculus I, II and III 12
3450:235 Differential Equations 3
3450:311 Abstract Algebra 3
3450:421 Advanced 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.)

*Students planning to pursue the Bachelor of Science degree in Geography: Cartography should select courses 2020-242 American Urban Society and 244 Survey of Basic Economics as general electives.

**See department head for possible substitutions.

†Undergraduate geology adviser may approve substitution of 3650:261.

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></td>
</tr>
<tr>
<td>5</td>
<td>School</td>
<td>School</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

Applied Mathematics
- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including:
  - 3450:221 Analytic Geometry-Calculus I, II and III 12
  - 3450:235 Differential Equations 3
  - 3450:312 Linear Algebra 3
  - 3450:421 Advanced Calculus I and II 6
  - 3450:427 Introduction to Numerical Analysis 3
  - 3450:436 Mathematical Models 3
  - 3450:451 Theoretical Statistics I 3
  - Mathematics Electives 7

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.

3460: Computer Science

Bachelor of Science
- The General Studies and the second year of a foreign language.
- At least 37 credits in computer science.
- Core curriculum:
  - 3460:209 Computer Programming I 3
  - 3460:210 Computer Programming II 3
  - 4450:336 Assembler Programming 3
- Other required courses:
  - 3460:307 Assembler Systems Programming 3
  - 3460:407 Systems Programming 3
  - 3460:418 Introduction to Data Structures 3
  - 3460:420 Structured Programming 3
  - 3460:476 Operating Systems 3
- Electives — Computer Science — 12 credits.

Options
Mathematics
At least 22 credits to include:
- 3450:221 Analytic Geometry-Calculus I 4
- 3450:225 Analytic Geometry-Calculus II 4
- 3450:223 Analytic Geometry-Calculus III 4
- 3450:312 Linear Algebra 3
- 3450:429 Numerical Linear Algebra 3
- 3450:427 Introduction to Numerical Analysis 3
- 3470:401 Applied Statistics 3

Business
A total of 28 credits to include:
- 3260:201 Principles of Microeconomics 9
- 3260:202 Principles of Microeconomics 3
- 3450:215 Concepts of Calculus I 4
- 3450:216 Linear Programming 4
- 3450:202 Concepts of Calculus II 4
- 3460:476 Data Base Management 2
- 3470:211 Descriptive Statistics and Probability 3
- 3470:212 Distributions 1
- 3470:23 Hypothesis Testing 1
- 3470:255 Regression and Correlation 1
- 3470:256 Experimental Design 1
- 6000:201 Accounting I and II 8


Registration
While no academic credits are assigned, each student must register for 3000:301 Cooperative Education in the same manner that a student registers for any other University course. See department advisor before enrolling for this course.

A cooperative program fee for each work period is charged. 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.
- Written work report as approved by department head and cooperative education staff.
- Cooperative Work Period Summary Form.

Normally, work progresses satisfactory on the job and a grade of "credit" is assigned at the end of the semester. If all the above conditions are not met, a change of grade to "no credit" will be submitted.


### 3470: Statistics

**Bachelor of Arts**

- The General Studies and the second year of a foreign language.
- At least 40 departmental credits including:
  - 3450:221.23 Analytic Geometry-Calculus I. II and III 12
  - 3450:225 Differential Equations 3
  - 3450:312 Linear Algebra 3
  - 3450:421.2 Advanced Calculus I. II 6
  - 3470:451.2 Theoretical Statistics I. II 6
  - 3470:461 Applied Statistics 4
  - 3470:463 Experimental Design 3

**Bachelor of Science**

- The General Studies program and the second year of a foreign language.
- At least 40 departmental credits including:
  - 3450:221.23 Analytic Geometry-Calculus I. II and III 12
  - 3450:225 Differential Equations 3
  - 3450:312 Linear Algebra 3
  - 3450:421.2 Advanced Calculus I. II 6
  - 3470:451.2 Theoretical Statistics I. II 6
  - 3470:461 Applied Statistics 4
  - 3470:463 Experimental Design 3

(Elective course must be an approved 300/400-level course 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.

### 3500: Modern Languages

3520: French; 3530: German; 3550: Italian; 3570: Russian; 3580: Spanish.

**Bachelor of Arts**

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

### 3600: Philosophy

**Bachelor of Arts**

- The General Studies and the second year of a foreign language.
- A minimum of 30 departmental credits including:
  - 3600:101 Introduction to Philosophy 3
  - 3600:120 Introduction to Ethics 3
  - 3600:170 Introduction to Logic 3
  - 3600:211 History of Ancient Philosophy 3
  - 3600:312 History of Medieval Philosophy 3
  - 3600:313 History of Modern Philosophy 3
  - (Or the additional credits, six must be earned in 300/400-level courses.)
- Electives (selected concentration) — 12-16 credits.
- Electives — 29-33 credits.

**Bachelor of Science**

- The General Studies and the second year of a foreign language.
- A minimum of 30 departmental credits including:
  - 3600:101 Introduction to Philosophy 3
  - 3600:120 Introduction to Ethics 3
  - 3600:170 Introduction to Logic 3
  - 3600:211 History of Ancient Philosophy 3
  - 3600:312 History of Medieval Philosophy 3
  - 3600:313 History of Modern Philosophy 3
  - (Or the additional credits, six must be earned in 300/400-level courses.)
- Electives (selected concentration) — 12-16 credits.
- Electives — 29-33 credits.

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

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### 3650: Physics

**Bachelor of Science**

This degree is intended for the student seeking the most detailed and quantitative preparation in physics available in an undergraduate curriculum. A student preparing for graduate study in physics or another physical science should usually satisfy all the requirements for the degree.

- The General Studies and the second year of a foreign language.
- Mathematics:
  - A minimum of 46 credits including:
    - 3650:291.2 Elementary Classical Physics I and II 8
    - 3650:301 Elementary Modern Physics 3
    - 3650:406 Wave 3
    - 3650:410 Electronics 3
    - 3650:411 Intermediate Laboratory I 2
    - 3650:431 Mechanics 3
    - 3650:436 Electricity and Magnetism 3
  - Other Electives: Selected from courses 3650:321, 421, 451, 459.
- Chemistry:
  - 3150:132.3 Principles of Chemistry I. II and III 7
- Computer Science:
  - 4450:206 Fortran (Science and Engineering) 2
- Electives — 20 credits.

**Bachelor of Arts**

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

- The General Studies program and the second year of a foreign language.
- Mathematics:
  - A minimum of 24 credits including:
    - 3600:291.2 Elementary Classical Physics I and II 8
    - 3650:411 Intermediate Laboratory I 2
    - 3650:436 Electricity and Magnetism 3
  - Other Electives: Selected from courses 3650:407, 420, 430, 448, 449, 458, 459, 470, 491, 491.495.
- Physics:
  - A minimum of 24 credits including:
    - 3450:225 Differential Equations 3
    - 3450:221.23 Analytic Geometry-Calculus I. II and III 12
- Electives — 48 credits.

**Areas of Specialization**

**Applied Physics/Engineering Physics**

(Bachelor of Science degree recommended)

- A suggested program of 32 credits including the following:
  - 3650:321 Physics Laboratory Techniques 2
  - 3650:404 Energy and the Environment 3
  - 3650:411 Applied Physics Laboratory 2
  - 3650:438 Methods of Applied Physics 3
  - 4200:305 Materials Science 2
  - 4300:250 Introduction to Mechanics of Solids 3
  - 4400:271.2 Circuits I. II 6
  - 4400:333.4 Circuits III. IV 6
  - 4600:125 Engineering Graphics 2
  - 4600:310 Fluid Mechanics 3

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

**Courses 1100:224, 3650:130, 137, 138, 141 and 160 are not applicable toward the required 40 credits of physics courses.

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*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.
Biophysics

(Bachelor of Science or Bachelor of Arts degree)

A suggested program of 27 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>310:112.2</td>
<td>Principles of Biology</td>
<td>3</td>
</tr>
<tr>
<td>310:211</td>
<td>General Genetics</td>
<td>3</td>
</tr>
<tr>
<td>310:214</td>
<td>Organic Evolution</td>
<td>3</td>
</tr>
<tr>
<td>310:311</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>310:404</td>
<td>Radiator Biology</td>
<td>3</td>
</tr>
<tr>
<td>315:263.4</td>
<td>Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>3650:421</td>
<td>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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3150:263.4</td>
<td>Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>3150:312.4</td>
<td>Physical Chemistry Lecture I, II</td>
<td>4</td>
</tr>
<tr>
<td>3150:315.6</td>
<td>Physical Chemistry Laboratory I, II</td>
<td>4</td>
</tr>
<tr>
<td>3650:421</td>
<td>Applied Physics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>3650:471</td>
<td>NMR Spectroscopy</td>
<td>2</td>
</tr>
</tbody>
</table>

Computer Physics

(Bachelor of Science degree recommended)

A suggested program of 21 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4402:251.2</td>
<td>Circuits I, II</td>
<td>6</td>
</tr>
<tr>
<td>4400:333.4</td>
<td>Circuits III, IV</td>
<td>6</td>
</tr>
<tr>
<td>4450:376</td>
<td>Assembler Programming</td>
<td>3</td>
</tr>
<tr>
<td>4450:407</td>
<td>Systems Programming</td>
<td>3</td>
</tr>
<tr>
<td>4450:410</td>
<td>Computer Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

Geophysics

(Bachelor of Science or Bachelor of Arts degree)

A suggested program of 18 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3370:101</td>
<td>Introduction to Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370:102</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370:350</td>
<td>Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>3370:441</td>
<td>Fundamentals of Geophysics</td>
<td>3</td>
</tr>
<tr>
<td>3370:446</td>
<td>Exploration Geophysics</td>
<td>3</td>
</tr>
</tbody>
</table>

Polymer Physics

(Bachelor of Science degree recommended)

A suggested program of 24 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>310:263.4</td>
<td>Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>3150:312.4</td>
<td>Physical Chemistry Lecture I, II</td>
<td>4</td>
</tr>
<tr>
<td>3650:421</td>
<td>Applied Physics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>3940:401</td>
<td>Introduction to Elastomers</td>
<td>2</td>
</tr>
<tr>
<td>3940:402</td>
<td>Introduction to Plastics</td>
<td>2</td>
</tr>
<tr>
<td>3940:411.2</td>
<td>Molecular Structure and Physical</td>
<td>7</td>
</tr>
</tbody>
</table>

Physics/Astronomy Pre-Graduate School

(Bachelor of Science degree recommended)

A suggested program of 34 credits to include the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3500:321</td>
<td>Physics Laboratory Techniques</td>
<td>2</td>
</tr>
<tr>
<td>3500:331.2</td>
<td>Astrophysics I, II</td>
<td>6</td>
</tr>
<tr>
<td>3500:404</td>
<td>Energy and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>3500:420</td>
<td>Optics</td>
<td>3</td>
</tr>
<tr>
<td>3650:421</td>
<td>Applied Physics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>3650:438</td>
<td>Methods of Applied Physics</td>
<td>3</td>
</tr>
<tr>
<td>3650:445</td>
<td>Theoretical Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>3650:446</td>
<td>Electromagnetic Theory</td>
<td>4</td>
</tr>
<tr>
<td>3650:481.2</td>
<td>Methods of Mathematical Physics I, II</td>
<td>6</td>
</tr>
<tr>
<td>3650:489</td>
<td>Undergraduate Research</td>
<td>1-6</td>
</tr>
</tbody>
</table>

The preceding requirements specify the minimum curriculum for the B.S. and B.A. degrees with a major in physics. The student expecting to specialize in a particular professional area should consider utilizing part or all elective courses toward one of the important program areas of specialization listed above. These programs are intended to be illustrative only; considerable flexibility is possible, depending upon the needs and interests of the individual student.

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

Cooperative Industrial Employment Plan

For the academically qualified undergraduate student majoring in physics, an optional cooperative plan is available which provides a scheduled sequence of professionally-oriented industrial employment (totaling a full calendar year) alternating with periods of on-campus classroom instruction. This cooperative plan requires a five-year period for the completion of the bachelor's degree program in physics, with the spring term of the third year plus the fall and summer terms of the fourth year typically spent off campus with a participating industrial employer. Arrangements are made on an individual basis and must be initiated by the student during the second year of undergraduate study. For further information, contact the department.

3700: Political Science

Bachelor of Arts

- The General Studies and the second year of a foreign language
- At least 30 credits in the department including:
  - 3700:100 Government and Politics in the United States
  - 3700:200 Comparative Politics
  - 3700:201 Introduction to Political Science
  - 3700:303 Introduction to Political Thought
  - 3700:410 International Politics and Institutions
  - 3700:461 The Supreme Court and Constitutional Law
  - 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 adviser in the Department of Political Science. Courses may be chosen from any of the following departments: classics, modern languages, history, political science, anthropology and geography.
- At least 30 departmental credits including:
  - 3700:100 Government and Politics in the United States
  - 3700:210 State and Local Government and Politics
  - 3700:341 The American Congress
  - 3700:360 The Judicial Process
  - 3700:370 The American Bureaucracy
  - 3700:380 Urban Politics and Policies
  - 3700:461 The Supreme Court and Constitutional Law
  - 3700:480 Policy Problems
  - 3700:395 Internship in Government and Politics
  - 3700:399 Federal Government and Politics
  - 3800:301 Cooperative Education
  - 3700:400 — 500/400 level political science course

Bachelor of Science in Political Science/Public Policy Management

- The General Studies and the second year of a foreign language
- Political Science:
  - 3700:100 Government and Politics in the United States
  - 3700:401 Introduction to Political Science
  - 3700:370 The American Bureaucracy

*See department head for possible substitutions.


**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 3
  - 3750:110 Quantitative Methods in Psychology 3
  - 3750:120 Introduction to Experimental Psychology 3
  - 3750:202 Psychology Electives 20
- 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.

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**3750: Sociology**

(3850: Sociology; 3870: Anthropology)

### Bachelor of Arts

**Sociology**

- The General Studies and the second year of a foreign language.
- A minimum of 33 credits in sociology including:
  - 3850:100 Introduction to Sociology 4
  - 3850:310 Methods of Social Research I and II 6
  - 3850:402 History of Sociological Thought 3
  - 3850:404 Contemporary Sociological Theories 3
  - Sociology Elective 14

- Electives — 45 credits.

The student should consult with a departmental 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.

**Sociology/Anthropology**

- The General Studies and the second year of a foreign language.
- A minimum of 31 credits in the department including:
  - 3850:100 Introduction to Sociology 4
  - 3850:301 Methods of Social Research I and II 6
  - 3850:403 History of Sociological Thought 3
  - 3850:404 Contemporary Sociological Theories 3
  - 3870:150 Cultural Anthropology 4
  - 3870:151 Evolution of Man and Culture 3
  - 3870:356 Archaeology of the Americas 3
  - 3870:461 Language and Culture 3

- A minimum of two additional credits:
  - 3870:355 Indians of South America 3
  - 3870:377 Magic, Myths and Religion 3
  - 3870:358 Indians of North America 3
  - 3870:455 Culture and Personality 3
  - 3870:463 Social Anthropology 3

- Electives — 44 credits.

**Sociology/Law Enforcement**

- The General Studies and the second year of a foreign language.
- A minimum of 33 credits in the department including:
  - 3850:100 Introduction to Sociology 4
  - 3850:301 Methods of Social Research I and II 6
  - 3850:320 Social Inequality 3
  - 3850:320 Criminology 3
  - 3850:403 History of Sociological Thought 3
  - 3850:404 Contemporary Sociological Theories 3
  - 3850:430 Juvenile Delinquency 3
  - 3850:433 Sociology of Deviant Behavior 3
  - 3850:441 Sociology of Law 3
  - 3850:446 Research Internship 3

- Electives — 42 credits.

Students who enter the Sociology/Law Enforcement program from the University College, or by transfer, must complete coursework in the Criminal Justice Technology program. This may be done in one of two ways: (1) complete the program requirements for an A.S. degree in Criminal Justice, or, (2) complete 18 credits of Criminal Justice Technology coursework, plus 2250:260 Administration and Supervision in the Public Service. The appropriate coursework will be determined by the student's Sociology/Law Enforcement adviser in consultation with the coordinator of the Criminal Justice Technology program.

**Sociology/Corrections**

- The General Studies and the second year of a foreign language.
- A minimum of 33 credits in sociology including:
  - 3850:100 Introduction to Sociology 4
  - 3850:301 Methods of Social Research I, II 6
  - 3850:320 Criminology 3
  - 3850:403 History of Sociological Thought 3

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**Special Curricular Tracks in Political Science**

The department offers three special tracks for the student interested in pre-law, the international service or international, 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.
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 15-credit requirement must include:

- Classics:
  3200:161 Comparative Literature 6
  3200:162 Classical Mythology 6
- English:
  3300:101, 102, 103, 200:199 English 10
- History:
  3300:401 History 6
- Modern Languages:
  3300:402 Literature 4
- Philosophy:
  3600:120 Introduction to Philosophy 3
  3600:121 Introduction to Ethics 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 division adviser. For further information, please contact the Office of the Dean, Buchtel College of Arts and Sciences.

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

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

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

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

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

By field, the 15-credit requirement must include:

- Economics:
  Any except 3250:100 Introduction to Economics (must include 3250:201 Principles of Macroeconomics and 3250:202 Principles of Microeconomics) 15
- Geography:
  3300:101 Introduction to Physical Geography 3
  3300:104 Introduction to Geographic Analysis 3
  3300:108 Introduction to Urban Geography 3
  3300:109 Introduction to Human Geography 3
- Political Science:
  At least seven credits at the 300/400 level
  3300:101 Introduction to Political Science 15
  3300:102 Comparative Politics 15
  3300:103 Constitutional Law 15
  3300:104 International Law 15
  3300:105 Public Law 15
  3300:106 Administrative Law 15
- History:
  At least seven credits at the 300/400 level
  3300:101 Introduction to American History 15
  3300:102 American Government and Politics 15
  3300:103 American Foreign Policy 15
  3300:104 American Foreign Policy 15
- Psychology:
  At least seven credits at the 300/400 level
  3300:101 Introduction to Psychology 15
  3300:102 Social Psychology 15
  3300:103 Personality and Social Influence 15
  3300:104 Social Psychology and Social Influence 15
  3300:105 Social Psychology and Social Influence 15

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

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

Introduction

The Northeastern Ohio Universities College of Medicine is a consortium composed of The University of Akron, Kent State University, Youngstown State University and the College of Medicine that 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:

  3100:112 Principles of Biology
  3100:331 Human Genetics
  3100:466,7 Developmental Anatomy
  3150:132,3 Principles of Chemistry I and II
  J150:134 Organic Chemistry I
  J150:263,4 Organic Chemistry II
  J150:265 Organic Chemistry Laboratory
  J150:266 Organic Chemistry Laboratory (Optional)
  J150:401,2 Biochemistry I and II
  3450:221,2 Analytic Geometry-Calculus I and II
  3550:267,8 Physics
  3650:267,8 Physics Laboratory
  3750:100 Introduction to Psychology
  3760:110 Quantitative Methods in Psychology

- Additional courses as follows:

  1880:201 Medical Seminar and Practicum I
  1880:301 Medical Seminar and Practicum II
  3100:190,1 Health Care Delivery Systems
  3100:290,1 Health Care Delivery Systems
  2780:280 Special Topics: Allied Health

- Humanities:

  1880:310 Seminar on Humanities in Medical Education

  Additional study in the humanities from courses specified by the Humanities Committee**

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

**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.

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

Louis A. Hill, Jr., P.E., Ph.D., Dean
Glenn A. Atwood, P.E., Ph.D., Assistant Dean
Karen M. Mudry, Ph.D., Assistant Dean Research and Graduate Studies
Donald R. Burovbridge, M.S., Director Cooperative Program

OBJECTIVES

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

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

The college offers programs leading to the Bachelor of Science, Master of Science and Doctor of Philosophy degrees.

At the undergraduate level the college has a four-year noncooperative program and a five-year cooperative educational program. The majority of the students elect the cooperative program.

The emphasis in both undergraduate programs is on the preparation of students for professional practice and University policy assures that each student obtains a substantial exposure to the humanities.

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

COLLEGE REQUIREMENTS

Cooperative Plan

The optional Cooperative Plan provides for a coordinated sequence of alternate periods of classroom instruction and industrial employment during the cooperative phase of the five-year course.

The Cooperative Plan simultaneously provides for the development of fundamental principles in the classroom and for their application in industrial practice. The student has the opportunity to find the type of work and industrial organization in which the student can best apply individual ability. The student gains an appreciation of the problems of labor and management by first-hand experience. The student develops mature judgment by coping with the everyday problems of the industrial world. The employer of a cooperative student has the ability to train and select a student whose abilities and aptitudes can be adapted to the needs of technical staff requirements.

While a student is at work, all rules and regulations prescribed by the employer must be obeyed. In addition, the student is subject to all current labor laws and conditions. The student is considered a full-time student by the University while in industrial assignments.

The University does not guarantee employment, but makes every effort to place a student to the best financial advantage that is consistent with the acquisition of sound subprofessional experience.

Requirements for Admission

In addition to the general requirements for admission to the University, a student must present the following secondary school credits:

- Algebra 1½ units
- Plane Geometry 1 unit
- Chemistry or Physics 1 unit
- 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 including Calculus I 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

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

PROGRAMS OF INSTRUCTION

4200: Chemical Engineering

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

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

The chemical engineer finds careers mainly in the chemical process industries, usually becoming involved with inorganic and organic chemicals, rubber and plastics, detergents, petroleum products, metals, pharmaceuticals, 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 increasing...
Civil Engineering is 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:
  - Principles of Chemistry I, II
  - Qualitative Analysis
  - Analytic Geometry-Calculus I, II, III
  - Differential Equations
  - Advanced Mathematics Elective
  - Organic Chemistry I, II
  - Organic Chemistry Laboratory
  - Physical Chemistry I, II

- Engineering core:
  - Engineering Fundamentals
  - Materials Science
  - Statics
  - Basic Electrical Engineering
  - Fortran (Science and Engineering)
  - Engineering Graphics
  - Material & Energy Balances
  - Equilibrium Thermodynamics
  - Transport Phenomena I
  - Chemical Reaction Engineering
  - Fluid and Thermal Operations
  - Transport Laboratory
  - Mass Transfer Operations
  - Process Analysis and Control
  - Process Economics and Design
  - Plant Design
  - Operations Laboratory

- Electives:
  - Advanced Chemistry or Polymer Science
  - Chemical Engineering Design
  - Free Elective, advisor approved

### 4300: Civil Engineering

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

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

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

(An ABET accredited engineering program)

- General Studies — 28 credits

- Natural science:
  - Principles of Chemistry I, II
  - Introductory Physical Geology
  - Analytic Geometry-Calculus I, II, III
  - Differential Equations
  - Applied Statistics
  - Elementary Classical Physics I, II

- Engineering core:
  - Metallurgy Science
  - Introduction to Engineering
  - Statics
  - Introduction to Mechanics of Solids
  - Basic Electrical Engineering
  - Fortran (Science and Engineering)

### 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. Many employment opportunities are available.

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

(An ABET accredited engineering curriculum)

- General Studies — 28 credits

- Natural science:
  - Principles of Chemistry I, II
  - Analytic Geometry-Calculus I, II, III
  - Differential Equations
  - Advanced Mathematics Elective
  - Elementary Classical Physics I, II
  - Elementary Modern Physics

- Engineering core:
  - Materials Science
  - Statics
  - Introduction to Mechanics of Solids
  - Dynamics
  - Engineering Design
  - Fortran (Science and Engineering)
  - Engineering Graphics
  - Thermal Science

- Electrical engineering:
  - Circuits I, II
  - Circuits II
  - Electrical Measurements
  - Electromagnetic Fields I
  - Transmission Lines and Networks
  - Physics of Electronic Devices
  - Electronic Circuits
  - Switching and Logic
  - Control Systems I
  - Energy Conversion I, II

- Electives:
  - Technical Electives
  - Free Electives
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 fluid flow, thermodynamics, energy conversion, environmental control, heat transfer and automatic controls. The typical mechanical engineering design problems may involve any one or possibly all of these areas in the design of a complex system.

The mechanical engineer is employed in a variety of industries in different capacities. Specific positions include management, design, analysis, safety production and plant engineering. The types of companies include automotive, petroleum, energy generation, aerospace, tire, consulting, publishing, insurance and manufacturers in general.

The curriculum is designed to emphasize fundamentals which will place the graduate in a strong position to either pursue further education, formally or informally, or to begin a career in government or industry.

(An ABET accredited curriculum)

- General Studies — 26 credits.
- Natural science:
  - 3150:123 Principles of Chemistry I, II
  - 3400:272,2.3 Analytic Geometry-Calculus I, II, III
  - 3450:235 Differential Equations
  - 3450 — Mathematics Elective
  - 3600:291,2 Elementary Classical Physics I, II
  - 3600:293,4 Physics Combinations I, II
- Engineering core:
  - 4300:201 Statics
  - 4300:202 Introduction to Mechanics of Solids
  - 4300:380 Engineering Materials Laboratory
  - 4400:320 Basic Electrical Analysis
  - 4600:125 Engineering Graphics
  - 4600:160 Mechanical Engineering Orientation
  - 4600:201 Dynamics
  - 4600:306 Fluid Mechanics
- Mechanical engineering:
  - 4600:315 Heat Transfer
  - 4600:321 Kinematics of Machines
  - 4600:336 Analyze of Mechanical Components
  - 4600:337 Design of Mechanical Components
  - 4600:339 Engineering Analysis
  - 4600:380 Mechanical Metallurgy
  - 4600:400 Thermal System Components
  - 4600:461 Design of Energy Systems
  - 4600:431 Vibration
  - 4600:440 Control Systems
  - 4600:460 Concepts of Design
  - 4600:461 Design of Mechanical Systems
  - 4600:464 Mechanical Engineering Laboratory
  - 4600:493 Measurements Laboratory
- Electives:
  - Technical Electives (includes three credits design)
  - Free Electives, adviser approval

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, and interpersonal personnel management. The program is designed to provide graduate for employment at all levels of the construction industry and allied support industries.

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

- General Studies* — 21 credits.
- Technical (required courses):
  - 4980:292 Field Management
  - 4980:394 Foundation Construction Methods
  - 4980:395 Computer Applications in Construction
  - 4980:381 Construction Formwork
  - 4980:402 Legal Aspects of Construction
  - 4980:403 Mechanical Service Systems
  - 4980:463 Electrical Service Systems
- Business (required courses):
  - 6200:211 Accounting I, II
  - 6400:271 Business Finance
  - 6500:310 Management Principles and Concepts
- Science and Mathematics (required courses):
  - 3370:234 Mathematics for Technical Applications
  - 3370:220 Environmental Geology
- Statistics (minimum three credits):
  - 3470:251 Descriptive Statistics and Probability
  - 3470:253 Hypothesis Testing Parameters
  - 6500:321 Quantitative Business Analysis
- Technical Electives (minimum six credits):
  - 3470:110 Introductory Physical Geology
  - 3370:210 Geomorphology
  - 4300:313 Soils Mechanics
  - 4300:314 Geotechnical Engineering
  - 4300:361 Transportation Engineering
  - 4300:414 Design of Earth Structures
  - 4300:416 Soil and Rock Exploration
  - 4300:459 Urban Planning
  - 4300:479 Underground Construction
  - 4300:482 Special Projects
  - 4450:206 FORTRAN
  - 4980:351 Construction Quality Control
  - 4980:358 Safety in Construction
  - 4980:465 Heavy Construction Methods
- 5500:211 First Aid

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
- Program Options — Engineering
- Program Options
- Free Electives, adviser approval

*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.
College of Education

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

OBJECTIVES

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

- Special experiences, knowledge and skills particularly useful for teaching in urban and inner-city educational institutions, in keeping with the urban mission of the University.
- A knowledge of a major field and related fields of inquiry and the ability to use this knowledge in explaining the realities of life today.
- A knowledge of instructional materials and new technology and skill in recognizing and utilizing instructional tools most suitable for specific purposes.
- A knowledge of the social issues relevant to education and living in a pluralistic society and the competence to translate implications of changes in society into instructive action as teacher-citizens as well as teacher-scholars.
- An understanding of the learner and the learning processes and the ability to translate these into appropriate teaching behaviors in acting and reacting with students.
- Skill in the acquisition of inquiry techniques appropriate to generalizing knowledge and choices, and practice in using them to inquire into educational problems in rational, defensible ways.
- Human relations skills, including an appreciation of the values and feelings essential for working with young people and with adults, and the ability to develop relationships in a wide variety of professional and social roles in an educational or community setting.

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

Programs include a balanced offering of a foundation in general education, an intensive study in depth of the teaching and/or administration area and those professional courses and other learning experiences which attempt to combine theory and practice.

In addition to the regular degree programs, special courses and related services such as institutes and workshops are regularly offered with the planning assistance of school personnel.

Educators in surrounding school districts cooperate in advisory capacities with the college. Their schools are used widely for observation and for the assignment of student teachers. Approximately one-half of the teachers in the Akron Public Schools are former students of the University.

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.
- Demonstrated of those qualities of character and personality deemed essential for a professional person in education. This determination is made by instructors conducting the education courses in the University College, by the staff in Academic Advising Services and if necessary, by measuring performance through standardized evaluation instruments.
- Demonstrated evidence of the ability to attain a 2.50 grade-point average in a choice of major fields.

All students preparing for certification may be evaluated by the college undergraduate committee, subject to review by the dean. Such evaluation will occur whenever there is reason to believe the student does not measure up to criteria for professional development established by the faculty of the college. This committee can recommend to the dean of the college any one of the following actions:

- That the student's admission to or retention in the program for certification be confirmed with no other action suggested.
- That the student's admission to or retention in the program for certification be confirmed but that the student be 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, junior and senior high schools; the special fields of art, business, home economics, music, physical education, slow learners, and speech and hearing therapy; and post-secondary technical education. A minimum of 128 credits with a grade-point average of 2.00 must be completed to qualify for the bachelor's degree.

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

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

Clinical and Field-Based Experiences

Each teacher education student is required to 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 9 of this Bulletin.

*The secondary education student also must have eight credits in teaching field with a 2.50 average.
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 in the appropriate department. Such students must be closely advised during the last two years.

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

PROGRAMS OF INSTRUCTION

5200: Elementary Education

Elementary

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

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

<table>
<thead>
<tr>
<th>Course</th>
<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>5</td>
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</tbody>
</table>

**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.

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

3760:100 Introduction to Psychology | 3 |
7100:191 Design | 2 |

One of the following three courses:
- 3400:201 United States History to Civil War | 4 |
- 4500:202 United States History since Civil War | 4 |
- 2700:100 Government and Politics in the United States | 4 |

- Professional education:

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>5100:150 Introduction to Professional Education</td>
<td>3</td>
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<tr>
<td>5100:250 Human Development and Learning</td>
<td>3</td>
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<tr>
<td>5100:310 Educational Media and Technology</td>
<td>3</td>
</tr>
<tr>
<td>5100:350 Educational Measurement and Evaluation</td>
<td>2</td>
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<tr>
<td>5100:456 Problems in Education</td>
<td>2</td>
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</tbody>
</table>

Elementary education:
- 5200:141 Handicrafts | 2 |
- 5200:286 Children’s Literature | 3 |
- 5200:321 Art for the Grades | 2 |
- 5200:333 Science Elementary Gradest | 2 |
- 5200:335 Teaching of Language Arts | 5 |
- 5200:336 Teaching Elementary School Mathematics | 3 |
- 5200:337 Teaching of Reading | 3 |
- 5200:338 Teaching of Social Studies | 3 |
- 5200:339 Principles of Diagnostic Teaching of Reading | 3 |
- 5200:360 Multicultural Education: Concepts, Programs and Practices | 3 |
- 5200:365 Comprehensive Musicianship for the Elementary Classroom Teacher | 3 |
- 5550:334 Games and Rhythms — Elementary Grades | 2 |
- 5570:191 Personal Health | 2 |

Laboratory experience:
- 5200:200 Student Participation | 1 |
- 5200:300 Student Participation | 1 |
- 5200:343 Science for Elementary Grades—Laboratory | 1 |
- 5200:346 Teaching Elementary School Mathematics—Laboratory | 1 |
- 5200:347 Teaching of Reading—Laboratory | 1 |
- 5200:348 Teaching of Social Studies—Laboratory | 1 |
- 5200:349 Principles of Diagnostic Teaching of Reading—Laboratory | 1 |
- 5201:455 Student Teaching | 6 |
- 5202:496 Student Teaching | 6 |

Area of specialization — 8-15 credits.
Selected by the student with approval of the advisor. The student is urged to select an area of specialization which will contribute to successful teaching. The number of credits required (8-15) is above and beyond the number of credits required in any other part of the program.

Kindergarten—Primary

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

- Required:
  - 5200:330 Early Elementary Education | 3 |
  - 5200:331 Early Elementary Education II | 3 |
  - 5200:340 Early Elementary Education—Laboratory† | 1 |
  - 5200:341 Early Elementary Education II—Laboratory† | 1 |
  - 1460:265 Child Development | 3 |

Electives — 5 credits.

Nursery Schools

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

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

Electives — 4 credits.

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

† Most methods courses are accompanied by a laboratory. The student must enroll for methods course and laboratory concurrently.
Certification for Teaching Foreign Language in the Elementary School

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

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

Certification of Non-Professional Degree Holders for Elementary Education

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.

• 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:

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<td>5100:330 Educational Measurement and Evaluation</td>
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<tr>
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<td>5200:246 Children's Literature</td>
<td>3</td>
</tr>
<tr>
<td>5200:300 Student Participation</td>
<td>1</td>
</tr>
<tr>
<td>5200:321 Art for the Grades</td>
<td>2</td>
</tr>
<tr>
<td>5200:333 Science for Elementary Grades</td>
<td>3</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>5200:343 Science for Elementary Grades—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:345 Teaching Elementary School Mathematics—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:347 Teaching of Reading—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:348 Teaching of Social Studies—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:349 Principles of Diagnostic Teaching of Reading—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:350 Multicultural Education—Concepts, Programs and Practices</td>
<td>3</td>
</tr>
<tr>
<td>5200:359 Cooperative Musicianship for the Elementary Classroom Teacher</td>
<td>3</td>
</tr>
<tr>
<td>5200:495 Student Teaching</td>
<td>6</td>
</tr>
<tr>
<td>5200:496 Student Teaching</td>
<td>6</td>
</tr>
<tr>
<td>5500:334 Games and Rhythms—Elementary Grades</td>
<td>2</td>
</tr>
<tr>
<td>5500:342 Personal Health</td>
<td>2</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200:330 Early Elementary Education I</td>
<td>3</td>
</tr>
<tr>
<td>5200:331 Early Elementary Education II</td>
<td>3</td>
</tr>
<tr>
<td>5200:340 Early Elementary Education I—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:341 Early Elementary Education II—Laboratory**</td>
<td>1</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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:250 Human Development and Learning</td>
<td>3</td>
</tr>
<tr>
<td>5200:336 Teaching Elementary School Mathematics</td>
<td>2</td>
</tr>
<tr>
<td>5200:337 Teaching of Reading</td>
<td>3</td>
</tr>
<tr>
<td>5200:346 Teaching Elementary School Mathematics—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:347 Teaching of Reading—Laboratory**</td>
<td>1</td>
</tr>
</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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200:342 Handicrafts</td>
<td>2</td>
</tr>
<tr>
<td>5200:386 Children's Literature</td>
<td>3</td>
</tr>
<tr>
<td>5200:300 Student Participation</td>
<td>1</td>
</tr>
<tr>
<td>5200:321 Art for the Grades</td>
<td>2</td>
</tr>
<tr>
<td>5200:333 Science for Elementary Grades</td>
<td>3</td>
</tr>
<tr>
<td>5200:335 Teaching of Language Arts</td>
<td>5</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>5200:343 Science for Elementary Grades—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:348 Teaching of Social Studies—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:349 Principles of Diagnostic Teaching of Reading—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:350 Multicultural Education—Concepts, Programs and Practices</td>
<td>3</td>
</tr>
<tr>
<td>5200:359 Cooperative Musicianship for the Elementary Classroom Teacher</td>
<td>3</td>
</tr>
<tr>
<td>5500:334 Games and Rhythms—Elementary Grades</td>
<td>2</td>
</tr>
<tr>
<td>5570:101 Personal Health</td>
<td>2</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:103 Introduction to Geography</td>
<td>3</td>
</tr>
<tr>
<td>3400:201 United States History to Civil War</td>
<td>4</td>
</tr>
<tr>
<td>3400:202 United States History to Civil War</td>
<td>4</td>
</tr>
<tr>
<td>3700:100 Government and Politics in the United States</td>
<td>4</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200:330 Early Elementary Education I</td>
<td>3</td>
</tr>
<tr>
<td>5200:331 Early Elementary Education II</td>
<td>3</td>
</tr>
<tr>
<td>5200:340 Early Elementary Education I—Laboratory**</td>
<td>1</td>
</tr>
<tr>
<td>5200:341 Early Elementary Education II—Laboratory**</td>
<td>1</td>
</tr>
</tbody>
</table>

• Student teaching is required in this program if evidence of teaching experience under the original certificate is lacking or if 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 Certificate may have that certificate validated for teaching music in the elementary school by completing the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7500:497 Independent Study (Music Student Teaching)</td>
<td>2</td>
</tr>
<tr>
<td>7500:107 Class Voice or</td>
<td></td>
</tr>
<tr>
<td>7502:124 Applied Voice</td>
<td>2</td>
</tr>
<tr>
<td>7500:151.2 Music Theory I and II</td>
<td>6</td>
</tr>
<tr>
<td>7500:154.5 Music Literature I and II</td>
<td>4</td>
</tr>
<tr>
<td>7500:261 Keyboard Harmony I</td>
<td>2</td>
</tr>
<tr>
<td>7500:340 General Music</td>
<td>3</td>
</tr>
<tr>
<td>7500:341 Wind-Percussion Instrument Techniques</td>
<td>3</td>
</tr>
<tr>
<td>7500:356 Music Teaching Handicapped</td>
<td></td>
</tr>
<tr>
<td>7500:110 Class Guitar</td>
<td>2</td>
</tr>
<tr>
<td>7500:497 Independent Study</td>
<td></td>
</tr>
<tr>
<td>7510:1 Music Organization</td>
<td>2</td>
</tr>
</tbody>
</table>

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 in completing 5300:310 Principles of Secondary 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 adviser 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)**
  - 510150 Introduction to Professional Education 3
  - 510250 Human Development and Learning 3
  - 510310 Educational Media and Technology 3
  - 510350 Educational Measurement and Evaluation 2
  - 510450 Problems in Education 2
  - 530315 Introduction to Secondary Education 1
  - 530375 Exploratory Experience 1
  - 530381 Principles of Teaching in the Secondary School 3
  - 530385 Content Reading in Secondary School 3
  - 530395 Human Relations in Secondary Education 1
  - 530399 Managing Classroom Behavior at the Secondary Level 1
  - 530411 Instructional Techniques Secondary Education 4
  - 530445 Microcomputer Applications in Secondary Classroom 4
  - 530446 Career Options in Secondary Education 1
  - 530450 Student Teaching Seminar 1
  - 530495 Student Teaching 8

- Professional courses effective Spring 1985 (courses must be taken in sequence):
  - 510150 Introduction to Professional Education 3
  - 510250 Human Development and Learning 3
  - 510310 Educational Media and Technology 3
  - 510350 Educational Measurement and Evaluation 2
  - 510450 Problems in Education 2
  - 530215 Principles of Teaching in the Secondary School 3
  - 530275 Exploratory Experience 1
  - 530311 Instructional Techniques Secondary Education 4
  - 530325 Content Reading in Secondary School 3
  - 530375 Exploratory Experience 1
  - 530445 Microcomputer Applications in Secondary Classroom 4
  - 530446 Career Options in Secondary Education 1
  - 530450 Student Teaching Seminar 1
  - 530495 Student Teaching 8

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

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

<table>
<thead>
<tr>
<th>Comprehensive Subjects by Field</th>
<th>First Field Credits</th>
<th>Second Field Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Education (with shorthand)</td>
<td>37-40</td>
<td></td>
</tr>
<tr>
<td>Business Education (without shorthand)</td>
<td>49-52</td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Consumer Home Making and Multi-area Vocational</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Data Processing</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Family Life Education</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>71-72</td>
<td></td>
</tr>
<tr>
<td>Selling and Merchandising</td>
<td>52-55</td>
<td></td>
</tr>
<tr>
<td>Social Studies</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

Special Fields K-12

Art — as determined by Department of Art 50
Health Education — as determined by Department of Health and Physical Education 50
Music — as determined by Department of Music 50
Physical Education (Men and Women) — as determined by Department of Health and Physical Education 17
Speech and Hearing Therapy — as determined by Department of Communicative Disorders 31-36
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>33</td>
</tr>
<tr>
<td>Chemistry</td>
<td>52</td>
</tr>
<tr>
<td>Consumer Home Making Vocational</td>
<td>52</td>
</tr>
<tr>
<td>Earth Science</td>
<td>65</td>
</tr>
<tr>
<td>Economics</td>
<td>43</td>
</tr>
<tr>
<td>English</td>
<td>37</td>
</tr>
<tr>
<td>General Science</td>
<td>36</td>
</tr>
<tr>
<td>Geography</td>
<td>27</td>
</tr>
<tr>
<td>Health Education (F-12)</td>
<td>23</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>27</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>30</td>
</tr>
<tr>
<td>Mathematics</td>
<td>27</td>
</tr>
<tr>
<td>Physics</td>
<td>21</td>
</tr>
<tr>
<td>Political Science</td>
<td>45</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>Sign language and Typing</td>
<td>26</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 technology, engineering technologies, health technologies, natural science technology and public service technologies. The baccalaureate program is intended to provide 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 occupa-

*Student teaching in both fields is required.
**Required for students admitted to the college through Fall 1984.
†Many fields require more than the minimum. Please see the department for specific program.
learning disabilities. Educational 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.

Athletic Training
To be eligible to take the National Athletic Trainer's Association certification test, the student must complete a course of study at The University of Akron and complete at least 1800 hours of practical field and clinical experience during a two-year period.

5610: Special Education
This program involves in-depth preparation in the areas of mental retardation, learning disabilities and orthopedically handicapped. The program incorporates courses from secondary education, elementary education, counseling and educational foundations. Components include the General Studies, general professional education, special education studies (the major field), student teaching and related competency studies. Completion of this program enables one to be certified in special education at both elementary and secondary levels for each of the areas of preparation.

*Certification through the state of Ohio.
**Certification through department or the University.

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>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5610:201</td>
<td>Student Participation EMR/LD</td>
<td>1</td>
</tr>
<tr>
<td>5610:446</td>
<td>Developmental Characteristics of Behaviorally Disordered Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610:495</td>
<td>Student Teaching</td>
<td>4-8</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5610:203</td>
<td>Student Participation EMR/TMR</td>
<td>1</td>
</tr>
<tr>
<td>5610:454</td>
<td>Educational Adjustment for Moderate, Severe and Profound Mentally Retarded Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610:456</td>
<td>Interdisciplinary Programming for MSPR</td>
<td>3</td>
</tr>
<tr>
<td>5610:495</td>
<td>Working with Parents of MSPR Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610:495</td>
<td>Student Teaching</td>
<td>8</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5610:202</td>
<td>Student Participation EMR/CH</td>
<td>1</td>
</tr>
<tr>
<td>5610:445</td>
<td>Developmental Characteristics of Orthopedically Handicapped Individuals</td>
<td>3</td>
</tr>
<tr>
<td>5610:495</td>
<td>Student Teaching</td>
<td>8</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

In addition, the student must complete the following:

- General Studies — 39 credits.
- Professional education:
  - 5100:150 Introduction to Professional Education | 3       |
  - 5100:250 Human Development and Learning        | 3       |
  - 5100:310 Educational Media and Technology     | 3       |
  - 5100:350 Educational Measurements and Evaluation | 2       |
  - 5100:450 Problems in Education                | 2       |
  - 5300:310 Principles of Secondary Education    | 3       |
  - 5610:401 Student Teaching Seminar             | 1       |
  - 5610:495 Student Teaching EMR                 | 8       |
- Related competency studies:
  - 5200:335 Teaching the Language Arts           | 5       |
  - 5200:336 Teaching of Elementary School Mathematics | 3       |
  - 5200:337 Teaching of Reading                  | 3       |
  - 7700:430 Aspects of Normal Language Development | 3       |
  - Choose one of the following:                  |         |
    - 5550:211 First Aid                          | 2       |
    - 5570:101 Personal Health                    | 2       |
  - Choose two of the following:                  |         |
    - 5200:321 Art for the Grades                 | 2       |
    - 5200:365 Comprehensive Musicanship for the Elementary Classroom Teacher | 3       |
    - 5550:334 Games and Rhythms — Elementary Grades | 2       |
- Special education studies:
  - 5610:440 Developmental Characteristics of Exceptional Individuals | 4       |
  - 5610:441 Developmental Characteristics of Mentally Retarded Individuals | 4       |
  - 5610:443 Developmental Characteristics of Learning Disabled Individuals | 3       |
  - 5610:450 Educational Adjustment for Primary Level Exceptional Individuals | 3       |
  - 5610:451 Educational Adjustment for Intermediate Level Exceptional Individuals | 3       |
  - 5610:452 Educational Adjustment for Secondary Level Exceptional Children | 3       |
  - 5610:466 Classroom Behavior Management for Exceptional Children | 3       |
  - 5610:457 Clinical Teaching Practicum: Children with Learning Problems†† | 3       |

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 study in the field of special education.

†Chosen in consultation with Special Education adviser.
††Final course before student teaching, advanced permission required.
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 entered 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 level in conjunction with certification in elementary education, secondary education, special education or physical education. Students must demonstrate proficiency in English and a language other than English in order to meet the certification requirements of the Ohio State Department of Education.

- Requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:489</td>
<td>Seminar in English: Introduction to Bilingual Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>5630:482</td>
<td>Characteristics of Culturally Different Youth</td>
<td>3</td>
</tr>
<tr>
<td>5630:484</td>
<td>Principles of Bilingual Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>5630:486</td>
<td>Field Experience of Bilingual Classrooms/Settings</td>
<td>3</td>
</tr>
<tr>
<td>5630:486</td>
<td>Teaching Reading and Language Arts to Bilingual Students</td>
<td>4</td>
</tr>
<tr>
<td>5630:486</td>
<td>Teaching Mathematics, Social Studies, and Science to Bilingual Students</td>
<td>3</td>
</tr>
<tr>
<td>5630:487</td>
<td>Techniques for Teaching English as a Second Language in the Bilingual Classroom</td>
<td>4</td>
</tr>
</tbody>
</table>
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 45 credits with a 2.30 overall grade-point average at the time of acceptance.

Enrollment in upper college business courses is limited to a student who has:
- Applied for transfer to the college.
- Successfully completed at least 60 credits.
- Earned at least a 2.30 overall grade-point average required for acceptance and at least a 2.00 grade-point average in business administration and economics courses.

Cooperative Education Program

A student may voluntarily participate in the University-wide Cooperative Education Program.

The requirements are as follows:
- Attain college admission status.
- Complete 3250:201, 202, and 6200:201, 202 with at least a 2.00 grade-point average.
- Apply for participation in the program through the University's director of Cooperative Education.

Three employment experiences are required, with no more than one work period in a summer. The work experience must relate to the business administration area.

Transfer of Courses and Advanced Standing

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 suitability of courses taken elsewhere for the program of study chosen here. A grade of at least "C" must have been earned in pre-business accounting and economics coursework for transfer consideration. Subject matter reserved for junior- and senior-level courses in this college will not be transferable through courses taken in any two-year institution. All work transferred may be subject to examination to validate credits.

Degrees

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

*Exceptions to any or all of these may be granted by the dean.
Requirements for Graduation

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

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>6500:301</td>
<td>Accounting</td>
<td>2</td>
</tr>
</tbody>
</table>

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

One of the following three options:

**Option One**
- 3450:111 Modern University Mathematics 2,3,4 4
- 3450:121 Modern University Mathematics 2 3
- 3450:138 Mathematics of Finance 1

**Option Two**
- 3450:138 Mathematics of Finance 1
- 3450:149 Pre-Calculus Mathematics 3
- 3450:221 Analytic Geometry-Calculus I 4

**Option Three**
- 3450:138 Mathematics of Finance 1
- 3450:147,8 Elementary Functions I, II or 4
- 3450:149 Precalculus Mathematics 4
- 3450:219 Concept of Calculus I 4

The following core program in business administration:

- 6200:365 Accounting Information Processing 3
- 6400:320 Legal Environment of Business** 4 or
- 6400:321,2 Business Law I, II 6
- 6400:371 Business Finance 3
- 6500:301 Management Principles and Concepts 3
- 6500:321,2 Quantitative Business Analysis I and II 6
- 6500:322 Computer Applications for Business** 3
- 6500:400 Business Policy 4
- 6600:300 Marketing Principles 3

Minor Areas of Study

For an explanation of minor areas of study in the College of Business Administration, see Section 5 of this Bulletin.

PROGRAMS OF INSTRUCTION

6200: Accounting

The functions of accounting are essential to the decision-making process in commerce, industry and government. Because of the important role it plays in economic affairs, accounting has attained the professional status of law and medicine.

- These are pre-business administration requirements.
- An accounting major must take 6200:355 and 6400:321,2; other majors must take 6500:323 and 6400:320.

Three major fields of employment for accountants are public, private and governmental accounting. Regardless of the areas of concentration, standards, ethics and the mastery of accounting concepts and procedures are essential. An accounting graduate who chooses public accounting may become a senior, manager, principal or partner in public accounting firms. A student who chooses an accounting career in private industry may hold the position of accountant, cost accountant, senior accountant, budget director, internal auditor, treasurer or controller. Federal, state and local governments provide a wide variety of job opportunities at the professional level for well-educated accountants. There are exceptional opportunities for professional advancement regardless of the type of institution a graduate may choose.

The accounting curriculum is designed to prepare the student for professional service, including sitting for the uniform certified public accounting examination and other professional accounting examinations and to prepare the student to undertake advanced study. To receive the Bachelor of Science in Accounting degree, a student must complete the college requirements and the following departmental requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:301</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:317</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>6200:318</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>6200:355</td>
<td>Accounting Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>6200:421</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>6400:320</td>
<td>Legal Environment of Business**</td>
<td>4</td>
</tr>
<tr>
<td>6400:321</td>
<td>Business Law I</td>
<td>3</td>
</tr>
<tr>
<td>6400:322</td>
<td>Business Law II</td>
<td>3</td>
</tr>
<tr>
<td>6400:404</td>
<td>Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

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

6400: Finance

Courses in the Department of Finance are designed to develop a student's ability to gather, organize, analyze and utilize financial data. This requires that the student become familiar with the institutional setting in which the financial management of non-financial institutions and large non-profit organizations work. 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>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6400:338</td>
<td>Financial Intermediaries</td>
<td>3</td>
</tr>
<tr>
<td>6400:343</td>
<td>Investments</td>
<td>3</td>
</tr>
</tbody>
</table>
To receive the bachelor's degree, the graduate with an emphasis on education for management is the University of Akron was one of the first institutions of higher education for management is the approach to management requires understanding of quantitative factors. First, managers are becoming increasingly aware of the unique characteristics of the firm's operations. Second, the management task is increasingly complex in terms of the number of activities, volume of work, and the broader impact of managerial decisions. Third, the practice of management in any setting requires a measure of specific preparation and qualification.

Events of the past several years have brought about a rapid and sweeping change in the business and industry of our society. The major in industrial management recognizes the unique directional problems of the firm involved in manufacturing producers' goods.

The graduate with an industrial management degree finds many employment opportunities with industrial firms in staff, supervisory, and other management positions. The graduate possesses, in addition, the required basic understanding for effectively managing facilities, equipment, personnel in a variety of activities such as transportation, warehousing, research or institutional management. Also, the graduate has the fundamental preparation to undertake advanced study leading to a master's degree.

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

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

- Required Courses:
  - 6500:341 Intermediate Accounting I
  - 6500:342 Intermediate Accounting II
  - 6500:343 Intermediate Accounting III
  - 6500:344 Intermediate Accounting IV

- Additional Courses:
  - 6500:345 Management Information Systems
  - 6500:346 Management Information Systems Projects
  - 6500:347 Management Information Systems Internship

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

### Production Option
- 6500:349 Production Planning and Control

### Personnel Option
- 6500:342 Personnel Relations
- 6500:443 Advanced Personnel Management

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**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:

- 6200:301 Cost Accounting
- 6200:355 Accounting Information Processing
- 6500:323 Introduction to Computer Applications for Business
- 6200:346 Controlling Problems
- 6500:331 Marketing and Research
- 6500:332 Production and Operational Management
- 6500:341 Personnel Management
- 6500:433 Business Operational Planning
- 6500:434 Production Planning and Control

Recommended electives:

- 6200:311 Intermediate Accounting I
- 6200:312 Intermediate Accounting II

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**6600: Marketing**

The chief marketing executive in the firm is responsible for sustaining customer acceptance of the firm's products and services, and for finding new opportunities for the firm through the development of new and improved products and services; effective advertising and other communications programs; efficient physical distribution of the firm's products and services so that they are accessible to present and prospective users, and pricing of the firm's offerings. The marketing executive is also responsible for organizing the various functions involved in the marketing effort. The executive attempts to allocate the resources of the firm for maximum impact in the markets which the executive feels are most profitable in order to provide the firm with a high and continuing flow of money income.

The marketing curriculum is designed to provide the student with the basic understanding and insight required for the successful performance and management of the marketing activities of either profit-making or nonprofit organizations. It is also organized to provide the student who has an interest in a specific area of marketing study with alternative approaches to marketing knowledge by means of five specific marketing tracks and one general marketing studies option. The marketing tracks are:

- Industrial Marketing
- Marketing Communications
- Retail Marketing
- Physical Distribution
- International Marketing

The general marketing studies option allows the student to tailor-make the curriculum of individual needs, to engage in an exploratory study which will provide the basis for future study, 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

- 6500:360 Industrial Marketing
- 6600:370 Purchasing
- 6600:380 Sales Management
- 6600:460 Marketing Research

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*Completion of both (eight credits) will be counted as one three-hour elective in finance.*
Electives*  
6600:320 Physical Distribution  
6600:390 Management of Marketing Channels  
6600:440 Product Planning  
6600:465 Forecasting and Quantitative Methods in Marketing  

Retail Marketing Track  
Required:  
6600:310 Buyer Behavior  
6600:340 Retail Management  
6600:460 Marketing Research  
Electives*  
6200:301 Cost Accounting  
6600:350 Advertising and Marketing Communications  
6600:380 Sales Management  
6600:390 Management of Marketing Channels  
6600:465 Forecasting and Quantitative Methods in Marketing  

International Marketing Track  
Required:  
6600:330 International Marketing  
6600:429 International Business Enterprise  
6600:460 Marketing Research  
Electives*  
3250:450 Comparative Economic Systems  
3250:461 Principles of International Economics  
6600:310 Buyer Behavior  
6600:465 Forecasting and Quantitative Methods in Marketing  

Not more than one course to be selected from this group:  
6600:320 Physical Distribution  
6600:390 Management of Marketing Channels  
6600:440 Product Planning  

A moderate fluency in a foreign language is strongly recommended.

Marketing Communications Track  
Required:  
6600:310 Buyer Behavior  
6600:350 Advertising and Marketing Communications  
6600:430 Promotional Campaigns  
6600:460 Marketing Research  

Electives*  
6600:340 Retail Management  
6600:360 Sales Management  
6600:440 Product Planning  
6600:465 Forecasting and Quantitative Methods in Marketing  

Physical Distribution Track  
Required:  
6600:320 Physical Distribution  
6600:450 Logistics Systems Analysis  
6600:460 Marketing Research  

Electives*  
6200:301 Cost Accounting  
6600:360 Industrial Marketing  
6600:370 Purchasing  
6600:390 Management of Marketing Channels  
6600:465 Forecasting and Quantitative Methods in Marketing  

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.

*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.
College of Fine and Applied Arts

Gerard L. Knieter, Ed.D., Dean
Kelvie C. Comer, Ed.D., Assistant Dean

OBJECTIVES

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

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

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

COLLEGE REQUIREMENTS

Requirements for Admission

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

Requirements for Baccalaureate Degrees

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

Degrees

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

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

Graduation Requirements

A student must earn a major in a department of the college. A major consists of 24 to 62 credits in addition to the required General Studies and, in the case of the Bachelor of Arts degree, foreign language courses. Part or all of these credits may be taken in specifically required courses depending upon the major. The exact requirements for each major will be found on the following pages in the section headed "Programs of Instruction." At the time of admission to the college, the student is assigned an adviser by the department head.

Minor Areas of Study

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

PROGRAMS OF INSTRUCTION

7100: Art

Bachelor of Arts
- General Studies and completion of a second year of a foreign language — 53 credits
- Completion of studio art or history of art option.
- Electives — 23-25 credits.

Studio Art Option
- Studio art coursework including one course in each of six different areas of emphasis, i.e., printmaking, sculpture — 41 credits.
- Survey of History of Art I and II (7100:100,1) plus one additional advanced-level art history course — 11 credits.

History of Art Option
- History of art including one history of art seminar, one special problems in history of art course and one special topic in history of art course. 7100:100,1 Survey of History of Art (eight credits) included — 38 credits.
Bachelor of Fine Arts

- General Studies — 39 credits.
- Foundations Curriculum in Art
  - Survey of History of Art I (7100:100)
  - Survey of History of Art II (7100:101)
  - Three-Dimensional Design (7100:121)
  - Introduction to Drawing (7100:131)
  - Two-Dimensional Design (7100:144)
  - Commercial Design Theory (7100:286)
  - Instrument Drawing (7100:232)
  - Life Drawing (7100:233)
- Electives — 13 credits.
- Two advanced level art history courses (one in graphic design, three credits).
- Senior exhibition: Student must secure a faculty advisor in the major during the first week of the semester the student plans a senior show. The exhibition must be approved by the advisor prior to presentation.
- Portfolio review as specified for student’s area of emphasis.
- Studio art courses must include one area of major emphasis as described below, plus studio electives to total no less than 62 credits.

Ceramics
- Introduction to Ceramics (7100:245)
- Drawing II (7100:254)
- Advanced Ceramics (to be repeated) (7100:454)

Crafts
- Major courses:
- Design Applications (7100:223)
- Drawing (7100:131)
- Drawing II (7100:231)
- Architectural Presentation (7100:288)
- Drawing Techniques (7100:301)
- Advanced Life Drawing (to be repeated)* (7100:333)
- Drawing IV (to be repeated)* (7100:431)
- Printmaking (7100:000)

Graphic Design
- Advertising Photography (2240:222)
- Introduction to Drawing (7100:131)
- Drawing II (7100:231)
- Instrument Drawing (7100:302)
- Introduction to Photography (7100:275)
- Drawing Techniques (7100:283)
- Introduction to Graphic Design (7100:284)
- Letter Form and Typography (7100:288)
- Advertising Layout Design (7100:387)
- Corporate Identity and Graphic Systems (7100:389)
- Advanced Graphic Design (may be repeated to 12 credits) (7100:480)
- Illustration (7100:483)
- Advanced Illustration (may be repeated to nine credits) (7100:485)
- Packaging Design (7100:488)
- Publication Design (7100:489)

Metalsmithing
- Technology of Machine Tools (2030:247)
- Introduction to Sculpture (7100:222)
- Introduction to Jewellery (7100:268)
- Enameling on Metal (7100:256)
- Drawing Techniques (7100:253)
- Metalsmithing II (7100:386)
- Advanced Metalsmithing (to be repeated) (7100:456)

Painting
- Introduction to Drawing (7100:131)
- Two-Dimensional Design (7100:144)
- Drawing II (7100:231)
- Introduction to Polymer Acrylic Painting (7100:245)
- Introduction to Watercolor Painting (7100:246)
- Introduction to Oil Painting (7100:247)
- Painting II (to be repeated in different media) (7100:248)
- Advanced Painting (to be repeated) (7100:449)

Photography
- Light-Camera and Perception (3650:131)
- Preparing (7100:000)
- Introduction to Photography (7100:275)
- Art since 1960 (7100:301)
- Photography II (7100:375)
- Printmaking (7100:375)
- Advanced Printmaking (may be repeated) (7100:416)

Sculpture
- Three-Dimensional Design (7100:121)
- Design Applications (7100:221)
- Introduction to Sculpture (7100:222)
- Drawing II (7100:231)
- Introduction to Ceramics (7100:231)
- Introduction to Metalsmithing (7100:266)
- Intermediate Sculpture II (7100:321)
- Advanced Sculpture (to be repeated) (7100:422)

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 (7100:495) or research project (7100:405,9,90). The maximum number of credits possible would be sixteen.

The student must complete a written or studio project with a grade of "B" or 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 Teacher Education
Bachelor of Science — College of Education/Certification in Visual Arts for the Elementary School

*Required to be repeated twice for drawing majors only.
7400: Home Economics and Family Ecology*

The mission of the Department of Home Economics and Family Ecology is to prepare professionals to take leadership positions as generalists and specialists in the areas of home economics. These include dietetics, family and child development, foods and nutrition and textiles and clothing. Graduates are employed in public and private sectors in retailing, health and human services, dietetics, nutrition education and counseling, commercial and interior design, child care in hospital and community settings and food product development.

- General Studies — 39 credits.**
- Home Economics and Family Ecology Core:
  - All students enrolled in baccalaureate programs in the Department of Home Economics and Family Ecology are required to complete the following core of requirements:
    - 7400:137 Home Economics Survey 1
    - 7400:477 Critical Issues in Home Economics 1
  - One course to be chosen from each of the following divisions outside the area of specialization.
    - Clothing, Textiles and Interiors
      - Textiles 7400:121 3
      - Family Housing 7400:158 3
      - Clothing Communication 7400:419 3
    - Family and Child Development
      - Relational Patterns in Marriage and Family 7400:201 3
      - Child Development 7400:265 3
    - Foods and Nutrition
      - Nutrition Fundamentalist 7400:133 3
      - Food for the Family 7400:141 3
      - Management 7400:362 3
    - Behavior and Family Issues
      - Orientation to the Family 7400:147 1
      - Critical Issues in Home Economics 7400:447 1

Bachelor of Arts in Family and Child Development

This degree offers the following emphases: Family development, child development and child life specialist. In addition to departmental requirements listed under 7400: Home Economics and Family Ecology a student must complete one of the following options:

**Family Development**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3750:110</td>
<td>Beginning Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3750:130</td>
<td>Developmental Psychology</td>
<td>4</td>
</tr>
<tr>
<td>7400:255</td>
<td>Parent-Child Relations</td>
<td>3</td>
</tr>
<tr>
<td>7400:360</td>
<td>Family Ecology</td>
<td>3</td>
</tr>
<tr>
<td>7400:360</td>
<td>Parent-Child Relations</td>
<td>3</td>
</tr>
<tr>
<td>7400:390</td>
<td>Family Life Patterns in Modern Society</td>
<td>2</td>
</tr>
<tr>
<td>7400:431</td>
<td>Family Life Patterns in Economically Deprived Home</td>
<td>2</td>
</tr>
<tr>
<td>7400:404</td>
<td>Adolescence in the Family Context</td>
<td>3</td>
</tr>
<tr>
<td>7400:422</td>
<td>Advanced Home Management</td>
<td>3</td>
</tr>
<tr>
<td>7400:440</td>
<td>Family Crisis</td>
<td>3</td>
</tr>
<tr>
<td>7400:442</td>
<td>Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>7400:445</td>
<td>Public Policy and the American Family</td>
<td>3</td>
</tr>
<tr>
<td>7400:496</td>
<td>Parenting Skills</td>
<td>3</td>
</tr>
<tr>
<td>7400:497</td>
<td>Internship in Family Economics</td>
<td>3</td>
</tr>
<tr>
<td>7750:276</td>
<td>Introduction to Social Welfare</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Electives selected in consultation with advisor</td>
<td>13</td>
</tr>
</tbody>
</table>

**Child Development**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200:245</td>
<td>Infant/Toddler Care Programs</td>
<td>3</td>
</tr>
<tr>
<td>2200:250</td>
<td>Observing and Recording Child Behavior</td>
<td>3</td>
</tr>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>3750:130</td>
<td>Developmental Psychology</td>
<td>4</td>
</tr>
<tr>
<td>5200:360</td>
<td>Family Life Patterns</td>
<td>3</td>
</tr>
<tr>
<td>5800:295</td>
<td>Education Technician Field Experience</td>
<td>5</td>
</tr>
<tr>
<td>or</td>
<td>Internship in Home Economics</td>
<td>5</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 adviser in the proper discipline area for options available.

**The University College requirement for general studies for the Bachelor of Science in Dietetics and the Bachelor of Arts in Foods and Nutrition is 42 credits. The additional three credits come from the use of 1:21, 1:25, 1:100. Introduction to Sociology (4 credits) and 1:250.00. Introduction to Economics (3 credits) to meet the Social Studies requirement. The above mentioned courses are required by the American Dietetic Association.

†Required for B.S. in Dietetics and B.A. in Foods and Nutrition.

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Child Life Specialist

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
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<tr>
<td>3750:130</td>
<td>Developmental Psychology</td>
<td>4</td>
</tr>
<tr>
<td>3750:301</td>
<td>Psychological Disorders of Children</td>
<td>3</td>
</tr>
<tr>
<td>3850:242</td>
<td>Sociology of Health and Illness</td>
<td>3</td>
</tr>
<tr>
<td>5000:360</td>
<td>Nursery School Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>5610:440</td>
<td>Developmental Characteristics of Exceptional Individuals</td>
<td>3</td>
</tr>
<tr>
<td>7400:217</td>
<td>Play and Creative Expression</td>
<td>4</td>
</tr>
<tr>
<td>7400:290</td>
<td>Administration of Child Care Centers</td>
<td>3</td>
</tr>
<tr>
<td>7400:295</td>
<td>Direct Experiences in the Hospital</td>
<td>1</td>
</tr>
<tr>
<td>7400:451</td>
<td>The Child in the Hospital</td>
<td>4</td>
</tr>
<tr>
<td>7400:455</td>
<td>Practicum Establishing and Supervising a Child Life Program</td>
<td>3</td>
</tr>
<tr>
<td>7400:460</td>
<td>Organization and Supervision of Child Care Centers</td>
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<tr>
<td>7400:484</td>
<td>Orientation to the Hospital Setting</td>
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<tr>
<td>7400:495</td>
<td>Internship: Guided Experience in a Child Life Program</td>
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</tr>
<tr>
<td>7400:496</td>
<td>Parenting Skills</td>
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Bachelor of Arts in Foods and Nutrition

<table>
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<tr>
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<tr>
<td>2440:120</td>
<td>Introduction to Information Processing</td>
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<tr>
<td>3750:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>6500:301</td>
<td>Management: Principles and Concepts</td>
<td>3</td>
</tr>
<tr>
<td>7400:245</td>
<td>Basic Food Theory and Applications</td>
<td>4</td>
</tr>
<tr>
<td>7400:301</td>
<td>Consumer Education</td>
<td>3</td>
</tr>
<tr>
<td>7400:313</td>
<td>Introduction to Food Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>7400:316</td>
<td>Science of Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>7400:340</td>
<td>Food Service</td>
<td>2</td>
</tr>
<tr>
<td>7400:403</td>
<td>Advanced Food Preparation</td>
<td>3</td>
</tr>
<tr>
<td>7400:416</td>
<td>Nutrition and Diet</td>
<td>3</td>
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<tr>
<td>7400:420</td>
<td>Experimental Foods</td>
<td>3</td>
</tr>
<tr>
<td>7400:450</td>
<td>Demonstration Techniques</td>
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Bachelor of Arts in Textiles and Clothing

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>7400:121</td>
<td>Textiles</td>
<td>3</td>
</tr>
<tr>
<td>7400:123</td>
<td>Clothing Construction</td>
<td>3</td>
</tr>
<tr>
<td>7400:158</td>
<td>Introduction to Interior Design and Furnishings</td>
<td>3</td>
</tr>
<tr>
<td>7400:255</td>
<td>Family Housing</td>
<td>3</td>
</tr>
<tr>
<td>7400:301</td>
<td>Consumer Education</td>
<td>3</td>
</tr>
<tr>
<td>7400:305</td>
<td>Advanced Construction and Tailoring</td>
<td>3</td>
</tr>
<tr>
<td>7400:311</td>
<td>Contemporary Needle Arts</td>
<td>3</td>
</tr>
<tr>
<td>7400:317</td>
<td>Historic Costume</td>
<td>3</td>
</tr>
<tr>
<td>7400:339</td>
<td>The Fashion Industry</td>
<td>3</td>
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<tr>
<td>7400:419</td>
<td>Clothing Communication</td>
<td>3</td>
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<tr>
<td>7400:422</td>
<td>Advanced Home Management and/or Elective in Textiles and Clothing</td>
<td>3</td>
</tr>
<tr>
<td>7400:449</td>
<td>Design and Draping</td>
<td>3</td>
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</table>

Bachelor of Arts in Textiles and Clothing

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>6000:001</td>
<td>Accounting I</td>
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<tr>
<td>2200:211</td>
<td>Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>6600:001</td>
<td>Marketing Principles</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2500:101</td>
<td>Elements of Distribution</td>
<td>3</td>
</tr>
</tbody>
</table>
### Bachelor of Science in Dietetics

Both the Coordinated Undergraduate Program (CUP) and the Traditional Program in general dietetics lead to a Bachelor of Arts degree. The Coordinated Undergraduate Program integrates clinical experiences within the junior and senior years, allowing American Dietetic Association membership and eligibility to take the registration examination after graduation from the four-year program. The Traditional Program requires an approved internship following graduation (or an advanced degree) to become eligible for membership in the American Dietetic Association and to take the registration examination.

### Basic American Dietetic Association Requirements for Coordinated Undergraduate and Traditional Dietetics Programs

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>240:211</td>
<td>Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>250:201</td>
<td>Accounting I</td>
<td></td>
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<tr>
<td>310:130</td>
<td>Principles of Microbiology</td>
<td>4</td>
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<tr>
<td>310:206</td>
<td>Anatomy and Physiology</td>
<td>3</td>
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<tr>
<td>310:207</td>
<td>Anatomy and Physiology</td>
<td>3</td>
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<tr>
<td>315:203</td>
<td>Nutritional Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>375:100</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>540:351</td>
<td>Consumer Homemaking Methods</td>
<td>4</td>
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<tr>
<td>600:301</td>
<td>Management Principles and Concepts</td>
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<tr>
<td>650:492</td>
<td>Introduction to Health Care Management</td>
<td>3</td>
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<td>650:341</td>
<td>Personnel Management</td>
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<tr>
<td>740:245</td>
<td>Basic Food Theory and Application</td>
<td>5</td>
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<tr>
<td>740:318</td>
<td>Introduction to Food Systems Management</td>
<td>3</td>
</tr>
<tr>
<td>740:316</td>
<td>Science of Nutrition</td>
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</tr>
<tr>
<td>740:328</td>
<td>Introduction to Nutrition in Medical Science</td>
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<tr>
<td>740:413</td>
<td>Food Systems Management</td>
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<tr>
<td>740:416</td>
<td>Quantity Food Preparation</td>
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<td>740:420</td>
<td>Experimental Foods</td>
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<tr>
<td>740:428</td>
<td>Nutrition in Medical Science</td>
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### Additional coordinated undergraduate program requirements:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>740:314</td>
<td>Introduction to Food Systems Management - Clinical</td>
<td>1</td>
</tr>
<tr>
<td>740:321</td>
<td>Introduction to Nutrition in Medical Science - Clinical</td>
<td>2</td>
</tr>
<tr>
<td>740:380</td>
<td>Introduction to Community Nutrition</td>
<td>1</td>
</tr>
<tr>
<td>740:414</td>
<td>Food Systems Management - Clinical</td>
<td>3</td>
</tr>
<tr>
<td>740:429</td>
<td>Nutrition in Medical Science - Clinical</td>
<td>3</td>
</tr>
<tr>
<td>740:480</td>
<td>Community Nutrition I</td>
<td>3</td>
</tr>
<tr>
<td>740:481</td>
<td>Community Nutrition I - Clinical</td>
<td>1</td>
</tr>
<tr>
<td>740:482</td>
<td>Community Nutrition II</td>
<td>1</td>
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<tr>
<td>740:483</td>
<td>Community Nutrition II - Clinical</td>
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<tr>
<td>740:486</td>
<td>Staff Relief</td>
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### Additional traditional dietetic requirements:

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>240:212</td>
<td>Basic Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>600:202</td>
<td>Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>740:301</td>
<td>Consumer Education</td>
<td>3</td>
</tr>
</tbody>
</table>

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### Home Economics Education

Home economics education majors receive training and preparation to each in grades 7 through 12. Options are available in vocational consumer homemaking, vocational job training and non-vocational home economics. Vocational job training specialization classes are available in food service, fabric service, child care service, health and community service and multi-area. Home economics education students may elect to graduate from the College of Education or the College of Fine and Applied Arts.

### Senior Honors Program

Senior honors project in home economics and family ecology is one to three credits per semester and may be repeated for a total of six credits. Prerequisite: Senior standing in the honors program and approval of honors project by faculty preceptor.

### 7500: Music

Prior to entrance to the University, a written and aural/oral examination in the fundamentals of music and an audition in a performance area are administered to the student who intends to follow a music degree program. Contact the Department of Music, Theatre and Dance to arrange for the examination.

### Bachelor of Arts

#### Core curriculum in music:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:191</td>
<td>Theory I</td>
<td>5</td>
</tr>
<tr>
<td>750:192</td>
<td>Theory II</td>
<td>3</td>
</tr>
<tr>
<td>760:154</td>
<td>Music Literature I</td>
<td>2</td>
</tr>
<tr>
<td>750:155</td>
<td>Music Literature II</td>
<td>2</td>
</tr>
<tr>
<td>750:161</td>
<td>Aural/Oral Music Reading Skills</td>
<td>4</td>
</tr>
<tr>
<td>750:251</td>
<td>Theory III</td>
<td>3</td>
</tr>
<tr>
<td>750:252</td>
<td>Theory IV</td>
<td>5</td>
</tr>
<tr>
<td>750:211</td>
<td>Keyboard Harmony I</td>
<td>2</td>
</tr>
<tr>
<td>750:212</td>
<td>Keyboard Harmony II</td>
<td>2</td>
</tr>
<tr>
<td>750:251</td>
<td>Music History I</td>
<td>3</td>
</tr>
<tr>
<td>750:252</td>
<td>Music History II</td>
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#### Performance courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>750:157</td>
<td>Student Recital (four semesters)</td>
<td>0</td>
</tr>
<tr>
<td>751:251</td>
<td>Music Organization (four semesters)</td>
<td>4</td>
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<tr>
<td>752:251</td>
<td>Applied Music</td>
<td>8</td>
</tr>
</tbody>
</table>

#### 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>750:151</td>
<td>Music Theory I</td>
<td>3</td>
</tr>
<tr>
<td>750:152</td>
<td>Music Theory II</td>
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<tr>
<td>750:153</td>
<td>Music Theory III</td>
<td>3</td>
</tr>
<tr>
<td>750:154</td>
<td>Music Theory IV</td>
<td>3</td>
</tr>
<tr>
<td>750:155</td>
<td>Music Literature I</td>
<td>2</td>
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<tr>
<td>750:156</td>
<td>Music Literature II</td>
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<tr>
<td>750:261</td>
<td>Aural/Oral Music Reading Skills</td>
<td>4</td>
</tr>
<tr>
<td>750:262</td>
<td>Keyboard Harmony I</td>
<td>2</td>
</tr>
<tr>
<td>750:263</td>
<td>Keyboard Harmony II</td>
<td>2</td>
</tr>
<tr>
<td>750:264</td>
<td>Beginning Piano Pedagogy</td>
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<tr>
<td>750:351</td>
<td>Music History I</td>
<td>3</td>
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<td>750:352</td>
<td>Music History II</td>
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#### Core curriculum in music:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>750:191</td>
<td>Theory I</td>
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<td>750:192</td>
<td>Theory II</td>
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<tr>
<td>760:154</td>
<td>Music Literature I</td>
<td>2</td>
</tr>
<tr>
<td>750:155</td>
<td>Music Literature II</td>
<td>2</td>
</tr>
<tr>
<td>750:161</td>
<td>Aural/Oral Music Reading Skills</td>
<td>4</td>
</tr>
<tr>
<td>750:251</td>
<td>Theory III</td>
<td>3</td>
</tr>
<tr>
<td>750:252</td>
<td>Theory IV</td>
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<td>750:211</td>
<td>Keyboard Harmony I</td>
<td>2</td>
</tr>
<tr>
<td>750:212</td>
<td>Keyboard Harmony II</td>
<td>2</td>
</tr>
<tr>
<td>750:251</td>
<td>Music History I</td>
<td>3</td>
</tr>
<tr>
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#### Other Music Courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>750:251</td>
<td>Conducting</td>
<td>2</td>
</tr>
<tr>
<td>750:351</td>
<td>Song Literature</td>
<td>2</td>
</tr>
<tr>
<td>750:371</td>
<td>Analytical Techniques</td>
<td>2</td>
</tr>
<tr>
<td>750:451</td>
<td>Introduction to Musicology</td>
<td>2</td>
</tr>
<tr>
<td>750:452</td>
<td>Composition</td>
<td>2</td>
</tr>
<tr>
<td>750:497</td>
<td>Independent Study (Chamber Music)</td>
<td>2</td>
</tr>
</tbody>
</table>
Applied Music and Performance

7520 — Applied Music - primary instrument (passage to 300 level)

• Senior recital (to include works as soloist, accompanist and in chamber ensembles).

Performance

• General Studies — 39 credits.
• Core curriculum in music (see B.A.) — 30 credits.

• Performance courses:
  7500-157 Student Recital (eight semesters) 0
  7510 — Music Organization 8
  7520 — Applied Music — primary instrument (passage to 300 level) 16

• Additional music courses:
  7500-325 Research in Music 2
  7500-361 Conducting 2
  7500-371 Analytical Technique 2
  7500-451 Introduction to Musicology 2
  7500-452 Composition 2
  7500-454 Orchestration 2
  7500-455 Advanced Conducting: Instrumental 2

• Electives:
  7500-497 Independent Study 8

Performance courses:

• General Studies — 39 credits.
• Core curriculum in music (see B.A.) — 30 credits.

• Additional performance courses:
  7500-157 Student Recital (eight semesters) 0
  7510 — Music Organization (eight semesters) 8
  7520 — Applied Music — primary instrument* 32

• Additional music courses:
  7500-325 Research in Music 2
  7500-361 Conducting 2
  7500-371 Analytical Technique 2
  7500-451 Introduction to Musicology 2
  7500-452 Composition 2
  7500-454 Orchestration 2
  7500-455 Advanced Conducting: Instrumental** or
  7500-456 Advanced Conducting: Choral 2

• Electives — 6 credits.
• Senior recital (full recital required)**

Theory-Composition

• General Studies — 39 credits.
• Core curriculum in music (see B.A.)

• Additional performance courses:
  7500-157 Student Recital (eight semesters) 0
  7510 — Music Organization (eight semesters) 8
  7520 — Applied Music — primary instrument† 16

• Additional music courses:
  7500-325 Research in Music 2
  7500-361 Conducting 2
  7500-371 Analytical Technique 2
  7500-372 Techniques for Analysis: Twentieth Century Music 2
  7500-451 Introduction to Musicology 2
  7500-452 Composition 2
  7500-454 Orchestration 2

7500-455 Advanced Conducting: Instrumental 2

7500-456 Advanced Conducting: Choral 2

7500-471 Counterpoint 2

7500-472 Advanced Orchestration 2

• Senior recital of original composition.

• Electives — 7 credits.

Jazz Studies:

• General Studies — 39 credits.
• Core curriculum in music (see B.A.).

• Additional music courses:
  7500-361 Conducting 2
  7500-371 Analytical Techniques 2
  7500-454 Orchestration 2

• Additional jazz courses:
  7500-210 Jazz Improvisation I, II 2
  7500-212 The Jazz Industry: A Survey of Practices and Opportunities 2
  7500-307 Techniques of Stage Band Performance and Direction 2
  7500-308 Jazz History and Literature 2
  7500-309 Jazz Keyboard Techniques 2
  7500-310 Jazz Improvisation III 2
  7500-311 Jazz Improvisation IV 2
  7500-407 Jazz Arranging and Scoring 2
  7500-497 Independent Study (Practicum in Jazz Studies) 2

• Performance courses:
  7500-157 Student Recital (eight semesters) 0
  7510 — Music Organization 4
  7520 — Applied Music — primary instrument (passage to 300 level) 16
  7520 — Saxophone major must pass fluid and clarinet proficiency (promotion to 300 level) 3e

• Electives — 8 credits.
• Senior recital.

Music Education

• General Studies — 39 credits.
• Core curriculum in music (see B.A.)

• Performance courses:
  7500-157 Student Recital (eight semesters) 0
  7510 — Music Organization (eight semesters) 8
  7520 — Applied Music — primary instrument† 16

• Additional music courses:
  7500-254 String Instruments I 2
  7500-340 General Music 3
  7500-342 Wind/Percussion Techniques 3
  7500-361 Conducting 2

• Additional music courses by major:
  Vocal and Keyboard
  7500-345 General Music (second semester) 3
  7500-362 Choral Arranging 2
  7500-456 Advanced Conducting: Choral 7
  Approved electives 4

  Instrumental (non-keyboard)
  7500-342 Wind/Percussion Techniques (second semester) 3
  7500-454 Orchestration 2
  7500-455 Advanced Conducting: Instrumental 2
  Approved electives 4

  String major
  7500-255 String Instruments II 2
  7500-456 Orchestration 2
  7500-455 Advanced Conducting: Instrumental 2
  Approved electives 5

• Professional education and psychology including student teaching — 25 credits.

• One-half recital during 12 months prior to graduation but not during the semester of student teaching.

• Minimum vocal, keyboard and conducting proficiency must be attained before assignment to student teaching.

For details of the above music requirements and minimum standards of achievement, please see the Music Handbook available from the Department of Music, Theatre and Dance, Guzzetta Hall.

†Acceptance into the jazz program by permission of coordinator of Jazz Studies.

‡Passage to the 300 level in the primary applied area is required before graduation.
7600: Communication

Bachelor of Arts

- General Studies and second year of a foreign language — 53 credits.
- Core — 18 credits.
- Electives — 27 credits.
- Concentration in business and organization communication, communication and rhetoric or mass media-communication — 15-18 credits.
- Elective mass media-communication courses — 12-15 credits.

Bachelor of Arts in Business and Organizational Communication

Bachelor of Arts in Communication and Rhetoric

Bachelor of Arts in Mass Media—Communication

- General Studies and the second year of a foreign language — 53 credits.
- Core — 18 credits.
- Area of specialization (see below) — 15-18 credits.
- Elective mass media-communication courses — 12-15 credits.
- Electives — 27 credits.

Business and Organizational Communication

7600:235 Interpersonal Communication 3
7600:308 Public Relations Production 3
7600:350 Organizational Communication 3
7600:344 Public Decision Making 3
7600:345 Business and Professional Speaking 3
7600:453 Communication in Public Relations 3

Communication and Rhetoric

7600:275 Module: Listening 1
7600:226 Module: Interviewing 1
7600:227 Module: Nonverbal Communication 1
7600:235 Interpersonal Communication 3
7600:352 Persuasion 3
7600:315 Organizational Communication 3
7600:454 Group Processes 3
7600:471 Theories of Rhetoric 3
7600:344 Public Decision Making 3
7600:357 Speech in America 3
7600:470 Analysis of Public Discourse 3

Mass Media—Communication

Management

7600:282 Radio Production 3
7600:283 TV Production 3
7600:295 Radio Station Operations 3
1600:396 TV Station Programming and Operations 3
7600:484 Regulation in Mass Media 3
7600:486 Broadcast Sales and Management 3
Optional: Other mass media-communication courses 12

News

7600:201 News Writing 3
7600:206 Feature Writing 3
7600:204 Editing 3
7600:282 Radio Production 3
7600:283 TV Production 3

7600:301 Advanced News Writing 3
7600:484 Regulations in Mass Media 3
Addional journalism courses 6
Other: mass media-communication courses 6

Production

7600:282 Radio Production 3
7600:283 TV Production 3
7600:295 Film Production 3
7600:387 Radio and TV Writing 3
7600:364 History and Structure of Broadcasting 3
Additional production courses 9
Non-production mass media-communication courses 6

7700: Communication 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:

7700:110 Introduction to Speech Disorders 3
7700:111 Introduction to Phonetics 2
7700:130 Basics and Structure of Languages 3
7700:140 Introduction to Audiology 3
7700:150 Applied Phonetics 3
7700:212 Introduction to Speech Science 3
7700:230 Speech and Language Development 3
7700:240 Aural Rehabilitation 4
7700:241 Principles of Audiology 3
7700:250 Observation and Clinical Methods 2
7700:271 Language of Sign I 3
7700:272 Speech Pathology I 4
7700:273 Speech Pathology II 4
7700:274 Language Disorders 4
7700:340 Auditory Evaluation 2
7700:350 Clinical Practicum: Affiliation 1
7700:351 Clinical Practicum: Language 1
7700:352 Clinical Practicum: Aural Rehabilitation 1
7700:455 Introduction to Speech and Hearing Diagnostics 3
7700:456 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 Ohio State Department of Education in order to work in the public schools. Therefore, it is recommended that undergraduate students complete the requirements for educational certification, except for those 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. Students enrolling in Clinical Practicum must have a grade point average of at least 2.50 in major field coursework plus grades of "C" or better in specific prerequisite classes for each practicum.

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 alcohol drug abuse, community action, and development, and human relations.

Programs can be designed for the student wishing to prepare specifically for practice in the above mentioned areas. Students will also be prepared for entry into graduate schools of social work for completion of the Master of Social Work Degree.
**Bachelor of Arts**

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

**Social Work courses:**

<table>
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<tr>
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<td>Poverty in the United States</td>
<td>3</td>
</tr>
<tr>
<td>7750:278</td>
<td>Introduction to Social Welfare</td>
<td>4</td>
</tr>
<tr>
<td>7750:011.2</td>
<td>Social Work Practice I, II, III</td>
<td>9</td>
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<td>7750:496</td>
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<td>6</td>
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**Bachelor of Arts (2+2) with C&T**

**Community Services Technology (Social Service Emphasis)**

<table>
<thead>
<tr>
<th>General studies:</th>
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<tbody>
<tr>
<td>1100:221</td>
<td>Western Cultural Traditions</td>
<td>8</td>
</tr>
<tr>
<td>1100:222</td>
<td>Natural Science Biology</td>
<td>3</td>
</tr>
<tr>
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<td>Eastern Civilizations</td>
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</tr>
<tr>
<td>1100:34-</td>
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**Foreign Language**

Complete second year — 14 credits.

- **Social work:**

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**Bachelor of Arts (2+2) with C&T (Criminal Justice Technology)**

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<tr>
<td>1100:112</td>
<td>English Composition</td>
<td>4</td>
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<tr>
<td>1100:320</td>
<td>Western Cultural Traditions</td>
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**Bachelor of Arts (2+2) with Wayne College**

**Social Services Technology (Social Service Emphasis)**

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**Bachelor of Arts/Social Work**

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<tbody>
<tr>
<td>7750:421</td>
<td>Field Experience Seminar (two semesters)</td>
<td>2</td>
</tr>
<tr>
<td>7750:425</td>
<td>Field Experience in a Social Agency (two required)</td>
<td>8</td>
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<td>Social Work Electives</td>
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**Bachelor of Arts/Social Work (2+2) with C&T (Community Services Technology (Social Service Emphasis))**

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**Other electives — 32 credits.**
Bachelor of Arts/Social Work (2+2) with C&T (Criminal Justice Technology)

- General Studies:
  1100:112 English Composition 4
  1100:221 Natural Science Biology 3
  1100:320,1 Western Cultural Traditions 8
  1100:333 Eastern Civilizations 4

- Social Work:
  3750:420 Abnormal Psychology* 3
  7750:401,2 Social Work Practice I, II, III 9
  7750:410 Minority Issues in Social Work Practice 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
  7750:440 Social Work Research 3
  7750:495 Field Experience in Social Agency 8
  Social Science Electives 6
  Social Work Electives 6

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

- General Studies:
  1100:320,1 Western Cultural Traditions 8
  1100:333 Eastern Civilizations 4
  1100:401 Mathematics 4

- Social Work:
  3750:420 Abnormal Psychology** 3
  7750:401,2 Social Work Practice I, II, III 9
  7750:410 Minority Issues in Social Work Practice 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
  7750:440 Social Work Research 3
  7750:495 Field Experience in Social Agency 8
  Social Work Electives 6
  Social Science Electives 6

7800: Theatre

Bachelor of Arts

- General Studies program and second year of a foreign language — 53 credits.
- Core curriculum:
  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 — 36 credits.

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

Bachelor of Arts in Theatre+

Theatre Arts

The concentration is designed to prepare the student for competency in all areas of theatre — acting/directing, theatre history/criticism and design/technical theatre — in order that the student can acquire the skills to teach theatre, to undertake graduate work in theatre or to undertake professional work in commercial or regional theatre. Consult an advisor.

Acting

- General Studies — 39 credits.

- Acting:
  7800:172 Acting I 3
  7800:373 Acting II 3
  7800:374 Acting III 3
  7800:474 Acting IV 3

- Voice:
  7800:151 Voice for the Stage 3
  7800:350,1 Advanced Voice for the Stage I, II 6
  7520: Applied Voice (Music) 8

- Dance:
  7800:323 Jazz Technique I 2
  7800:326 Period Movement/Dance 2
  7800:119,25 Introduction to Contemporary Dance I, II 4
  7800:124,5 Introduction to Ballet I 4

- Theatre:
  7800:100 Introduction to Theatre 3
  7800:262 Stage Makeup 3
  7800:265 Basic Stagecraft I 3
  7800:271 Directing I 3
  7800:367 History of Theatre I: Greek to Renaissance 4
  7800:368 History of Theatre II: Restoration to Present 4
  7800:445,6 Movement for Actors I, II 6
  7810 — Production/Performance Laboratory 8

- Electives (with approval of adviser) — 14 credits.

Design/Technology

- General Studies — 39 credits.

- Basic preparation:
  7800:102 Introduction to Technical Theatre 5
  7800:262 Stage Makeup 3
  7800:265,6 Basic Stagecraft I, II 6
  7800:362 Advanced Stagecraft 3

- Studio courses:
  7800:106 Introduction to Stage Design 3
  7800:263 Scene Painting 3
  7800:334 Stage Costume Construction 3
  7800:335 Introduction to Stage Costumes History/Design 3
  7800:336 History/Construction of Period Furnishing for the Stage 3
  7800:464 Stage Lighting 1

- Design/Technology:
  7800:365 Stage Design 3
  7800:435 Stage Costume Design 3
  7800:436 Styles of Scenic Design 3
  7800:437 Styles of Stage Costume Design 3
  7800:465 Stage Lighting Design 3
  7800:469 Probes in Lighting Design 3

- Production practice courses:
  7800:470 Practicum in Production Design/Technology 1-3

- Theatre:
  7800:100 Introduction to Theatre 3
  7800:371 Directing I 3
  7800:172 Acting I 3
  7800:373 History of Theatre I: Greek to Renaissance 4
  7800:374 History of Theatre II: Restoration to Present 4
  7810 — Production/Performance Laboratory 8

- Electives (with approval of adviser) — 15-19.

*The student must complete 9801.100 Introduction to Sociology as part of the social sciences requirement and 1100:221 Natural Science Biology or some other human biology courses as part of the natural sciences requirement and 3470:251 Descriptive Statistics and Probability and 3470:252 Distributions as the mathematics requirement.

**3750:100 Introduction to Psychology and three additional credits in psychology are prerequisites.


††Consult Theatre Program undergraduate coordinator and handbook.

‡‡Consult academic advisor.

††The student in B.A. in Theatre and B.A. in Dance program substitutes a related sequence of 14 additional credits either from departmental offerings or offerings of other departments, approved by adviser for the second-year of a foreign language.

See Department of Music, Theatre and Dance regarding audition for placement.
Musical Theatre

• General Studies — 39 credits.

• Theatre:
  760.151 Voice for the Stage
  760.172 Acting I
  760.261 Introduction to Theatre
  760.262 Stage Makeup
  760.265 Basic Stagecraft
  760.367 History of Theatre I: Greek to Renaissance
  760.369 History of Theatre II: Restoration to Present
  7800: Acting II, III
  7802: Musical Theatre Production
  7803: Acting for the Musical Theatre
  810 — Production/Performance Laboratory

• Dance:
  7900: Introduction to Contemporary Dance I or
  7900: Contemporary Technique I
  7900: Ballet Technique I
  7900: Ballet Technique II
  7900: Fundamentals of Ballet Technique
  7900: Jazz Dance Technique I
  7900: Tap Technique I
  7900: Contemporary Technique II
  7900: Tap Dance Technique II
  7900: Jazz Dance Technique II

• Music:
  7500: Introduction to Musical Theory
  7500: Aural/Oral Music Reading Skills
  7500: Counterpoint
  7520: Applied Voice I, II
  7510 — Choral Organizations

• Electives (with approval of adviser) — 3-11 credits.

7900: Dance

Bachelor of Arts in Dance**

The dance major is designed for the student who wishes to pursue professional training in dance for the Bachelor of Arts degree. It is expected that the student will be able to work as a performer or teacher on a professional level upon completion of the degree.

Admission to the program is by audition only.

Every student must pass a sophomore jury in ballet technique at the completion of two years of study to be admitted to upper-division standing in the dance area. All students are required to study ballet technique every semester they are enrolled and to complete two semesters of Ballet Technique IV for graduation.

• General Studies program and second year of a foreign language — 53 credits.

• Required dance courses:
  7900:115 Dance As An Art Form
  7900:116.7 Dance Analysis I, II
  7900:122, 222 Ballet Technique I, II
  7900:229 Contemporary Technique I
  7900:316, 7 Choreography I, II
  7900:320 Dance Notation
  7900:322, 422 Ballet Technique III, IV
  7900:329 Contemporary Dance Technique
  7900:423 History of the Dance
  7900:424 Twentieth Century Dance
  7900:425 Development of Ballet
  7900:426.7 Techniques of Teaching Ballet I, II

• Sophomore Jury taken by all majors at the completion of two years* study.

• Electives (with approval of adviser) — 15 credits.

• All candidates for the B.A. degree will be required to earn at least eight credits of 7910: Dance Organization.

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

**The student in B.A. in Theatre and B.A. in Dance program substitutes a related sequence of 14 additional credits either from departmental offerings or offerings of other departments, approved by adviser for the second year of a foreign language.
College of Nursing

Lillian J. DeYoung, R.N., Ph.D., Dean
Phyllis A. Fitzgerald, R.N., Ph.D., Assistant Dean, Undergraduate Programs
Jeanne Hoffer, R.N., Ed.D., Assistant Dean, Graduate Program
Carol A. Armbricht, R.N., M.S., Director, Continuing Education

PHILOSOPHY

The College of Nursing, an integral part of The University of Akron, accepts the responsibility for promoting the general mission of the University, which is the dissemination and pursuit of knowledge, the nurturing of intellectual curiosity, the search for truth and a conscious effort to serve the (nursing) student in the urban community.

The primary focus of professional nursing is man, a complex, holistic being having physiological, psychosocial, spiritual and cultural dimensions. Man is unique and universal. Man is further defined as a thinking, interacting, adapting, valuing being constantly in the process of becoming and whose goal is self-actualization. Man is an ecological being who affects and is affected by the total environment. The individual is 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 usually 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 utilize 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 the 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.

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 work earned in approved colleges. Enrolment of a transfer student is contingent upon availability of University facilities and an assessment of the sufficiency of prior academic work. Transfer course grades shall be taken into account in placing students in rank order for admission purposes.

*The basic collegiate program is approved by the State of Ohio Board of Nursing Education and Nursing Registration and is accredited by the National League for Nursing.
A registered nurse (RN) who receives preparation in hospital or associate degree programs is evaluated individually. An RN student is expected to meet the same course requirements as the generic student and those of The University of Akron. In addition, anatomy and physiology and microbiology must have been completed within the past 10 years at the time of admission to the College of Nursing. This 10-year limit applies to all students.

A student who wishes to be considered for admission must meet the following requirements:

- Complete all University College requirements and College of Nursing prerequisites by the end of spring semester of the sophomore year.
- Have a 2.5 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 ranking purposes to the College of Nursing.

All applications will be considered at once and will be selected each spring. Generic student applicants will be ranked in order from the highest grade-point average (GPA) to 2.50. Transfer student applicants with a combined GPA of 2.75 or above (University of Akron grades plus transfer grades) will be ranked in order along with generic students. Transfer student applicants with a combined GPA between 2.50 and 2.7499 will be admitted if openings still exist. Having a GPA of 2.50 will not guarantee admission to the college. A student will be notified of provisional admission to the College of Nursing prior to fall scheduling requirements and will be given final approval at the end of spring semester.

Of students selected, one half will begin in the summer with the other half beginning in the fall. The program consists of four academic years and one semester. Students admitted to the college in the summer would complete the program (five semesters) for graduation in May, and those entering fall semester would complete the program (five semesters) for graduation in December. An alternate list of students will be selected to take the place of students who choose not to continue.

Applications for the college are only effective for the current academic year.

Acceptance of the student into the college is the responsibility of the dean in consultation with the dean of the University College and the Admissions Committee of the College of Nursing. Admission to the program in nursing does not guarantee the student's placement in the nursing courses at the time the student may wish to pursue them. The college reserves the right to approve admission to those individuals whose abilities, attitudes and character promise satisfactory achievement to the college objectives.

Reapplying to the College of Nursing

Students seeking re-enrollment must submit their request by mid-term prior to the semester desired by writing to the Student Admissions, Progression and Graduation Committee. The letter must include the student's social security number, the reasons for withdrawal and the date of desired re-entry. The committee will evaluate the situation and communicate the decision to the student by letter.

Probation and Retention

A student must achieve and maintain a grade-point average of 2.50 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 121 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.
- Complete the last 32 credits in the baccalaureate program at The University of Akron.
- Complete all requirements which were in effect at the time of transfer to the College of Nursing.

Program of Studies

Generic Student

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100.111</td>
<td>English Composition</td>
</tr>
<tr>
<td>1100.115</td>
<td>Institutions in the United States</td>
</tr>
<tr>
<td>3150.129</td>
<td>Introduction to General, Organic and Biochemistry I</td>
</tr>
<tr>
<td>3450.111.2</td>
<td>Mathematics Modules</td>
</tr>
<tr>
<td>3470.261.2</td>
<td>Descriptive Statistics</td>
</tr>
<tr>
<td>8200.100</td>
<td>Introduction to Nursing</td>
</tr>
</tbody>
</table>

Semester II

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Physical Education</td>
</tr>
<tr>
<td>1100.112</td>
<td>English Composition</td>
</tr>
<tr>
<td>1100.116</td>
<td>Institutions in the United States</td>
</tr>
<tr>
<td>3150.130</td>
<td>Introduction to General, Organic and Biochemistry II</td>
</tr>
<tr>
<td>3850.100</td>
<td>Introduction to Sociology</td>
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</table>

Sophomore Year

<table>
<thead>
<tr>
<th>Semester I</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100.106</td>
<td>Effective Oral Communication</td>
</tr>
<tr>
<td>3100.130</td>
<td>Principles of Microbiology</td>
</tr>
<tr>
<td>3102.296</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>3660.101</td>
<td>Introduction to Philosophy</td>
</tr>
<tr>
<td>3660.12v</td>
<td>Introduction to Ethics</td>
</tr>
<tr>
<td>3660.170</td>
<td>Introduction to Logic</td>
</tr>
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<td>3150.100</td>
<td>Introduction to Psychology</td>
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<table>
<thead>
<tr>
<th>Semester II</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3100.105</td>
<td>Ecology and Biological Resources</td>
</tr>
<tr>
<td>3100.207</td>
<td>Anatomy and Physiology</td>
</tr>
<tr>
<td>3100.381</td>
<td>Human Genetics</td>
</tr>
<tr>
<td>3750.130</td>
<td>Developmental Psychology</td>
</tr>
<tr>
<td>3850.342</td>
<td>The Family</td>
</tr>
<tr>
<td>7440.201</td>
<td>Relational Patterns in Marriage and Family</td>
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Summer Session

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200.200</td>
<td>Nursing Theories and Concepts</td>
</tr>
</tbody>
</table>

*The 4-credit requirement in the social sciences area usually 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 must be completed prior to application to the college.
Students may use courses numbered 100 and up as electives. Students planning to fulfill their elective requirements prior to admission to the college may contact the college for assistance in selecting appropriate electives.

The student shall satisfy the course criteria for safe nursing practice before being permitted to participate in clinical learning experiences. The student will be informed of these criteria for safe practice by the instructor. It is mandatory that the student provide transportation to meet requirements of the nursing courses.

Registered Nurse

(Fulltime to licensed registered nurses)

Freshman Year

Semester I

110:111 English Composition 4
110:115 Institutions in the United States* 3
315:129 Introduction to General, Organic and Biochemistry I 4
350:112 Matematics Modules 2
347:251.I Descriptive Biostats 2
8200:111 Introduction to Nursing for RN 1

Semester II

110:110 Physical Education 1
(or for student over the age of 24, any other general studies course equalling one credit)
110:112 English Composition 4
110:115 Institutions in the United States* 3
315:130 Introduction to General, Organic and Biochemistry II 4
3850:100 Introduction to Sociology* 4

Sophomore Year

Semester I

110:106 Effective Oral Communication 3
310:30 Principles of Microbiology 3
310:206 Anatomy and Physiology 3
360:101 Introduction to Philosophy 3
360:201 Introduction to Ethics 3
360:170 Introduction to Logic 3
3750:100 Introduction to Psychology 3

Semester II

110:105 Ecology and Biological Resources 2
310:207 Anatomy and Physiology 3
310:301 Human Genetics 2
3750:120 Developmental Psychology 4
3850:340 The Family 3
or 7400:201 Relational Patterns in Marriage and Family 1

Option #1

Summer

110:300 Eastern Civilizations 2
8200:309 Nursing Theories, Concepts and Research 6
Elective 5

Fall

110:320 Western Cultural Traditions 4
110:33- Eastern Civilizations 2
8200:420 Health Maintenance Nursing 2
6200:415 Diminished Health Nursing 5

Spring

110:321 Western Cultural Traditions 4
8200:420 Nursing: Synthesis* 10
Elective 4

Option #2

Summer

110:305 Nursing Theories, Concepts and Research 6
110:33- Eastern Civilizations 2
Electives 5

Fall

110:320 Western Cultural Traditions 4
110:33- Eastern Civilizations 2
8200:415 Diminished Health Nursing 5

Spring

110:321 Western Cultural Traditions 4
8200:415 Diminished Health Nursing 5
Elective 4

Fall

8200:420 Nursing: Synthesis** 10

Students may use courses numbered 100 and up as electives. Students planning to fulfill their elective requirements prior to admission to the College of Nursing may contact the College of Nursing for assistance in selecting appropriate electives.

Agencies

The agencies cooperating in providing the laboratory experiences in the courses in nursing are:

Akron City Health Department
Akron City Hospital
American Diabetes Association
Barberton General Hospital
Blick Clinic
Canton Presbyterian Hospital
Children's Hospital Medical Center
Cuyahoga Falls General Hospital
CYSO Adult Day Care Center
Edwin Shaw Hospital
Fairview Psychiatric Hospital
Hollie Linnard Foundation
Henry Center for Child Care and Learning
Manor Care Nursing Center
Rockybrook Presbyterian Home
St. Edward Nursing Home
St. Thomas Hospital Medical Center
Salvation Army
Show Day Care Center
St. Vincent General Health Center
Tudor House
United Health Services
Weaver School
West Knoll-Ell ECare Home

*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

*The six-credit requirement in the social sciences area usually designated by 110:115:6 should be completed to fulfill the United States social sciences requirement for University College. A nursing student who elects to use 3850:100 Introduction to Sociology as the part of the social science 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
Northeastern Ohio Universities College of Medicine

William A. Rogers, Ed.D., Liaison Officer

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 to year one of the program. These students, who have not attended college, should write to the Office of Admissions, The University of Akron, Akron, OH 44325 for application forms. Complete application indicating interest in the Phase I, BS/MD Program and return prior to December 31.

Other applicants with a conventional college background, including premedical requirements and at least three years of college-level work, will be considered by the college for admission to Phase II (year three of the program). These students should contact the College of Medicine, Rootstown, OH 44272, for application to Phase II, or year three of the six-year program. Applicants to Phase II should have taken the new MCAT test by May.

PROGRAM

The curriculum requires that the student be enrolled for 11 months in each of six academic years. The first two years (Phase I) are spent on one of the university campuses. The 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-75 intersection, across from the Rootstown High School.

*See BS/MD program, Section 2 of this Bulletin for a description of the requirements for the Bachelor of Science part of this program.
University Honors Program

Arno K. Lepke, Ph.D., Master

INTRODUCTION

The University of Akron's Honors Program is designed to recognize and to support the highly motivated and achievement-oriented student in any major program. 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.
- Enrollmen 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. Honors work exists in the major department, at least one of the contributing honors courses must be completed.

A faculty preceptor serves as a special adviser for the student in each department. The preceptor assists in the development of the student's major program, the selection of courses which are appropriate for the distribution requirement and in all other aspects of academic and professional planning.

Senior Honors Project

The honors student is expected to complete a senior honors thesis, an original or creative work which reflects the student's area of interest in the major field. This senior project may well become the basis for a future master's thesis in graduate school. Study abroad or field experience may be recognized as part of the project.

The citation "University Scholar" will appear on the diplomas and the transcripts of the students who complete the University Honors Program. At commencement exercises, they will be properly recognized as University Scholars.

OTHER FEATURES

Scholarships

An honors student who maintains a minimum 3.40 cumulative grade-point average is eligible for substantial honors scholarships which are renewable annually.

Acceleration

To meet degree requirements, an honors student may use credits awarded for satisfactory achievement on Advanced Placement high school tests (AP), the College Level Examination Program (CLEP) and/or other approved placement procedures - including bypassed credits - to a maximum of 20 credits. Credits may also be earned through "credit by examination" when approved by the department in which the examination is to be administered.

Open Classroom

An honors student may attend undergraduate classes or lectures for which the student is not formally enrolled. Free access is available.

Access to Graduate Courses

With the permission of the student's preceptor and the instructor, an honors student may be enrolled in graduate courses for either undergraduate or graduate credit. This provision applies especially to graduate courses which may be of immediate benefit to the completion of the senior honors project and/or the specific requirements for a given research paper.

Credit/Noncredit Option

Upon completion of one-half of all degree requirements, an honors student may enroll in one course per semester on a credit/noncredit basis. All elective credits thus earned are not considered in calculating grade-point average, but count as credits completed toward graduation requirements.

University Honors Council

Seven faculty members represent the degree-granting colleges and two honors students serve on the University Honors Council which regularly reviews existing policies and introduces such additional and/or innovative options as may be desirable in response to manifest needs.
Distinguished Student Program for Associate Degree Students

PURPOSE
The purpose of the Distinguished Student Program shall be to encourage and assist exceptionally talented students who are enrolled in associate degree programs to achieve excellence in their academic work. The program is also intended to expose these students to the total offerings of this University. Every attempt will be made to make available to students the broad expanse of knowledge available on this campus.

ADMISSION
Students shall be admitted to the program based on their academic achievement and potential for scholarship. These persons shall be identified at the time of admission to The University of Akron. The requirements for admission to the program shall include: (1) high school grade point average of 3.50 or better on a 4.00 scale; (2) scores on the Scholastic Aptitude Test (SAT) or American College Test (ACT) which places the student in the 90th percentile or higher of freshman college norms; (3) rank in the top 10 percent or higher of the high school class; (4) recommendations from high school principal, teachers or counselors; and, (5) approval of the council. In exceptional circumstances where an applicant is able to demonstrate extraordinary academic promise, the high school grade point average, class rank, and the SAT or ACT requirement may be waived by the Distinguished Student Council. Students desiring to enter the program after they have been enrolled at The University of Akron may make application to the council.

PROGRAM
A distinguished student's program of study shall consist of, for the most part, courses within the major. The Distinguished Student Colloquium (taken the first semester of the second year) and the Honors Colloquium (taken the second semester of the second year) shall provide an opportunity for all distinguished students to meet together to explore the breadth and interrelationships of the various academic disciplines. These one semester, two credit colloquia shall be suitably scheduled over the span of the academic year. The coordinator, with the assistance of the Distinguished Student Council, shall determine the sequence in which these colloquia shall be offered and also approve the course content of the Distinguished Student Colloquium. Distinguished students may be permitted to attend classes or lectures within the Community and Technical College for which they are not formally enrolled.

The designation Distinguished Student will appear on the academic record of all students who have met graduation requirements. At commencement exercises, the students will be properly recognized as such.

Graduation Requirements
The distinguished student shall earn the minimum total credits required for a particular degree and for a program major. Progress toward completing the degree requirements may be accelerated by credit by examination, bypassed credit, and credit awarded for satisfactory achievement on high school advanced placement examinations in accordance with University policies.

Colloquia
Beginning at the sophomore level, all distinguished students attend one colloquium per semester. The first will be in the fall semester and will be restricted to distinguished students. The second will be in the spring semester and will be offered through the University Honors Program if possible. These one-semester, two credit lecture and discussion sessions are interdisciplinary in scope. They provide an opportunity for students to meet together and to explore the breadth and the interrelations of academic studies. A major objective of the colloquia is to provide significant insights, especially in areas which lie outside the student's major field and may have been excluded from a previous sphere of intellectual curiosity.

ADVISEMENT
Immediately upon admission to the program, the student shall be assigned a program adviser. The adviser shall assist in the selection of courses which are appropriate for the distribution requirement and the formulation of an integrated major program.

The coordinator consults with the adviser in all matters relating to the student's academic performance and the completion of requirements for graduation as a distinguished student. The college advising staff shall be available for assistance in all matters pertaining to the program.

A distinguished student who does not immediately choose a major shall be assigned to the Community and Technical College advising staff. The distinguished student shall be admitted to the college immediately upon being admitted to the program.

RETENTION
A distinguished student must maintain a minimum grade-point average which would qualify the student for graduation with distinction. The Distinguished Student Council shall review each distinguished student's record at the end of each semester.

Students who achieve a 3.25 to a 3.39 accumulative grade-point average for their first semester of attendance shall be placed on probation. If they raise their accumulative grade point average to the required 3.40 by the end of their second semester of attendance, they will be permitted to continue in the Distinguished Student Program. Any student whose accumulative grade point average falls below a 3.25 overall shall be withdrawn from the programs. Students may be re-admitted to the program at a later date if they raise their accumulative grade-point average to a least 3.40.

A student who transfers to a baccalaureate program will no longer be eligible for the Distinguished Student Program but may apply to the University Honors Program for admission.
OTHER FEATURES

Scholarships
Distinguished students who meet the requirements for retention in the program are eligible for scholarships renewable each semester.

Library Privileges
All distinguished students receive a special borrower's card which entitles them to:

• Unlimited renewal of regularly circulating library materials, if no one has requested their return. All materials must be presented to the library for renewal.

• Privilege of using closed carrels.

• Privilege of borrowing materials on interlibrary loan.

The special borrower's card is renewable annually. Library handbooks are issued to all entering distinguished students.

Open Classrooms
Distinguished students may attend undergraduate classes or lectures for which they are not formally enrolled. Access to all courses and academic programs will be for a limited time with the approval of their adviser and in accordance with University policy.
Evening College and Summer Sessions

Caesar A. Carrino, Ph.D., Dean
Elmore J. Houston, M.A., Assistant 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 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.

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 avocational courses to the professional and Ph.D. levels. Faculty, students, administration and the community each contribute talents and resources to further the dynamics of the academic and cultural process.
Minor Areas of Study

REGULATIONS

The University of Akron has approved minor fields of study that may be placed on a student's record when all requirements have been completed. The following rules apply to all minors:

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

ADVISEMENT

Although not required to do so, students are advised to contact faculty in the department(s) in which they may wish to earn minors early in their undergraduate programs.

SPECIFIC PROGRAM REQUIREMENTS*

Anthropology

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>3870:150</td>
<td>Cultural Anthropology</td>
<td>4</td>
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<tr>
<td>3870:151</td>
<td>Physical Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>3870:356</td>
<td>New World Prehistory</td>
<td>3</td>
</tr>
<tr>
<td>3870:461</td>
<td>Language and Culture</td>
<td>3</td>
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</tbody>
</table>
- A minimum of six additional credits of anthropology courses.
- Nineteen total credits are required.

Art

Art History

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>7100:100</td>
<td>Survey of History of Art I</td>
<td>4</td>
</tr>
<tr>
<td>7100:101</td>
<td>Survey of History of Art II</td>
<td>4</td>
</tr>
<tr>
<td>7100:300</td>
<td>Art since 1945</td>
<td>3</td>
</tr>
<tr>
<td>7100:302</td>
<td>Art in Europe during the 17th and 18th Centuries</td>
<td>3</td>
</tr>
<tr>
<td>7100:303</td>
<td>Renaissance Art in Italy</td>
<td>3</td>
</tr>
<tr>
<td>7100:304</td>
<td>Art in Europe During the 19th Century</td>
<td>3</td>
</tr>
<tr>
<td>7100:400</td>
<td>Art in the US before World War II</td>
<td>3</td>
</tr>
<tr>
<td>7100:401</td>
<td>Special Topics in History of An</td>
<td>3</td>
</tr>
<tr>
<td>7100:405</td>
<td>History of Art Symposium</td>
<td>3</td>
</tr>
<tr>
<td>7100:498</td>
<td>Special Problems in History of Art</td>
<td>1-3</td>
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</tbody>
</table>

Art

- Core need not be completed
- Prerequisites must be honored
- Student may complete any department courses except 7100:191

Ceramic

<table>
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<tr>
<th>Course Number</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>7100:254</td>
<td>Introduction to Ceramics</td>
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<tr>
<td>7100:354</td>
<td>Ceramics II</td>
<td>3</td>
</tr>
<tr>
<td>7100:454</td>
<td>Advanced Ceramics**</td>
<td>3</td>
</tr>
</tbody>
</table>

Crafts

- Prerequisites must be honored
- Students must complete courses in two of these three areas: ceramics, metalsmithing/enameling or weaving

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>7100:254</td>
<td>Introduction to Ceramics</td>
<td>3</td>
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<tr>
<td>7100:266</td>
<td>Introduction to Jewelry</td>
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</tr>
<tr>
<td>7100:268</td>
<td>Enameling on Metal</td>
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<td>7100:293</td>
<td>Introduction to Weaving</td>
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<td>7100:354</td>
<td>Ceramics II</td>
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<td>7100:366</td>
<td>Metalsmithing II</td>
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<td>7100:369</td>
<td>Advanced Enameling</td>
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<td>7100:393</td>
<td>Weaving II</td>
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<tr>
<td>7100:454</td>
<td>Advanced Ceramics**</td>
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</tr>
<tr>
<td>7100:466</td>
<td>Advanced Metalsmithing</td>
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Drawing

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<tbody>
<tr>
<td>7100:131</td>
<td>Introduction to Drawing</td>
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<tr>
<td>7100:231</td>
<td>Drawing II</td>
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<tr>
<td>7100:232</td>
<td>Instrument Drawing</td>
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<tr>
<td>7100:233</td>
<td>Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>7100:263</td>
<td>Drawing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>7100:331</td>
<td>Drawing III</td>
<td>3</td>
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<tr>
<td>7100:333</td>
<td>Advanced Life Drawing</td>
<td>3</td>
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<tr>
<td>7100:431</td>
<td>Drawing IV</td>
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<tr>
<td>7100:484</td>
<td>Illustration</td>
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</tr>
<tr>
<td>7100:485</td>
<td>Advanced Illustration</td>
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</table>

Illustration

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<tr>
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<tbody>
<tr>
<td>7100:283</td>
<td>Drawing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>7100:287</td>
<td>Introduction to Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:288</td>
<td>Commercial Design Theory</td>
<td>3</td>
</tr>
<tr>
<td>7100:289</td>
<td>Letter Form and Typography</td>
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</tr>
<tr>
<td>7100:380</td>
<td>Graphic Video</td>
<td>3</td>
</tr>
<tr>
<td>7100:381</td>
<td>Advertising Layout Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:382</td>
<td>Advertising Production Design</td>
<td>3</td>
</tr>
<tr>
<td>7100:383</td>
<td>Corporate Identity</td>
<td>3</td>
</tr>
<tr>
<td>7100:480</td>
<td>Advanced Graphic Design</td>
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</tr>
<tr>
<td>7100:484</td>
<td>Illustration</td>
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<tr>
<td>7100:485</td>
<td>Advanced Illustration</td>
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<tr>
<td>7100:486</td>
<td>Package Design</td>
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<tr>
<td>7100:488</td>
<td>Publication Design</td>
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Graphic Design

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Interior Design

<table>
<thead>
<tr>
<th>Course Number</th>
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</thead>
<tbody>
<tr>
<td>7100:262</td>
<td>Architectural Presentations</td>
<td>3</td>
</tr>
<tr>
<td>7400:121</td>
<td>Textiles</td>
<td>3</td>
</tr>
<tr>
<td>7400:331</td>
<td>Applied Home Furnishings</td>
<td>3</td>
</tr>
<tr>
<td>7400:333</td>
<td>Interior Design I</td>
<td>3</td>
</tr>
<tr>
<td>7400:334</td>
<td>Interior Design II</td>
<td>3</td>
</tr>
<tr>
<td>7400:335</td>
<td>Fundamentals of Buying Home Furnishings</td>
<td>3</td>
</tr>
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</table>

Metalsmithing

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>7100:266</td>
<td>Introduction to Jewelry</td>
<td>3</td>
</tr>
<tr>
<td>7100:268</td>
<td>Enameling on Metal</td>
<td>3</td>
</tr>
<tr>
<td>7100:366</td>
<td>Metalsmithing II</td>
<td>3</td>
</tr>
<tr>
<td>7100:369</td>
<td>Advanced Enameling</td>
<td>3</td>
</tr>
<tr>
<td>7100:465</td>
<td>Advanced Metalsmithing</td>
<td>3</td>
</tr>
</tbody>
</table>

*All programs are listed in alphabetical order.

**May be repeated for a total of 15 credits.
Painting
7100:245 Introduction to Polymer Acrylic Painting 3
7100:246 Introduction to Water Color Painting 3
7100:348 "Painting II"* 3
7100:449 Advanced Painting"** 3

Photography
224:222 Advertising Photography 3
7100:275 Introduction to Photography 3
7100:375 Photography I 3
7100:376 Photography II 3
7100:475 Advanced Photography 3

Printmaking
7100:213 Introduction to Lithography 3
7100:214 Introduction to Screen Printing 3
7100:215 Introduction to Relief Printing 3
7100:216 Introduction to Intaglio Printing 3
7100:317 Printmaking II 3
7100:418 Advanced Printmaking 3

Sculpture
7100:221 Design Applications 3
7100:222 Introduction to Sculpture 3
7100:254 Introduction to Ceramics 3
7100:265 Introduction to Jewelry 3
7100:321 Figurative Sculpture 3
7100:322 Sculpture Casting 3
7100:422 Advanced Sculpture 3

Biology
3100:11-12 Principles of Biology 8
3100:211 General Genetics 3
3100:217 General Ecology 3
3100:311 Cell Biology 3
3100:313 Principles of Microbiology 3
3100:316 Evolutionary Biology 3
3100: 300 A 300/400 level course approved by department head

Business Administration
6200:201,2 Accounting I, II 8
6100:320 Legal Environment 4
6400:371 Business Finance 3
6500:301 Management Principles and Concepts 3
6500:326 Quantitative Business Analysis I, II 6
6600:323 Computer Applications for Business 3
6600:300 Marketing Principles 3

Business Management Technology
2200:247 Survey of Basic Economics 3
2240:101 Elements of Distribution 3
2420:103 Role of Supervision in Management 3
2420:202 Personnel Practices 3
2420:211 Basic Accounting I 3
2420:280 Essentials of Law 3
2420: 240 Effective 3

Elective:
2420:170 Business Mathematics 3
2420:212 Basic Accounting II 3
2420:243 Survey in Finance 3

Chemistry
- Total credits required for a minor in Chemistry: 19-22.
- Core comprised of one of the following options:
  3150:123 Principles of Chemistry I, II 7
  3150:263 Organic Chemistry Lecture I, II 6
  3150:293 Introduction to General, Organic and Biochemistry I, II 8
  3150:201 Introduction to Organic Chemistry Lecture I, II 6
- An additional six credits from 360/400 level courses. For example, a "pre-med" or biology student might take 3150:401,2 Biochemistry (3 credits each). An engineer or physics major might select 3150:313,4 Physical Chemistry (3 credits each).
- Analytical or instrumental courses might be attractive to others.
- Medical technology students automatically have a chemistry minor
- Chemical engineering majors also fulfill the requirements for a minor in chemistry.
- Students who intend to minor in chemistry may seek advice about the 300/400 level courses that would be most relevant to their interests.

Classics
- Total credits required for a minor in classics: 21 credits.
  3200:189 Mythology 3
  3200:333/14 Archaeology of Greece and Rome 6
  3200:312/1 History of Greece and Rome 6
  3210:303/4 Advanced Greek 6
- An additional six credits from 300/400 level courses. For example, a "classical" or "language" student might take 3210:121,2,223,4 or 3210:121,2,223,6.
- It is strongly recommended that a minor in classics take at least three credits of 3400:304,5,6,7 Survey in Ancient History.

Classical Civilization
  3200:189 Mythology 3
  3200:304,5,6,7 Survey in Ancient History 6
  3200:313/14 Archaeology of Greece and Rome 6
  3203:361/2 Literature of Greece and Rome 6
- It is strongly recommended that a minor in classical civilization fulfill the language requirement by taking 3220:121,2,223,4 or 3220:121,2,223,4.

Community Services Technology
2020:240 Human Relations 3
2260:100 Introduction to Community Services 3
2260:150 Introduction to Gerontological Services 3
2260:290 Alcohol Use and Abuse 3
2260:240 Drug Use and Abuse 3
2260:278 Techniques of Community Work 4

Criminal Justice Technology
- Core courses:
  2220:100 Introduction to Criminal Justice 3
  2220:202 Criminal Law for Police 3
  2220:204 Criminal Evidence and Court Procedures 3
- Additional courses for general criminal justice minor
  2220:240 Vice Crime and Substance Abuse 3
  2220:250 Criminal Case Management 5
  2250:290 Administration and Supervision: Public Services 3
• Additional courses for economics area of concentration
  3850:100 Introduction to Economics 3
  3850:300 International Economics 3
  3850:431 Intermediate Microeconomics 3
  or
  3850:432 Principles and Policy 3

• Additional courses for security area of concentration
  2220:101 Introduction to Security 4
  2220:200 Fire Prevention Practices 3
  2220:290 Special Topics in Security 6

Dance
  7800:115 Dance as an Art Form 2
  7800:119 Introduction to Contemporary Dance I 2
  7800:120 Introduction to Contemporary Dance II 2
  7800:124 Introduction to Ballet I 2
  7800:219 Introduction to Contemporary Dance III 2
  7800:224 Fundamental Dance Technique 3
  7800:316 Choreography I 2
  7800:320 Dance Notation 2
  7800:426 Techniques of Teaching Dance I 2

Economics
  3250:201 Principles of Economics 6
  or
  3250:244 Introduction to Economics Analysis and
  3250:400 Intermediate Macroeconomics 3
  or
  3250:410 Intermediate Macroeconomics 3

Labor Economics
  3250:201 Principles of Economics 6
  or
  3250:244 Introduction to Economics Analysis and
  3250:410 Intermediate Macroeconomics 3

Choose at least two courses:
  3250:330 Labor Problems 3
  3250:333 Labor Economics 3
  3250:430 Human Resource Policy 3
  3250:431 Labor and the Government 3
  3250:432 Collective Bargaining 3

Electives in economics 3

English

English Literature

American Literature

Professional Writing
  3300:390 Professional Writing I II 6

• One from the following:
  3300:395 Legal Writing 3
  3300:489 Advanced Writing 3

• One departmental linguistics or language course.

• Two additional courses from any of the literature, language, or writing offerings in the department.

Creative Writing

• Two introductory courses in creative writing from the following:
  3300:277 Introduction to Poetry Writing 3
  3300:278 Introduction to Fiction Writing 3
  3300:279 Introduction to Script Writing 3

• One advanced course in creative writing from the following:
  3300:377 Advanced Poetry Writing 3
  3300:378 Advanced Fiction Writing 3

• One literature course primarily concerned with modern work.

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

Fire Protection
  2230:100 Introduction to Fire Protection 3
  2230:102 Fire Safety in Building Design and Construction 3
  2230:104 Fire Investigation Methods 3
  2230:153 Principles of Fire Protection and Life Safety 3
  2230:204 Fire Protection Systems I 3

Geology

• Minimum of 20 credits of departmental courses; 17 of which must be in courses having a laboratory.

• Student should consult with the department faculty adviser for minors.

Geography

General Geography
  3350:210 Physical and Environmental Geography 3
  3350:330 Economic Geography 3
  3350:333 Rural and Urban Settlement 3
  3350:341 Maps and Map Reading 3

• The remaining six credits to be selected from any geography offerings, except
  3350:100

Planning

Students must complete 19 semester credits of coursework as follows:
  3350:433 Urban, Regional and Resource Planning 3
  3350:435 Urban and Regional Planning Seminar 3
  At least two courses (six credits) from the following:
  3350:333 Recreation Planning 3
  3350:352 Transportation Planning 3
  3350:430 Industrial and Commercial Site Selection 3
  3350:436 Urban and Land Use Analysis 3
  At least two courses (six credits) from the following:
  3350:340 Cartography 3
  3350:431 Geographic Information Systems 3
  3350:442 Introduction to Remote Sensing 3
  3350:463 Spatial Analysis 3
  3350:496 Field Research Methods 3

Cartography

At least five courses (15 credits) from:
  3350:340 Cartography 3
  3350:405 Geographic Information Systems 3
  3350:422 Theoretical Cartography 3
  3350:444 Map Construction and Reproduction 3
  3350:467 Introduction to Remote Sensing 3
  3350:481 Automated Computer Mapping 3
  3350:492 Advanced Remote Sensing 3
  3350:493 Geographic Information Systems 3

At least one course (three credits) from:
  3350:481 Geographic Information Systems 3
  3350:483 Spatial Analysis 3
  3350:496 Field Research Methods 3

History

• Twelve of the 18 credits must be at the upper division level (300/400). A combination of courses in United States and non-United States history is required.

• A student may work primarily in United States history, European, Medieval, Latin American and the like, provided in both cases there is some combination or distribution between United States and non-United States history.

Hospitality Management

2280:121 Fundamentals of Food Preparation I 4
2280:122 Fundamentals of Food Preparation II 4
2280:135 Menu Planning and Purchasing 3
2280:225 Dining Room Service and Training 2
2280:233 Restaurant Operations and Food Management 4
2280:236 Food and Beverage Cost Control 3
Interpreting for the Deaf

- Introduction to Interpreting for the Deaf 4
- Sign Language: Gesture and Movement 3
- Specialized Interpreting 3
- Hands-rapped Service Practice 1
- Reverse Interpreting 3
- Specialized Interpreting II 3
- Manual Communication I 5
- Introduction to Audiology/Aural Rehabilitation 3
- Manual Communication II 4
- Manual Communication III 4
- Introduction to Deaf Culture and Its Origin 2
- Language of Signs I 3

Library

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

Mathematical Sciences

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

Mathematics/Applied Mathematics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>3450:211,2</td>
<td>Analytic Geometry-Calculus I, II, III</td>
<td>12</td>
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<tr>
<td>3450:235</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>3450:312</td>
<td>Linear Algebra</td>
<td>3</td>
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</tbody>
</table>

- Approved 300/400 level mathematical sciences electives (at least 3 credits in 3450 courses).

Statistics

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<tr>
<td>3450:221,2</td>
<td>Analytic Geometry-Calculus I, II</td>
<td>8</td>
</tr>
<tr>
<td>3450:312</td>
<td>Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>3450:461</td>
<td>Applied Statistics</td>
<td>4</td>
</tr>
<tr>
<td>3450:463</td>
<td>Experimental Design I</td>
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</table>

- Approved 300/400 level mathematical sciences electives.

Computer Science

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<tbody>
<tr>
<td>3450:221,2</td>
<td>Analytic Geometry-Calculus I, II</td>
<td>8</td>
</tr>
<tr>
<td>3450:215,6</td>
<td>Concepts of Calculus I, II</td>
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</tr>
<tr>
<td>3460:209</td>
<td>Computer Programming I</td>
<td>2</td>
</tr>
<tr>
<td>3460:210</td>
<td>Programming Language</td>
<td>2</td>
</tr>
<tr>
<td>3460:316</td>
<td>Computer Programming II</td>
<td>3</td>
</tr>
<tr>
<td>3460:316</td>
<td>Introduction to Data Structures</td>
<td>3</td>
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</tbody>
</table>

- Approved 300/400 level computer science electives.

Modern Languages

French, German, Spanish, Russian or Italian

- A total of 26 credits is required for the minor.
- The student must have at least 12 credits beyond the second year excluding courses which are not counted for credit toward a major.

Office Administration

- Core
  - 2540:150:1, or 253 Typewriting 6
  - 2540:125 Business Machines 2

- Additional courses for general secretarial area
  - 2540:171:2, 274
  - 2540:141 Information Management 3
  - 2540:121 Office Problems 3

- Additional courses for word processing area
  - 2540:241 Information Management 3
  - 2540:280 Word Processing Concepts 2
  - 2540:281 Machine Transcription 2
  - 2540:286 Keyboarding of Word Processing Equipment 3

- Additional courses for information management area
  - 2540:211 Accounting I 3
  - 2540:230 Office Problems 3
  - 2540:241 Information Management 3
  - 2540:286 Machine Transcription 2

Philosophy

Requirements

- A total of 18 semester credits in Philosophy including: (a) at least 3 semester credits at the introductory level (Introduction to Philosophy, Logic or Ethics), and (b) at least 6 semester credits at the 300/400 level.
- Students may select a minor related to their major area of study.

Minors

Major Area | Philosophy Minor
--- | ---
Arts | philosophy of art
Humaites | philosophy
Natural sciences | philosophy of science
Computer science/mathematics | philosophy of mathematics
Law | philosophy of law
Business | philosophy of management
Teaching | philosophy of education
Theology | philosophy of religion
Political science | political philosophy
Communication/journalism | philosophy of communication
Social work | social philosophy
Health professions | biomedical philosophy
Technical writing | philosophy of language
Engineering | philosophy of technology

- Other minors in philosophy may be designed with the approval of the Department of Philosophy.
- Students should consult with the Department of Philosophy for courses appropriate to their minors.

Examples

- Examples of courses available for students majoring in arts, humanities and natural sciences follow.
  - Arts (philosophy of art)
    - 3600:120, 223 Ethics
    - 3600:350 Philosophy of Art
    - 3600:211, 312:13 History of Philosophy
    - 3600:481/581 Philosophy of Language
    - 3600:232 Philosophy of Religion
    - 3600:424/524 Existentialism
    - 3600:428/526 Phenomenology
  - Humanities (philosophy)
    - 3600:120, 223 Ethics
    - 3600:170: 374 Logic
    - 3600:211, 312:13 History of Philosophy
    - 3600:350 Philosophy of Art
    - 3600:462/562 Theory of Knowledge
    - 3600:481/581 Philosophy of Language
    - 3600:424/524 Existentialism
    - 3600:426/526 Phenomenology
    - 3600:471/571 Metaphysics
  - Natural Sciences (philosophy of science)
    - 3600:120, 223 Ethics
    - 3600:170: 374 Logic
    - 3600:464/564 Philosophy of Science
    - 3600:418/518 Analytic Philosophy
    - 3600:471/571 Metaphysics
    - 3600:426/526 Phenomenology
    - 3600:462/562 Theory of Knowledge
    - 3600:211 History of Ancient Philosophy
Physics

- Requirements for a minor in physics include: 3650:291.2 Elementary Classical Physics, 1–2 credits, and, physics electives at the 300/400 level — 12 credits. Note: 3650:291.2, Physics for the Life Sciences, may be substituted for 3650:291.2, in whole or in part.

Recommended physics electives: most students should elect 3650:301. Unless a student has already acquired considerable expertise in electronics, courses 3650:410, 411, and 12 should prove valuable. Finally, 3650:406 and 20 provide important background in waves and optics, very useful to engineers, geophysicists, and others.

Political Science

- Each student shall complete at least nine of the required courses in 300/400 level coursework.
- A student may select a minor concentration from one of the five following course sequences.

American Politics

3700:100 Government and Politics 4

Fourteen credits from the following:

3700:210 State and Local Government and Politics 3
3700:232 American Political Ideas 3
3700:235 American Political Parties and Interest Groups 3
3700:310 The American Congress 3
3700:340 The American Presidency 3
3700:360 The Judicial Process 3
3700:363 The American Bureaucracy 4
3700:380 Urban Politics and Policies 4
3700:381 State Politics 3
3700:382 Intergovernmental Relations 3
3700:402 Politics and the Media 3
3700:440 Public Opinion and Political Behavior 3

Comparative Politics

3700:200 Comparative Politics 4

Fourteen credits from the following:

3700:304 Modern Political Thought 3
3700:320 Britain and the Commonwealth 3
3700:321 Western European Politics 3
3700:322 Soviet and East European Politics 3
3700:323 Politics of China and Japan 3
3700:325 Comparative Public Policy 3
3700:330 Politics of Developing Nations 3
3700:337 African Politics 3
3700:350 Canadian Politics 3
3700:455 Politics in the Middle East 3
3700:420 Issues and Approaches in Comparative Politics 3
3700:425 Latin American Politics 3

International Politics

3700:100 Government and Politics 4
3700:210 International Politics and Institutions 4
3700:410 Comparative Foreign Policy 3

Seven credits from the following:

3700:200 Comparative Politics 3
3700:222 American Foreign Policy 3
3700:232 Modern Political Thought 3
3700:235 Britain and the Commonwealth 3
3700:321 Western European Politics 3
3700:322 Soviet and East European Politics 3
3700:323 Politics of China and Japan 3
3700:325 Comparative Policy 3
3700:326 Politics of Developing Nations 3
3700:327 African Politics 3
3700:350 Canadian Politics 3
3700:455 Politics in the Middle East 3
3700:425 Latin American Politics 3

Public Policy Analysis

3700:100 Government and Politics 4
3700:201 Introduction to Public Policy 3
3700:442 Social Policy 3
3700:444 The Policy Process 3
3700:446 Theories of Policy Analysis 3

Two credits from the following:

3700:325 Comparative Public Policy 3
3700:370 The American Bureaucracy 4

Pre-Law

3700:100 Government and Politics 4
3700:235 The Judicial Process 3
3700:415 The American Congress 3
3700:381 State Politics 3
3700:382 Special Topic: Crime, Law and Procedures 3

Psychology

- Required for all students:

3750:100 Introduction to Psychology 3

- At least one course from each of the following three groups (two of which must be on the 300/400 level):

Group I

3750:120 Introduction to Experimental Psychology 4
(Prerequisites are by permission of instructor for non-psychology majors only)
3750:310 Sensory and Perceptual Experience 4
3750:320 Physiological Psychology 4
3750:340 Motivation 3
3750:450 Learning and Cognition 4

Group II

3750:140 Introduction to Industrial and Organizational Psychology 4
3750:470 Advanced Industrial and Organizational Psychology 4
3750:490 Personality 3
3750:491 Tests and Measurements ( prerequisites are by permission of instructor for non-psychology majors only) 3
3750:490 Abnormal Psychology 3
3750:493 Psychological Disorders of Children 3
3750:494 Introduction to Clinical Method 3

Group III

3750:130 Developmental Psychology 4
3750:340 Social Psychology 4
3750:350 The Psychology of Small Group Behavior 3
3750:360 Cross Cultural Psychology 3
3750:460 History of Psychology 3

- Up to four credits of 3750:490 Special Topics or 3750:497 Independent Research and Research can be included in all minors Prior approval required.

- Students may select a minor related to their major or may select a minor in psychology relevant to any of the following areas: natural sciences, humanities, social sciences, business, pre-law, education, sociology/social work.

Sociology

- Nineteen total credits are required.

3850:100 Introduction to Sociology 4

- A minimum of fifteen additional credits of sociology courses at the 300/400 level are required. Students may wish to select courses which relate to a particular interest area (e.g., family, health and illness, sex roles, urban life, gerontology). These areas are outlined in materials available in the Department of Sociology. Students with such interest should see an adviser in the Department of Sociology for assistance in course selection for the minor program.

Transportation

- Core

2560:115 Transportation Economic Policy 3
2560:118 Transportation Rate Systems 3
2566:221 Transportation Principles and Practices 3
2566:224 Transportation Regulation 4

- Five credits from the following:

2560:115 Motor Transportation 3
2560:116 Air Transportation 2
2560:16 Water Transportation 2
2566:220 Terminal Management and Safety 2
2566:221 Transportation of Hazardous Materials and Waste 2
2566:222 Introduction to Travel 2
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 unless otherwise specified.

AFRO-AMERICAN STUDIES

Mr. N. Holmes, assistant director

Requirements

To satisfy the requirements for the certificate, a student must complete at least 11 semester credits and four courses with a minimum 2.00 GPA from the list of acceptable courses or other courses identified by the director. The following are required:

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>General Seminar in Afro-American Studies</td>
</tr>
<tr>
<td>3</td>
<td>Black People of the United States</td>
</tr>
</tbody>
</table>

Acceptable Courses

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Eastern Civilizations — Africa</td>
</tr>
<tr>
<td>3</td>
<td>General Seminar in Afro-American Studies</td>
</tr>
<tr>
<td>3</td>
<td>The Black American</td>
</tr>
<tr>
<td>3</td>
<td>Ghetto Economic Development</td>
</tr>
<tr>
<td>3</td>
<td>Black American Literature</td>
</tr>
<tr>
<td>3</td>
<td>United States Dialects: Black and White</td>
</tr>
<tr>
<td>3</td>
<td>Africa South of the Sahara</td>
</tr>
<tr>
<td>3</td>
<td>Black People of the United States</td>
</tr>
<tr>
<td>3</td>
<td>African Social and Intellectual History</td>
</tr>
<tr>
<td>3</td>
<td>African Politics</td>
</tr>
<tr>
<td>3</td>
<td>Racial and Cultural Intergroup Relations</td>
</tr>
<tr>
<td>3</td>
<td>Poverty in the United States</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Social Welfare</td>
</tr>
<tr>
<td>3</td>
<td>Minority Issues in Social Work</td>
</tr>
</tbody>
</table>

Research Paper

The research paper will be written under the direction of a faculty member most suitable to the area of concern of the student’s research interest; shall be one semester in duration; and shall be approved by that faculty member. The director of Afro-American Studies, in consultation with the faculty member, will approve the topic for the research paper.

A student undertaking the Afro-American Studies Certificate Program must have prior consultation with the director of Afro-American Studies.

AGING SERVICES

Mr. John Mumper, coordinator

Requirements*

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>Technical Report Writing</td>
</tr>
<tr>
<td>3</td>
<td>Introduction to Gerontological Services</td>
</tr>
<tr>
<td>3</td>
<td>Senior Citizens Services</td>
</tr>
<tr>
<td>4</td>
<td>Techniques of Community Work</td>
</tr>
<tr>
<td>5</td>
<td>Technical Experience, Community and Social Services</td>
</tr>
</tbody>
</table>

Any two of the following four courses:

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Human Resources</td>
</tr>
<tr>
<td>2</td>
<td>Death and Dying</td>
</tr>
<tr>
<td>3</td>
<td>Resident Activity Coordination</td>
</tr>
<tr>
<td>3</td>
<td>Special Topics: The World of Retirement</td>
</tr>
</tbody>
</table>

ALCOHOL SERVICES AIDE†

Mr. John Mumper, coordinator

Requirements

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>English</td>
</tr>
<tr>
<td>3</td>
<td>Technical Report Writing</td>
</tr>
<tr>
<td>3</td>
<td>Alcohol Use and Abuse</td>
</tr>
<tr>
<td>3</td>
<td>Alcohol Treatment</td>
</tr>
<tr>
<td>4</td>
<td>Techniques of Community Work</td>
</tr>
<tr>
<td>4</td>
<td>Basic Helping Skills in Alcohol Problems</td>
</tr>
<tr>
<td>4</td>
<td>Group Principles in Alcoholism</td>
</tr>
<tr>
<td>5</td>
<td>Technical Experience, Community and Social Services</td>
</tr>
</tbody>
</table>

CARTOGRAPHIC SPECIALIZATION

Dr. A. Noble, department head

Requirements

This program of professional and scientific education is intended to enhance cartographic training in data handling, analysis and graphic communication of simple and complex geographic data and information. The program is not limited to geography majors and is designed to introduce automated and traditional cartographic skills to the student in a wide spectrum of disciplines offered through the laboratory for cartographic and spatial analysis housed in the Department of Geography. These training opportunities provide for specialized study in the rapidly changing and significant area of cartography as a method of graphic communication. The program is flexible 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.

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.

†The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.
Cartography has a very long and rich history and, while it is eminently practical, has a strong component of theory. For this reason, a student may elect to take cartographic courses simply because they are focused on an interesting and exciting liberal arts subject. Other students choose cartography courses with the thought of increasing their potential of finding a position subsequent to graduation. There is a well-documented need for persons trained in cartographic awareness and skills in business, industry and government, as well as the academic community.

Core
Complete five of the following basic courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:240 Maps and Map Reading</td>
<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>2</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>

Electives
Each student must complete at least seven credits distributed between professional, technical and research offerings in departments other than the Department of Geography. These courses will be selected in consultation with the program's director. Similar courses completed at other universities, up to five years prior to admission to candidacy, may be approved by the director.

The electives help develop a diverse cartographic skill and perspective which is significant and useful for persons working with data systems management, urban planning and environmental impact studies. To be truly effective and comprehensive in a career, the student must know a variety of professional and technical approaches 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 work must be acceptable by the examination committee and reduced photographic copies will be kept for permanent record in the laboratory's file. After passing the oral examination and the acceptance of the samples of cartography, the student is considered to have completed the program.

A minimum grade of "C" is required in all elective courses taken as part of the certificate program. In the five core courses, an average grade of "B" is required.

CHILD CARE WORKER*

Mrs. Harriet K. Herskowitz, coordinator

*The awarding of this certificate is contingent upon completion of a degree program. Undergraduate certificate programs require a 2.0 grade-point average; graduate certificate programs require a 3.0 grade-point average.

Requirements
The establishment of this certificate program provides basic vocational training for child care practitioners. The course of study is a means of meeting the short range goals of students interested in acquiring skills for immediate job placement.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2200:245 Infant/Toddler Day Care Programs</td>
<td>3</td>
</tr>
<tr>
<td>2200:250 Observing and Recording Children's Behavior</td>
<td>3</td>
</tr>
<tr>
<td>2500:260 Nursery School Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>6650:295 Educational Technology Field Experience</td>
<td>5</td>
</tr>
<tr>
<td>7400:112 Early Childhood Nutrition</td>
<td>2</td>
</tr>
<tr>
<td>7400:265 Child Development</td>
<td>3</td>
</tr>
<tr>
<td>7400:270 Play and Creative Expression Activities</td>
<td>4</td>
</tr>
<tr>
<td>7400:390 Administration of Child Care Centers</td>
<td>3</td>
</tr>
</tbody>
</table>

COMPUTER PHYSICS CERTIFICATE

Dr. D. Galehouse, Dr. E. VonMeerwall, codirectors

Requirements
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

Physics
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3450:251,2 Elementary Classical Physics I, II</td>
<td>8</td>
</tr>
<tr>
<td>3450:301 Elementary Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>3450:401 Electronics</td>
<td>3</td>
</tr>
<tr>
<td>3450:411 Intermediate Laboratory I</td>
<td>2</td>
</tr>
<tr>
<td>3450:436 Electromagnetism</td>
<td>3</td>
</tr>
<tr>
<td>3450:486 Laboratory Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3850:488 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 1, 2 Analytic Geometry Calculus I, II</td>
<td>12</td>
</tr>
<tr>
<td>3450:235 Differential Equations</td>
<td>5</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>4450:210 Format (SCI/ENGR) or equivalent</td>
<td>2</td>
</tr>
<tr>
<td>4450:110 Computer Networks</td>
<td>3</td>
</tr>
</tbody>
</table>

The certificate has been structured so as to be accessible to students working toward both the B.S. and B.A. degrees in physics. Contact program codirectors for specific requirements.

This certificate may also be earned by students working toward the B.S. in natural science. The major area of concentration would be physics, with one minor area in mathematics. The other minor area(s) could be computer science, engineering or another discipline.
Computer Science

Dr. William C. Beyer, department head

Requirements

Entrance
To qualify for the Computer Science Certificate Program, a student must be in good academic standing in the major department, must have completed 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460:209</td>
<td>Computer Programming I</td>
<td>2</td>
</tr>
<tr>
<td>4450:206</td>
<td>Fortran (Science and Engineering)</td>
<td>2</td>
</tr>
</tbody>
</table>

One language from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460:202</td>
<td>Introduction to Cobol Programming <em>(highly recommended)</em></td>
</tr>
<tr>
<td>3460:203</td>
<td>Introduction to APL Programming</td>
</tr>
<tr>
<td>3460:204</td>
<td>Introduction to PL/I Programming</td>
</tr>
<tr>
<td>3460:205</td>
<td>Introduction to Pascal Programming</td>
</tr>
</tbody>
</table>

All of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3460:210</td>
<td>Computer Programming II</td>
</tr>
<tr>
<td>3460:420</td>
<td>Structured Programming</td>
</tr>
<tr>
<td>3460:411</td>
<td>Introduction to Data Structures</td>
</tr>
<tr>
<td>4450:306</td>
<td>Assembler Programming</td>
</tr>
<tr>
<td>3460:416</td>
<td>Computer Science Elective</td>
</tr>
</tbody>
</table>

Criminal Justice/Security Emphasis

Mr. Kenneth L. McCormick, coordinator

Requirements*

The program specified is designed as an integrated approach to provide proficiency and updating in the security field. The security field is one of the fastest growing areas of business today. There are approximately 750,000 individuals in the United States dealing with security problems. In the state of Ohio, there are approximately 70,000 and in the local area, 2,500 security personnel. The field is upgrading very rapidly by accepted state training and there is a move now for more education to be provided at the college level.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2220:101</td>
<td>Introduction to Security</td>
<td></td>
</tr>
<tr>
<td>2220:200</td>
<td>Special Topics in Security</td>
<td></td>
</tr>
<tr>
<td>2230:015</td>
<td>Fire Prevention Practices</td>
<td></td>
</tr>
<tr>
<td>2230:250</td>
<td>Hazardous Materials</td>
<td></td>
</tr>
<tr>
<td>2250:260</td>
<td>Administration and Supervision for Public Service</td>
<td></td>
</tr>
<tr>
<td>2880:141</td>
<td>Safety Procedures</td>
<td></td>
</tr>
</tbody>
</table>

Environmental Studies

Dr. Jim Jackson, director

Requirements

To qualify for the certificate program, a student must be in good academic standing with the major department and request admission to the program. The request will outline the student’s reasons and goals for enrolling in the program.

The student will take a minimum of six courses from a list approved by the committee on environmental studies. Two of these courses will be:

<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 Studies</td>
</tr>
</tbody>
</table>

The student will be required to select courses from areas other than the major since the purpose of the program is to broaden the student’s background.

The student’s plan of study for this certificate will be developed in consultation with the director of the Center for Environmental Studies.

Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830:201</td>
<td>Man and the Environment</td>
</tr>
<tr>
<td>1830:401</td>
<td>Seminar in Environmental Studies</td>
</tr>
<tr>
<td>1830:480</td>
<td>Workshop in Environmental Studies</td>
</tr>
<tr>
<td>1830:602</td>
<td>Evaluation of Environmental Data</td>
</tr>
<tr>
<td>3100:105</td>
<td>Ecology and Biological Resources</td>
</tr>
<tr>
<td>3100:221</td>
<td>General Ecology</td>
</tr>
<tr>
<td>3100:422</td>
<td>Conservation of Biological Resources</td>
</tr>
<tr>
<td>3100:424</td>
<td>Limnology</td>
</tr>
<tr>
<td>3100:426</td>
<td>Applied Aquatic Ecology</td>
</tr>
<tr>
<td>3260:385</td>
<td>Economics: Natural Resources and Environment</td>
</tr>
<tr>
<td>3350:314</td>
<td>Climatology</td>
</tr>
<tr>
<td>3350:335</td>
<td>Recreational Resource Planning</td>
</tr>
<tr>
<td>3350:436</td>
<td>Urban Land Use Analysis</td>
</tr>
<tr>
<td>3350:447</td>
<td>Introduction to Remote Sensing</td>
</tr>
<tr>
<td>3350:496</td>
<td>Soil and Water Field Studies</td>
</tr>
<tr>
<td>3370:200</td>
<td>Environmental Geology</td>
</tr>
<tr>
<td>3370:474</td>
<td>Ground Water Hydrology</td>
</tr>
</tbody>
</table>

*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.

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**Fire Protection Technology**

Mr. David H. Hoover, coordinator

**Requirements**

Although fire continues to be a growing problem in Ohio with over 72,000 fires in 1981 causing 223 fatalities and 2,381 injuries, many municipalities are financially unable to provide a full-time fire department and instead must depend upon the dedicated volunteer firefighter. As this trend continues, the need for the well-educated volunteers will become even more critical as these citizens assume responsible officer positions.

The Fire Protection Technology certificate will assist the student in acquiring the skills and knowledge to function effectively as a volunteer/paid on-call firefighter or officer in addition to receiving a certificate of completion and accomplishment.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2230:100</td>
<td>Introduction to Fire Protection</td>
<td>3</td>
</tr>
<tr>
<td>2230:102</td>
<td>Fire Safety in Building Design and Construction</td>
<td>3</td>
</tr>
<tr>
<td>2230:204</td>
<td>Fire Investigation Methods</td>
<td>3</td>
</tr>
<tr>
<td>2230:204</td>
<td>Fire Suppression Methods</td>
<td>3</td>
</tr>
<tr>
<td>2230:205</td>
<td>Fire Hazards Recognition</td>
<td>3</td>
</tr>
<tr>
<td>2230:205</td>
<td>Fire Detection and Suppression Systems</td>
<td>3</td>
</tr>
<tr>
<td>2230:250</td>
<td>Hazardous Materials</td>
<td>4</td>
</tr>
</tbody>
</table>

**Higher Education**

Dr. William J. Frye, director

**Requirements**

This certificate program in higher education requires a minimum of 15 credits. The program of studies has been designed to serve the practicing or prospective college or university administrator or instructor.

**Admission**

All applicants to the program should have previously earned a master's degree. Special admission for concurrent studies toward a master's degree and the Higher Education certificate may be allowed for persons currently employed in higher education. Students interested in this admission category should first meet with the Director of the Center for the Study of Higher Education. The person wishing to pursue a doctorate in an academic department may concurrently undertake the certificate program as a cognate or minor. Such students must apply to the Graduate School for admission to the academic department and also apply for admission to the Center for the Study of Higher Education and must be admitted to both programs. Applicants wishing to pursue only the certificate program must apply to the Graduate School for admission as a Special Non-Degree student.

**Program**

Courses and internships in Higher Education are directed toward the study of administrative and academic operations of colleges and universities. Specific program options include: administration, student services, curriculum and instruction. Each of the options requires an internship. In the case of the curriculum and instruction option, a higher education teaching internship developed in conjunction with the student's major academic advisor and the center staff may be anticipated. Internships may be completed at the University or at one of several cooperating institutions.

**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>2000:704</td>
<td>Administrative Organization in Higher 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>5900:649</td>
<td>Counseling and Personnel Services in Higher Education (A)</td>
<td>3</td>
</tr>
<tr>
<td>5900:725</td>
<td>Seminar in Higher Education: Student Services (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5900:730</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>5900:710</td>
<td>Principles of Curriculum Development (B)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Interior Design**

Mrs. Carolyn Albanese, assistant professor

**Requirements**

This certificate program represents a concentration of study in interior design emphasizing an interdisciplinary approach between the Department of Home Economics and Family Ecology and the Department of Art. The program is designed to add another dimension to the four-year baccalaureate degree in clothing and textiles and the four-year baccalaureate degree in graphic design. The certificate program is open to undergraduates in other disciplines as well as persons with baccalaureate degrees from the University or other accredited institutions. The certificate must be issued simultaneously with a baccalaureate degree or to

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*The awarding of this certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.*
those already holding a baccalaureate degree. The following requirements must be met:

- 7100.101 Three-Dimensional Design 3
- 7100.244 Color Concepts 3
- 7100.282 Architectural Preliminaries 3
- 7400.331 Applied Home Furnishings 3
- 7400.433 Interior Design I 3
- 7400.435 Principles and Practices of Interior Design 3
- 7500.460 Economic Development and Planning for Underdeveloped Countries 3

**Latin American Studies**

Dr. Hugo Lijeron, coordinator

**Requirements**

The student in the Latin American Studies Certificate Program will major in the respective disciplines (economics, geography, history, political science, sociology, and Spanish).

In addition, the student will take 12 credits in the three separate disciplines chosen from the following list:

**Political Science**
- 3100.425 Latin American Politics 3

**History**
- 3400.415 Latin America: National Origins 3
- 3400.416 Latin America: Twentieth Century 3
- 3400.417 United States, Latin America and Imperialism 3
- 3400.418 Mexico 3

**Geography**
- 3350.363 Latin America 3

**Sociology/Anthropology**
- 3870.257 Indians in South America 3
- 3870.305 New World Prehistory 3

**Economics**
- 3250.460 Economic Development and Planning for Underdeveloped Countries 3

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

**Life-Span Development: Adulthood and Aging**

Dr. Harvey Sterns, director

**Requirements**

This certificate represents a concentration of study involving current knowledge and research in adulthood and aging. It adds another dimension to the knowledge and skills a student is able to offer in the many professions that are becoming specialized in adapting the student's training, research and service to the needs of adults and older adults. This program coordinates the training of personnel in adult development and aging and helps to meet the critical shortage of trained manpower in the field of gerontology.

The graduate curriculum committee of the Institute will oversee this certificate program and certify through the director of the institute that all requirements for the certificate have been completed.

**Admission**

To participate in the program, a student should:

- be formally admitted to The University of Akron as an associate, undergraduate, postbaccalaureate or graduate student;
- receive permission from the faculty adviser;
- have an interview with a designated graduate faculty member of the Institute for Life-Span Development and Gerontology; and,
- make formal application to the program.

**Program**

**Graduate**

Minimum credits: 12 credits

**Core**
- 1850.680 Interdisciplinary Seminar in Life-Span Development and Gerontology 3
- 1850.695 Practicum/Internship 3

**Electives**

- 3100.666 Research in the Biology of Aging 3
- 3750.620 Methods and Theories of Human Development 4
- 3750.727 Psychology of Adolescence and Aging 4
- 3850.678 Social Gerontology 2
- 3850.661 Cross Cultural Perspectives in Aging 3
- 3980.620 Social Services Planning 3
- 3980.641 Special Topics: Urban Gerontology 3
- 5400.541 Educational Gerontology Seminar 3
- 5400.661 Current Issues in Higher Education: Life-Span and Community Education 3
- 6500.689 Seminar in Health Care Systems Management 3
- 7400.603 Family Middle and Later Years 2
- 7700.583 Gerontological Gerontology 3
- 7700.600 Social Needs and Services: Aging 3
- 8200.589 A Survey: Health Care and the Aged 3

**Undergraduate**

Minimum credits: 17 credits

**Core**
- 1850.450 Interdisciplinary Seminar in Life-Span Development and Gerontology 2
- 1850.495 Practicum/Internship (within individual department) 2
- 3100.192 Biology of Aging 3
- 5550.300 Physiology of Exercise for the Adult and Elderly 2

**Electives**

- 3750.680 Special Topics: Adulthood and Aging 3
- 3870.343 Sociology of Aging 3
- 7400.485 Seminar in Home Economics: Family, Middle and Later Years 3
- 7700.483 Communication Disorders: Geriatric Population 3

**Notes:**

- Some prerequisites to these courses are core courses that are sequenced. The other courses that are prerequisites are properly part of the clothing and textiles intro graphic design curriculum. 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.

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

Requirements

Minimum credits: 18 credits.

Core

<table>
<thead>
<tr>
<th>Course</th>
<th>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>600:483</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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850:495</td>
<td>Workshop: Women and the Law</td>
<td>2</td>
</tr>
<tr>
<td>1860:378</td>
<td>Introduction to Human Rights Concerns</td>
<td>3</td>
</tr>
<tr>
<td>2220:290</td>
<td>Special Topics: Women in Crime</td>
<td>4</td>
</tr>
<tr>
<td>3100:405</td>
<td>Biology of Behavior</td>
<td>2</td>
</tr>
<tr>
<td>3250:421</td>
<td>Labor and Government</td>
<td>3</td>
</tr>
<tr>
<td>3250:447</td>
<td>Special Topics: Women in Labor Force</td>
<td>3</td>
</tr>
<tr>
<td>3300:275</td>
<td>Specialized Writing: Feminist Self</td>
<td>3</td>
</tr>
<tr>
<td>3300:289</td>
<td>Special Topics in Literature and Languages: Women in Medieval Novels</td>
<td>3</td>
</tr>
<tr>
<td>3300:289</td>
<td>Special Topics in Literature and Languages: Women Writers</td>
<td>3</td>
</tr>
<tr>
<td>3400:338</td>
<td>Women in the United States</td>
<td>3</td>
</tr>
<tr>
<td>3400:350</td>
<td>Specialized Topics in History: Soviet and United States Women in the Twentieth Century</td>
<td>3</td>
</tr>
<tr>
<td>3400:350</td>
<td>Specialized Topics in History: Women in Modern Europe</td>
<td>3</td>
</tr>
<tr>
<td>3400:437</td>
<td>American Family, History</td>
<td>3</td>
</tr>
<tr>
<td>3750:480</td>
<td>Special Topics: Psychology of Sex Differences and Similarities</td>
<td>3</td>
</tr>
<tr>
<td>3750:480</td>
<td>Special Topics: Psychology of Adulthood and Aging</td>
<td>4</td>
</tr>
<tr>
<td>3900:340</td>
<td>*The Family</td>
<td>3</td>
</tr>
<tr>
<td>3850:341</td>
<td>Sociology of Sex Roles</td>
<td>3</td>
</tr>
<tr>
<td>3850:412</td>
<td>A Specialization: Child to Adult</td>
<td>3</td>
</tr>
<tr>
<td>3870:455</td>
<td>Culture and Personality</td>
<td>3</td>
</tr>
<tr>
<td>3670:463</td>
<td>Types of Kinship and Social Organization</td>
<td>3</td>
</tr>
<tr>
<td>5100:490</td>
<td>Workshop: Men and Women, Equality of Educational Opportunities</td>
<td>3</td>
</tr>
<tr>
<td>5400:405</td>
<td>Vocational Education for Youth and Adults</td>
<td>2</td>
</tr>
<tr>
<td>5400:415</td>
<td>Vocational and Technical Training in Business and Industry</td>
<td>3</td>
</tr>
<tr>
<td>5400:440</td>
<td>Life-Span and Community Education</td>
<td>2</td>
</tr>
<tr>
<td>7400:201</td>
<td>Peer-Related Patterns in Marriage and Family</td>
<td>3</td>
</tr>
<tr>
<td>7400:255</td>
<td>Fatherhood: The Parent Role</td>
<td>2</td>
</tr>
<tr>
<td>7400:485</td>
<td>Seminar: Human Sexuality</td>
<td>3</td>
</tr>
<tr>
<td>7400:490</td>
<td>Workshop: Women and Men in Transition</td>
<td>2</td>
</tr>
<tr>
<td>7600:325</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>7700:400</td>
<td>Special Topics: Women's Issues in Social Work</td>
<td>3</td>
</tr>
<tr>
<td>8200:483</td>
<td>Workshop: Health and Women</td>
<td>3</td>
</tr>
</tbody>
</table>

Linguistic Studies

Dr. Arthur Palacas, director

Requirements

Completion of six linguistically-oriented courses as follows: the foundation course, two core courses, and at least three elective courses. Three or more of the courses must be at the 300/400 level. (Subject to approval by the program director, other theoretically-oriented linguistics courses may substitute for core courses.)

To obtain the certificate, the student must have at least two semesters of language. A student entering the program should discuss plans with the director.

Foundation**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3900:270</td>
<td>Introduction to Linguistics</td>
<td>3</td>
</tr>
</tbody>
</table>

Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3900:370</td>
<td>Intermediate Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3600:481</td>
<td>Philosophy of Language</td>
<td>3</td>
</tr>
<tr>
<td>3870:461</td>
<td>Language and Culture</td>
<td>3</td>
</tr>
<tr>
<td>7700:220</td>
<td>Speech and Language Development</td>
<td>3</td>
</tr>
<tr>
<td>7700:430</td>
<td>Aspects of Normal Language Development</td>
<td>3</td>
</tr>
</tbody>
</table>

**Required.
1A. At least two required.
This certificate, designed for those who communicate with the deaf population, is open to undergraduate majors in any discipline as well as persons with a baccalaureate degree from the University or any other accredited institution. The following requirements must be met.

### Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2210104</td>
<td>Sign Language, Gesture and Mime</td>
<td>3</td>
</tr>
<tr>
<td>7700.100</td>
<td>Manual Communication I</td>
<td>5</td>
</tr>
<tr>
<td>7700.120</td>
<td>Introduction to Audiology/Aural Rehabilitation</td>
<td>3</td>
</tr>
<tr>
<td>7700.150</td>
<td>Manual Communication II</td>
<td>4</td>
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<tr>
<td>7700.200</td>
<td>Manual Communication III</td>
<td>4</td>
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<tr>
<td>7700.222</td>
<td>Introduction to the Deaf Culture and Its Origins</td>
<td>2</td>
</tr>
<tr>
<td>7700.271</td>
<td>Language of Signs</td>
<td>3</td>
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### Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>7700.121</td>
<td>Psychosocial Aspects of Deafness</td>
<td>3</td>
</tr>
<tr>
<td>7700.223</td>
<td>Speech and Language of the Deaf: Child and Adult</td>
<td>3</td>
</tr>
<tr>
<td>3300.389</td>
<td>Special Topics (any linguistically-oriented course offered under this number, e.g., United States Dialects: Black and White)</td>
<td>3</td>
</tr>
<tr>
<td>3300.400</td>
<td>Anglo-Saxon</td>
<td>3</td>
</tr>
<tr>
<td>3300.410</td>
<td>History of the English Language</td>
<td>2</td>
</tr>
<tr>
<td>3460.490</td>
<td>Artificial Intelligence and Heuristic Programming</td>
<td>3</td>
</tr>
<tr>
<td>3460.470</td>
<td>Automata, Computability and Formal Languages</td>
<td>3</td>
</tr>
<tr>
<td>3580.409</td>
<td>Linguistics (Spanish)</td>
<td>3</td>
</tr>
<tr>
<td>3580.410</td>
<td>Linguistics (Spanish)</td>
<td>3</td>
</tr>
<tr>
<td>3600.170</td>
<td>Introduction to Logic</td>
<td>3</td>
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<tr>
<td>3600.374</td>
<td>Symbolic Logic</td>
<td>3</td>
</tr>
<tr>
<td>3600.418</td>
<td>Analytic Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>3600.471</td>
<td>Introduction to Metaphysics</td>
<td>3</td>
</tr>
<tr>
<td>5200.335</td>
<td>Teaching of Language Arts</td>
<td>5</td>
</tr>
<tr>
<td>5630.481</td>
<td>Multicultural Education in the United States</td>
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<tr>
<td>7600.310</td>
<td>Intercultural Communication</td>
<td>2</td>
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<tr>
<td>7600.351</td>
<td>Survey of Speech Communication</td>
<td>3</td>
</tr>
<tr>
<td>7700.111</td>
<td>Introduction to Phonetics</td>
<td>2</td>
</tr>
<tr>
<td>7700.271</td>
<td>Language of Signs I</td>
<td>1</td>
</tr>
</tbody>
</table>

### Program

The Mid-Careers Certificate Program in Urban Studies will require the successful completion of 16 credits of work in existing courses offered by the Department of Urban Studies. The core and urban-related courses listed below. Electives will be chosen in consultation with the advisor from the approved list of courses. Courses offered by other programs in urban-related studies are also accepted. A student wishing to pursue more than 20 credits must be admitted to the M.A. program in urban studies.

### Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980.600</td>
<td>Basic Analytical Research* or Advanced Research and Statistical Methods*</td>
<td>3</td>
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### Options

#### Urban Public Administration

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3980.611</td>
<td>Urban Administration</td>
<td>4</td>
</tr>
<tr>
<td>3980.640</td>
<td>Fiscal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3980.691</td>
<td>Urban Policy Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Elective(s)</td>
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</table>

#### Urban Research Methods

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>3980.670</td>
<td>Seminar in Urban Research Design</td>
<td>3</td>
</tr>
<tr>
<td>Elective(s)</td>
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</table>

#### Urban Planning

<table>
<thead>
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<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>3980.630</td>
<td>Planning Concepts and Methods</td>
<td>3</td>
</tr>
<tr>
<td>3980.681</td>
<td>Urban Planning Design</td>
<td>3</td>
</tr>
<tr>
<td>3980.681</td>
<td>Planning Theory and Innovation</td>
<td>3</td>
</tr>
<tr>
<td>Elective(s)</td>
<td></td>
<td></td>
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</table>

#### Urban Service Systems

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980.620</td>
<td>Social Services Planning</td>
<td>4</td>
</tr>
<tr>
<td>3980.621</td>
<td>Urban Society and Service Systems</td>
<td>3</td>
</tr>
<tr>
<td>3980.681</td>
<td>Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>Elective(s)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Urban Studies

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3980.602</td>
<td>Seminar in American Urban Development</td>
<td>3</td>
</tr>
<tr>
<td>Elective(s)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Office Administration (Secretarial Science)

Mrs. Anne West, coordinator

#### Administrative Secretarial

**Requirements**

The administrative secretarial program provides intensive administrative secretarial training in two 15-week semesters. It is designed for the 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.

**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
individual who has completed at least two years of college and who wishes to add administrative secretarial skills to enhance career opportunities. Training is provided to type at 50-65 net words-a-minute and to transcribe accurately business correspondence dictated at 70-90 net words-a-minute. The student will develop effective letter writing ability, use new office machines and correlate secretarial skills and administrative ability.

To enroll in this option, a student must have completed at least two years of college.

### Courses

#### Core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2420:111</td>
<td>Basic Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>2540:121</td>
<td>Office Problems</td>
<td>3</td>
</tr>
<tr>
<td>2540:125</td>
<td>Business Machines</td>
<td>2</td>
</tr>
<tr>
<td>2540:130</td>
<td>Introduction to Information Management</td>
<td>3</td>
</tr>
<tr>
<td>2540:131</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>2</td>
</tr>
</tbody>
</table>

#### Administrative Secretarial Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2420:150</td>
<td>Role of Supervision in Management</td>
<td>3</td>
</tr>
<tr>
<td>2540:150</td>
<td>Beginning Typing</td>
<td>3</td>
</tr>
<tr>
<td>2540:171</td>
<td>Shorthand Principles</td>
<td>4</td>
</tr>
<tr>
<td>2540:173</td>
<td>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>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2440:120</td>
<td>Introduction to Information Processing</td>
<td>3</td>
</tr>
<tr>
<td>2540:121</td>
<td>Office Problems</td>
<td>3</td>
</tr>
<tr>
<td>2540:125</td>
<td>Business Machines</td>
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</tr>
<tr>
<td>2540:151</td>
<td>Intermediate Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>2540:241</td>
<td>Information Management</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>2540:287</td>
<td>Word Processing Applications</td>
<td>3</td>
</tr>
</tbody>
</table>

### PLANNING WITH AN EMPHASIS ON CITY OR REGIONAL RESOURCE STUDIES

Dr. Alan Noble, department head

#### Requirements

This program is intended to enhance understanding of the planning function and to increase the research and analytical abilities of the person preparing for work in, or who is currently engaged in, city, urban, regional, environmental and resource planning. The program is open to the undergraduate, as well as a person with a baccalaureate degree, employed in local agencies doing related work, e.g., urban renewal, community redevelopment, community action, environmental protection and private industry. The person with a degree can enroll as a postbaccalaureate or special student.

#### Program

- Employment or internship in a planning agency or in an office engaged in related work, or a sincere intention to pursue a professional career in some aspect of government work or planning after graduation.

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### PEACE STUDIES

Dr. Warren Kuehl, director

#### Requirements

To satisfy the requirements for a certificate in peace studies, an undergraduate student at The University of Akron must complete at least 15 credits from the list of acceptable courses. These 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800:301</td>
<td>Value Concepts on Peace and War</td>
<td>3</td>
</tr>
<tr>
<td>3400:340</td>
<td>Peace, War and Marikid</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860:300</td>
<td>Special Topics in Peace Studies</td>
<td>1-3</td>
</tr>
<tr>
<td>1860:301</td>
<td>Value Concepts on Peace and War</td>
<td>3</td>
</tr>
<tr>
<td>1860:350</td>
<td>Independent Study in Peace Studies</td>
<td>3</td>
</tr>
<tr>
<td>1860:378</td>
<td>Human Rights Concepts</td>
<td>2</td>
</tr>
<tr>
<td>1860:390</td>
<td>Workshop on Peace Studies</td>
<td>1-3</td>
</tr>
<tr>
<td>2420:450</td>
<td>Comparative Economics Systems</td>
<td>3</td>
</tr>
<tr>
<td>3050:446</td>
<td>Economic Development and Planning</td>
<td>3</td>
</tr>
<tr>
<td>3520:411</td>
<td>Principles of International Economics</td>
<td>3</td>
</tr>
<tr>
<td>3300:489</td>
<td>Seminar in Twentieth Century Literature and History</td>
<td>3</td>
</tr>
<tr>
<td>3300:100</td>
<td>Introduction to Geography</td>
<td>3</td>
</tr>
<tr>
<td>3400:340</td>
<td>Peace, War and Marikid</td>
<td>3</td>
</tr>
<tr>
<td>3400:407</td>
<td>Diplomatic History of the United States, 1776-1910</td>
<td>3</td>
</tr>
<tr>
<td>3400:408</td>
<td>Diplomatic History of the United States, 1914-present</td>
<td>3</td>
</tr>
<tr>
<td>3400:417</td>
<td>United States-Latin American Relations</td>
<td>3</td>
</tr>
<tr>
<td>3400:460</td>
<td>War and Western Civilization</td>
<td>3</td>
</tr>
<tr>
<td>3700:220</td>
<td>American Foreign Policy, Process and Problems</td>
<td>3</td>
</tr>
<tr>
<td>3700:310</td>
<td>International Politics and Institutions</td>
<td>4</td>
</tr>
<tr>
<td>3700:415</td>
<td>Comparative Foreign Policy</td>
<td>3</td>
</tr>
<tr>
<td>3870:150</td>
<td>Cultural Anthropology</td>
<td>4</td>
</tr>
<tr>
<td>4800:330</td>
<td>International Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>
A statement by the applicant giving reasons for wishing to compete in the planning certificate program.

Courses

Core

Complete five of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350:244</td>
<td>Introduction to Economic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3350:220</td>
<td>Economic Geography</td>
<td>3</td>
</tr>
<tr>
<td>3350:430</td>
<td>Urban, Regional and Resource Planning</td>
<td>3</td>
</tr>
<tr>
<td>3350:438</td>
<td>World Metropolitan Areas</td>
<td>3</td>
</tr>
<tr>
<td>3400:478</td>
<td>The American City</td>
<td>3</td>
</tr>
<tr>
<td>3700:390</td>
<td>Metropolitan Politics</td>
<td>4</td>
</tr>
<tr>
<td>3450:425</td>
<td>Sociology of Urban Life</td>
<td>3</td>
</tr>
<tr>
<td>4300:450</td>
<td>Urban Planning</td>
<td>2</td>
</tr>
</tbody>
</table>

Electives

Each student's program (subject to the program director's approval) is to include six elective courses distributed between professional, technical and research offerings. Three courses will be from the professional listing and three from the technical-research listing. In consultation with the program director, elective courses will be selected from University offerings either in the city planning or regional 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

Dr. Joseph F. Ceccio, Dr. James Fee, codirectors

Requirements

The program will help meet our technological society's growing need for educated people who can develop sophisticated strategies for effective communication of business and technical information. People in the business community increasingly depend on communication to solve complex management, sales and information-processing problems. The communication demands of business and industry are significant, and in many ways, different from those dealt with in traditional courses and majors. Undergraduates in various fields and those who already possess a baccalaureate degree who wish to study specifically to meet communication demands. A formal certificate will recognize their preparation for handling the communication needs of business and industry.

Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:390</td>
<td>Professional Writing I</td>
<td>3</td>
</tr>
<tr>
<td>3300:391</td>
<td>Professional Writing II</td>
<td>3</td>
</tr>
<tr>
<td>7600:326</td>
<td>Publications Proficiency</td>
<td>3</td>
</tr>
<tr>
<td>7600:345</td>
<td>Business and Professional Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

The two 3300 courses listed cannot count toward the 35 credits in English required of English majors.

PUBLIC POLICY

Dr. Carl Lieberman, chairman coordinating committee

Program

This program will assist the person in understanding, formulating and implementing decisions in the public realm. A person who is interested in government service, administration of publicly-supported institutions and the teaching of government at the college level should find such an interdisciplinary program to be of great value.

Admission

Persons are eligible for admission to the graduate Certificate in Public Policy if they have been admitted to graduate study as special, non-degree students in the departments of economics, political science or sociology, or are pursuing a master's or doctoral degree in one of those three departments. Students who are pursuing a graduate degree in other departments at the University may be admitted upon the recommendation of the head of the department in which they are enrolled.

Requirements

Core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:547</td>
<td>The Policy Process</td>
<td>3</td>
</tr>
<tr>
<td>3700:570</td>
<td>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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:531</td>
<td>Labor and Government</td>
<td>3</td>
</tr>
<tr>
<td>3250:606</td>
<td>Public Finance</td>
<td>3</td>
</tr>
<tr>
<td>3250:616</td>
<td>Economics of Regulation</td>
<td>3</td>
</tr>
<tr>
<td>3250:617</td>
<td>Anti-Trust Economics</td>
<td>3</td>
</tr>
<tr>
<td>3250:636</td>
<td>Labor Law</td>
<td>3</td>
</tr>
<tr>
<td>3250:650</td>
<td>Seminar in Regional Economics Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3250:665</td>
<td>Seminar in Economic Planning</td>
<td>3</td>
</tr>
<tr>
<td>3250:683</td>
<td>Money Theory and Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

Political Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700:515</td>
<td>Comparative Foreign Policy</td>
<td>3</td>
</tr>
<tr>
<td>3700:561</td>
<td>The Supreme Court and Constitutional Law</td>
<td>4</td>
</tr>
<tr>
<td>3700:589</td>
<td>Urban Policy Problems</td>
<td>3</td>
</tr>
<tr>
<td>3700:610</td>
<td>Seminar in International Politics</td>
<td>3</td>
</tr>
<tr>
<td>3700:641</td>
<td>Seminar in Intergovernmental Relations</td>
<td>3</td>
</tr>
<tr>
<td>3700:660</td>
<td>Seminar in Civil Liberties and the Judicial Process</td>
<td>3</td>
</tr>
<tr>
<td>3700:680</td>
<td>Seminar in Urban and Regional Politics</td>
<td>3</td>
</tr>
</tbody>
</table>
The student in this program credits in three or more separate disciplines with a concentration in the

departments of economics, political science and sociology for disseminating information about the certificate, certifying that a student

Administration of the Program

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

Soviet Area Studies

Dr. Theodore Mackiw, coordinator

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

3350:458 U.S.S.R. 3

History

3400:458/558 Russia to 1801 3
3400:459/559 Russia since 1801 3

Political Science

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

Russian

Three years of study or the equivalent.

Teaching English as a Second Language†

Dr. Kenneth J. Pakenham, director

Requirements

This program is intended for those who seek training in the teaching of English as a second language at the elementary or high school level or who wish to obtain an initial qualification in teaching ESL in order to teach in settings other than the Ohio public school system.

The program is designed to introduce the student to the central issues in the theory and practice of teaching English to nonnative speakers through courses in modern and applied linguistics, second language pedagogy and in related disciplines.

Students who do not have English as a native language must demonstrate adequate proficiency in English with a valid TOEFL score of at least 550.

Program

Graduate

3300:469 Special Topics: Theory and Method of ESL 3
3300:469 Special Topics: Grammatical Structures of English 3
5630:481 Multicultural Education in the U.S.* 3
or
3300:469 Special Topics: Sociolinguistics** 3
5630:487 Techniques for Teaching ESL 3

Undergraduate

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

Core

3300:469 Special Topics: Theory and Method of ESL 3
3300:469 Special Topics: Grammatical Structures of English 3
5630:481 Multicultural Education in the U.S.* 3
or
3300:469 Special Topics: Sociolinguistics** 3
5630:487 Techniques for Teaching ESL 3

Electives

3301:270 Introduction to Linguistics 3
3300:370 Intermediate Linguistics 3
3300:389 Special Topics in Linguistics 3
5300:470 History of the English Language 3
3300:469 Special Topics: Sociolinguistics** 3

*Recommended for students intending to teach in Ohio public schools: two years of college-level second language learning experience or its equivalent; two credits of college-level English as a Second Language (5200:395/695 or 5300:395) or its equivalent at the discretion of the director.

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

†The awarding of this certificate is not contingent upon completion of a cognate program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.

††May not be taken both as an elective and as a core course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3580:409</td>
<td>(Spanish) Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3580:410</td>
<td>(Spanish) Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3670:461</td>
<td>Language and Culture</td>
<td>3</td>
</tr>
<tr>
<td>5630:485</td>
<td>Teaching Reading and Language Arts to Bilingual Students</td>
<td>4</td>
</tr>
<tr>
<td>7600:325</td>
<td>Intercultural Communication</td>
<td>3</td>
</tr>
<tr>
<td>7700:230</td>
<td>Speech and Language Development</td>
<td>3</td>
</tr>
<tr>
<td>7700:430</td>
<td>Aspects of Normal Language Development</td>
<td>3</td>
</tr>
<tr>
<td>2020:240</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>2260:100</td>
<td>Introduction to Community Services</td>
<td>3</td>
</tr>
<tr>
<td>2260:278</td>
<td>Techniques of Community Work</td>
<td>4</td>
</tr>
<tr>
<td>2260:279</td>
<td>Technical Experience: Community and Social Services</td>
<td>5</td>
</tr>
<tr>
<td>2260:280</td>
<td>Fundamentals of Volunteer Program Management</td>
<td>3</td>
</tr>
<tr>
<td>2260:281</td>
<td>Recruitment and Interviewing Volunteers</td>
<td>3</td>
</tr>
</tbody>
</table>

**VOLUNTEER PROGRAM MANAGEMENT**

Mr. John Mumper, coordinator

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020:121</td>
<td>English Technical Report Writing</td>
<td>4</td>
</tr>
<tr>
<td>2600:222</td>
<td>Technical Report Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

*The awarding of the certificate is not contingent upon completion of a degree program. Undergraduate certificate programs require a 2.00 grade-point average; graduate certificate programs require a 3.00 grade-point average.
**Graduate 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. Mulhauser, M.A., J.D., Acting Director of Research Services and Sponsored Programs

**OBJECTIVES**

The purpose of the Graduate School is to provide a quality program of education by the following means:

- Advanced courses in various fields of knowledge beyond the baccalaureate level.
- Opportunities to develop and apply research techniques and to use the resources appropriate to various graduate programs.
- Advancement of student's knowledge for the benefit of mankind through the efforts of its faculty and students.

**Nature of Graduate Education**

The Graduate School provides a qualified student with education which may be required for the full development of scholarly and professional capacities, subject to the criteria developed by graduate departments.

Graduate education involves the extension of knowledge. However, it is by no means a mere continuation of undergraduate study. At its best, graduate education is characterized by an able and enthusiastic advanced student who joins faculty leaders to form a community of scholars dedicated to the common pursuit of truth. Critical analysis, independence of thought, originality of method, intensity of purpose, freedom from bias, thoroughness of inquiry, keenness of perception and vital creativity combine to produce in the successful student both the professional competence and the breadth of understanding essential to leadership in many areas of human endeavor.

**History of the Graduate School**

Graduate study began a few years after Buchtel College opened its doors, and the first earned master's degree was conferred in 1982. The College of Education awarded its first master's degree in 1924, the Colleges of Engineering and Business Administration in 1959, the College of Fine and Applied Arts in 1967 and the College of Nursing in 1979. The Department of Communicative Disorders (previously the Department of Speech), now housed in the College of Fine and Applied Arts, was formerly a part of the Buchtel College and conferred a master's degree in 1963. The first earned doctoral degrees were conferred in 1959. Professor Charles Bulger was appointed first dean of Graduate Work in 1933, and he continued in that capacity until 1950. Professor Ernest H. 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. Edwn 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, psychology, sociology, urban studies, education (elementary, secondary and guidance and counseling) and engineering. The Doctor of Education degree is offered in educational administration. The Doctor of Philosophy program in sociology is a joint program with Kent State University. The Doctor of Philosophy program in urban studies is a joint program with Cleveland State University.

The school also offers programs of study leading to the master's degree with majors in the following areas: accounting, biology, business administration (accounting, finance, international business, management, marketing and taxation), chemical engineering, chemistry, civil engineering, communicative disorders, earth science, economics, education (educational foundations, elementary, secondary, multicultural education, physical education, elementary or secondary school principal, school supervisor, local superintendent, counseling, special education, visiting teacher, reading specialist and school psychology), electrical engineering, engineering, English, French, geography, history, home economics and family ecology, management, communication, mathematics, mechanical engineering, music, nursing, philosophy, physics, political science, polymer science, psychology, sociology, Spanish, speech, statistics, technical education, theatre arts and urban studies. In addition, the College of Education provides a year of study beyond the master's degree in the area of school superintendent.

Several departments offer a limited amount of work which may be taken on the graduate level. Such courses may supplement the major program of study for the student who does not wish to devote his entire attention to one field.

**Graduate Faculty and the Graduate Council**

The graduate faculty is comprised of those members of the faculty who hold appointments at the rank of assistant professor or above and teach graduate courses, supervise theses and dissertations and are generally responsible for the graduate program in the University. They are appointed by the dean of Graduate Studies and Research after recommendation by the department, college dean and Graduate Council. Guidelines for recommendation and appointment include:

- Quality and experience in upper-level and graduate-level teaching.
- Possession of terminal degree in field.
- Scholarly publication record.
- Activity in research.
- Activity in profession or discipline.

The purpose of the graduate faculty is to encourage and contribute to the advancement of knowledge through instruction and research of highest quality, and to foster a spirit of inquiry and a high value on the scholarship throughout the University.

The graduate faculty recommends a student who has been nominated by the student's college faculty for the appropriate master's or doctor's degree.

*An exclusive listing of graduate faculty and Graduate Council can be found in the "Directory" of the Graduate Bulletin.*
Graduate Council is elected by the graduate faculty. Membership in the council presently includes two members from the College of Engineering, two members from the College of Business Administration, two members from the College of Education, four members from the Buchtel College of Arts and Sciences, two members from the College of Fine and Applied Arts, one member from the College of Nursing and one student member elected yearly by the Graduate Student Council. Members serve three-year terms and may not succeed themselves. The dean of Graduate Studies and Research serves as chairman of both the graduate faculty and the Graduate Council.

The functions of the council include examination of proposed graduate programs and course offerings, recommendation of policy for all phases of graduate education, recommendation of persons for membership in the graduate faculty and advising and counseling the dean in administrative matters.

REGULATIONS

Student Responsibility

A student assumes full responsibility for knowing the regulations and pertinent procedures of the Graduate School as set forth in this Bulletin. Normally, the degree requirements in effect at the time a student is admitted to a program will apply through graduation. However, if existing programs are revised, the student has the option of pursuing the revised program as long as all requirements in the revised program are met. Additional information pertaining to programs can be obtained from the appropriate department head.

Admission

Every person who desires to enroll in or audit any graduate credit course must be first admitted or approved by the Graduate School.

Applications for admission to the Graduate School should be filed in the Office of the Dean of Graduate Studies and Research at least six weeks before registration (except for applications to the nursing and school psychologist programs, which must be submitted at earlier dates. These two programs have restricted admission; the department heads should be consulted for further information). Each application must be accompanied by an application fee of $25 (unless previously paid). This fee is not refundable under any circumstances. Payment should be made by check or money order 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 for the purpose or objective stated on the application for admission. A new request for admission must be filed when the original objective has been attained or when the student wishes to change objectives. The admitted status terminates when the time limits have been exceeded or other conditions for continued admitted status have not been met.

No student will be admitted without approval and acceptance by a department within the University, but admission to a department does not necessarily imply admission to or candidacy for any graduate degree program in that department. Admission to graduate study in any program can only be granted by the dean of Graduate Studies and Research.

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. Such a student is granted permission to enroll in graduate classes and to be treated as a graduate student.

- Non-Degree Admission may be granted to any person who holds a baccalaureate degree from an accredited college or university with an overall grade-point average of 2.00 or better. Permission to enroll in graduate classes is granted and such a student is treated as a graduate student.

- Special Admission may be given to any person who is a graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Honorary Student Admission may be given to any person who is a graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Undergraduate Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Post-Doctoral Admission may be given to any person who is a post-doctoral student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Visiting Student Admission may be given to any person who is a graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Professional Student Admission may be given to any person who is a graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Temporary Student Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Part-time Student Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Adjunct Student Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Special Workshop Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Cooperative Student Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Post-Baccalaureate Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Special Status Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Advanced Placement Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Special Status Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Graduate Externship Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Special Status Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Special Status Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Special Status Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.

- Special Status Admission may be given to any person who is a regular graduate student at another accredited university and wishes to transfer credits from the other institution to the University of Akron. The applicant must be in good standing at the other institution, and the credits submitted must meet the requirements of the University of Akron. The director of the school or department must approve the transfer.
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.

Applicants from countries other than the United States in which English
is not the major language in daily life are required to demonstrate high-level
competence in the use of the English language, including reading, writing,
speaking and listening, prior to admission. This competence can best be
established by achieving a score of at least 550 on the TOEFL (the Test of
English as a Foreign Language). The TOEFL is administered by Educa-
tional Testing Service, Box 809, Princeton, NJ 08540, USA. Applicants
should make arrangements to take the test as soon as study at The
University of Akron is anticipated and should request ETS to forward the
official test score directly to the Graduate School, The University of Akron,
Akron, OH 44325. The official score should be received in the Graduate
School by June 1 for fall admission. Unofficial copies of the TOEFL cannot
be accepted. If the TOEFL is not available, the applicant should contact
the international student adviser at The University of Akron for other
arrangements. Personal letters certifying English competence are not
accepted 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 Ameri-
can 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
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 de-
partment head, may dismiss anyone who fails to make satisfactory progress toward declared goals or who accumulates six semester cred-
its of "C" or below. The accumulation of six semester credits of "F" will
result in mandatory dismissal. A student dismissed from the Graduate

School for academic reasons may not be readmitted for one calendar
year, and then only if evidence for expecting improved performance is
submitted and found acceptable.

Official academic records are maintained with a grade-point system
as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality Points</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
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</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
<td>Grad Course Only</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
<td>Grad Course Only</td>
</tr>
<tr>
<td>D-</td>
<td>0.0</td>
<td>Failure</td>
</tr>
</tbody>
</table>

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

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

IP — In Progress: Indicates that the student has not completed the scheduled
coursework during the term because the nature of the course does not permit
completion within a single term, such as work toward a thesis.

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

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

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

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

Repeating Courses

Any graduate course may be repeated once for credit. However, the
degree requirements shall be increased by the credit hour value of each
course repeated. The hours and grades of both the original and the
repeated section shall be used in computing the grade-point average.
Required courses in which a "D" or "F" was received must be repeated.

Transfer Students

A graduate student matriculated in the Graduate School of another college
or university who wishes to transfer to The University of Akron to continue
graduate education must be in good standing at the other school.

Course Load

A full load of coursework at the graduate level is normally 9-15 semester
credits including audit.

*Instructors wish to extend the "I" grade beyond the following term for which the student is
registered, prior to the end of the term they must notify the Office of the Registrar in writing of
the extension and indicate the date of its termination. 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.
Registration

The responsibility for being properly registered lies with the student, who should consult with the assigned adviser in preparing a program of courses and/or research. A schedule of courses, hours, class location and registration procedures is obtainable from the registrar.

Entrance Qualifying Examinations

The use of examinations to determine admissibility to enter a graduate program or eligibility to continue in one is the prerogative of the departments offering graduate programs. The department has the right to select the examination and minimum acceptable level of performance. Information and procedure may be obtained from the head of the appropriate department.

Fees

All fees reflect changes in 1984-85 and are subject to change without notice.

| Application Fee | $25
| Tuition Fees     | 68
| Non-resident student per credit | 121
| General Fee      | 6.00 per credit
| Parking Permit Fee | 30
| One summer session | 10
| Graduation Fees   | 25
| in absentia (additional) | 5
| Thesis and binding | 9
| Microfiling (Ph.D. only) | 48
| Course schedule change fee | 10
| Transcripts (120% of one transcript) | 3
| Late Registration Fee | 25

Refunds

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

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 enters the military service of the United States, or 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 earned credit to a minimum of $50 if the student requests in writing to the dean or designated official withdrawal from all credit courses or, 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 term or is drafted into military service, or before the second day of the term, the following refund percentages apply:
    - $3 through 12 calendar days
    - $6 through 22 calendar days
    - $15 through 33 calendar days
    - Thereafter

- 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
  - $6 through 15 calendar days
  - $15 through 33 calendar days
  - Thereafter

- Refunds for course sections which have not been scheduled consistent with either the standard 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
  - in regular class location, fall/spring/semester term or a five-week summer term
  - in absentia (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 timely 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 legitimate reasons for graduating "in absentia" should make a written request to the registrar within the established dates and pay the designated fee.

Financial Assistance

The University awards a number of graduate assistantships to qualified students. Assistantships are normally awarded for up to two years of master's study and up to four years of doctoral degree study. These assistantships provide a stipend of $4,150 — $6,350 plus remission of tuition and fees and are available in all departments with graduate degree programs. A graduate assistant renders service to the University through teaching, research and other duties. For information and/or applications, contact the head of the department. An application form is available at the dean's office.

A number of fellowships sponsored by industry and government agencies are available in some departments. Stipends range up to $12,500. For information, contact the dean of the department.

Information about Stafford Loans can be obtained from the Office of Student Financial Aid.

*Refunds for course sections which have not been scheduled consistent with either the standard 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.”
MASTER'S DEGREE REQUIREMENTS

Admission

When a student is admitted to graduate study, an adviser is appointed by the head of the major department. A student who is academically qualified in general but deficient in course preparation may be required to make up the deficiencies at the postbaccalaureate level. This may be recommended prior to beginning graduate work, or in some cases, can be done simultaneously.

Residence Requirements

There are no formal residence requirements for the master's degree. A student may meet the degree requirements of the Graduate School and the department through either full- or part-time study.

Time Limit

All requirements must be completed within six years after beginning graduate-level 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 adviser and department head.

Credits

A minimum of 30 semester credits of graduate work is required in all master's degree programs. This includes thesis credit. Some departments require more (see departmental requirements). A minimum of two-thirds of the total graduate credits required in any master's program must be completed at the University. A maximum of six workshop credits may be applied to a master's degree. Such credits must be relevant to the degree program, recommended by the student's adviser and approved by the dean of Graduate Studies and Research.

It should be noted that the requirements listed by department elsewhere in this section refer to the minimum necessary for a degree. It is entirely within the prerogative of the department to assign additional credits of 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 500-numbered courses previously taken at the 400-number course level as an undergraduate without advance approval from the dean of Graduate Studies and Research.

Transfer

Up to one-third of the total graduate credits required may be transferred from an accredited college or university. All transfer credits 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.

*The doctoral program in engineering is an interdisciplinary program offered on a collegiate basis. 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.
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, and the graduate faculty. Before full-time enrollment is approved by the Graduate School, the student must have the full-time approval of the department of 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.

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 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 one’s 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 the subject is a part. Consequently, the emphasis is on mastery of the subject rather than a set number of credits. Doctoral programs generally encompass the equivalent of at least three years of full-time study at the graduate level. A minimum of 50 percent of the total credits above the baccalaureate required in each student’s doctoral program must be completed at The University of Akron. A maximum of six workshop credits may be applied to a doctoral degree. Such credits must be relevant to the degree program, recommended by the student’s adviser and approved by the dean of Graduate Studies and Research.

No graduate credit may be received for courses taken by examination or for 500-numbered courses previously taken at the 400-number course level as an undergraduate without advance approval from the dean of Graduate Studies and Research.

Transfer Credits

Up to 50 percent of the total graduate credits above the baccalaureate required in a doctoral program may be transferred from an accredited college or university. All transfer credit must be at the "A" or "B" level in graduate courses. The course must be relevant to the student’s program and 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. Thirty semester credits are transferable from a master’s degree.

A student seeking to transfer credits must have full admission and be in good standing at the University and the school in which the credits were achieved. Transfer credit shall not be recorded until a student has completed 12 semester credits at The University of Akron with a grade-point average of 3.00 or better.

Language Requirements

There is no University-wide foreign language requirement for the Ph.D. The student is required to demonstrate one of the following skills depending upon the particular program.

- Plan A: Reading knowledge, with the aid of a dictionary, of two approved foreign languages. At the discretion of the 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 for 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 selected, 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.

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before the dissertation is submitted to the Graduate School. Two copies of the dissertation are due in the Graduate School at least two weeks prior to Commencement. These copies must be signed by the adviser, faculty reader, department head and college dean prior to submission to the dean of Graduate Studies and Research. A manual entitled Guidelines for Preparing a Thesis or Dissertation is available in the Graduate School and all copies of the dissertation must conform to these instructions.

Graduation
To be cleared for graduation, a candidate must have completed the academic program with a grade-point average of at least 3.00; have been advanced to candidacy; submitted an approved dissertation and passed an oral examination; filed an application for graduation with the registrar; paid all applicable fees; and met any other department and University requirements.
Buchtel College of Arts and Sciences

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

DOCTOR OF PHILOSOPHY DEGREE

The following programs leading to the Doctor of Philosophy degrees are offered in the Buchtel College of Arts and Sciences: the Doctor of Philosophy degree in chemistry, the Doctor of Philosophy degree in Counseling Psychology, the Doctor of Philosophy degree in history, the Doctor of Philosophy degree in psychology, and Doctor of Philosophy degree in polymer science. The Doctor of Philosophy degree in sociology is offered jointly with Kent State University. The College of Arts and Sciences and the Doctor of Philosophy degree in urban studies with Cleveland State University.

Doctor of Philosophy in Chemistry

In addition to satisfying the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in chemistry must meet the following requirements:

• Take proficiency exams in organic, inorganic, physical, and analytical chemistry. Results of these exams will be used for diagnostic purposes.

• Complete a course of study designed and accepted by the student’s advisory committee. This course of study must 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. The 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 3150:999 such that course credits plus dissertation credits total at least 84 credits (exclusive of Master of Science thesis credits).

• Pass cumulative examinations given approximately monthly. The candidate is urged to begin to take these examinations early in the graduate program and must pass seven cumulative exams, six written and one oral to meet the degree requirement.

• Pass an oral examination upon completion of the research dissertation.

• Pass the general requirements for the Doctor of Philosophy degree.

Doctor of Philosophy in Counseling Psychology

The University of Akron offers a doctoral program in Counseling Psychology. The program allows the student a choice of emphases—a scientist-practitioner model through the Buchtel College of Arts and Sciences or a practitioner-scientist model through the College of Education. Students in both emphases are expected to attain a level of broad scientific competence in the core areas of psychology: the biological, social, cognitive-affective and individual bases of human behavior. Practica and internship experiences are also required of students in both emphases and range from skill building in basic psychological assessment and counseling, to actual work with clients, to a year-long, full-time internship in an applied service setting. Pertinent information regarding differences in emphasis orientation and coursework is included below. Students receive exposure to both colleges through shared coursework and faculty involvement with dissertations but must choose a specialization in one emphasis. The program in counseling psychology has been constructed so as to lead to APA approval in coming years.

The Department of Psychology offers a five year Counseling Psychology program leading to a doctoral degree and, in general, is geared toward students who hold a B.A. degree in Psychology. Program emphasis is strongly placed on a scientist-practitioner model of training. Beyond the basic core areas of psychology, students are expected to establish specific competencies in the areas of theory, research, and practice of counseling psychology. Academic preparation includes theories of personality and psychopathology, psychodiagnosis, vocational development theory, intelligence testing, research and statistics, and professional issues. Research and publication are highly encouraged. Graduates typically seek out academic teaching, research and training positions, as well as positions in counseling centers and other mental health agencies.

Admission to the Joint Program in Counseling Psychology will be handled through the department associated with the student’s chosen emphasis. Departures from the above program may be made only with the approval of the Counseling Psychology Program faculty.

Scientist-Practitioner Program Rationale and Track

The current curriculum reflects the new joint program in counseling psychology. The additional courses taken in counseling and special education will broaden the knowledge and skill bases of the students who choose the scientist-practitioner emphasis. Electives and other classes to be planned along with student’s adviser.

• Required courses
  • Core (I, II, III, IV)  16
  • Statistics sequence (I, II, Multivariate, Nonparametrics, Regression and Correlation, Factor Analysis)  16
  • Practica sequence (P, C, A, Advanced I, II)  18
  • Counseling psychology courses (Advanced Tests and Measures, Theories of Psychotherapy, Vocational Behavior, Survey of Projectives, Psychodiagnosis, IQ Testing, Advanced Counseling, Personality, Functional Analysis)  36
  • Practitioner-scientist track classes (Group Processes, Introduction to Marriage and Family, electives)  15
  • Thesis credits
  • Dissertation credits

• Practicum—each conducted in own department and evaluated there.

• Internship—2,000 hours post-masters with 1,600 hours over no more than two years.

• Counseling Core: 3750:610, 620, 630, 640.

• Counseling Psychology Joint Core
  • scientist-practitioner track—15 credits required including group (5600:633) and introduction to marriage and family (5600:655) with others to be decided upon with adviser.
  • practitioner-scientist track—12 credits required including advanced counseling (3750:706) with other counseling psychology courses to be decided upon with adviser.

• Other course requirements for each track—up to faculty of the track.

• Comprehensive examinations—separate written exams for each oral.

• Dissertation—at least one faculty member from each track on the student’s committee.

• In the scientist-practitioner emphasis, students must perform at an acceptable level on the qualifying exam over the basic area of psychology to determine eligibility for M.A.-Ph.D. standing in that program. In the practitioner-scientist emphasis, M.A. students must take the preliminary exam to appraise their current competency level. These exams will be administered by the faculty specific to the student’s chosen emphasis.

• Language and residency requirements—these will be completed in accordance with guidelines from the Graduate School and the appropriate department.
Doctor of Philosophy in History

The Doctor of Philosophy degree in history is granted primarily for high scholarly achievement in four fields of study selected by the student and for demonstrated ability to pursue independent research. Each student must:

- Fulfill admission requirements of the School.
- Complete a course of study prescribed by the student's 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 1815, modern Europe since 1789, England and the Empire, United States since 1665, 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, unless the student, in consultation with the student's doctoral committee, another language or computer techniques and statistics may be prescribed by the student's advisory committee. An instructor may require specific language proficiency before permitting a graduate student to enroll in any course for which credit is to be granted. An instructor may require additional languages or specific language proficiency before permitting a student 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 results of any special examinations they might impose. This course will consist of a minimum of 36 credits in graduate courses, as outlined below, or their equivalent. At least 12 credits of graduate coursework and all dissertation credits must be completed at the University.

- Credit for a dissertation, to be established by enrollment in 3940:899 such that course credits plus dissertation credits total 84 credits (exclusive of Master of Science thesis credit).
- Pass eight cumulative examinations which are given at intervals during the academic year. The candidate is urged to begin these examinations early in the graduate program.
- Pass an oral examination upon completion of the research dissertation.
- Pass the general requirements for the Doctor of Philosophy degree.

Doctor of Philosophy in Sociology

The Department of Sociology offers a doctoral degree in sociology with specialization in either industrial/organizational psychology, applied 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 of equivalent;
  - attainment of a graduate grade-point average (GPA) of 3.25;
  - completion of Graduate Record Examination (GRE) 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-credit master's program. A student may be required to complete additional credits beyond the 90 minimum credit requirement;
  - completion of Ph.D. core courses in the student's specialty area: industrial/organizational; developmental, industrial gerontological psychology. Core courses are specified in the Department of Psychology Graduate Student Manual. The student is required to maintain at least a 3.0 GPA in core courses and overall courses;
  - completion of additional required and elective courses to be planned in cooperation with the student's faculty advisor and subject to approval by the department; industrial/organizational, developmental, industrial gerontological committees;
- Written comprehensive examinations
  - satisfactory performance on doctoral written and oral comprehensive examinations in the student's major area of industrial/organizational psychology, developmental psychology, industrial gerontological psychology (refer to the Department's Graduate Student Manual).
- Dissertation research
  - completion of 3940:899 Dissertation Research;
  - satisfactory performance on final oral examination and defense of dissertation research.
- Other requirements
  - refer to the department's Graduate Student Manual 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 advisory committee, depending upon the career plans of the student and upon the academic and/or scientific requirements of the dissertation.

Doctor of Philosophy in Sociology

Akron-Kent Joint Ph.D. Program

The University of Akron and Kent State University Departments of Sociology offer a joint program leading to the Ph.D. degree. Faculty and students engaged in the joint doctoral program are 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 after at least one year of full-time coursework or equivalent (18 credits) in the sociology Master of Arts program at The University of Akron. The coursework must include the Master of Arts core sequence. Scores from either the Miller Analogies Test (MAT) or the aptitude portion of the Graduate Record Examination (GRE) are required as part of the doctoral application. Admission is limited to students whose records clearly indicate both scholarly and research potential.

Degree Requirements (for a student admitted with the master's degree or equivalent)

In addition to meeting the general requirements of the Graduate School, a student working toward the Doctor of Philosophy degree in sociology must meet the following requirements:

- Take 385:747 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 M.A. core coursework.
- Completion of a research practicum (3 credits). This may be waived for the student who already has sufficient research experience.
- Completion of a minimum of 60 credits of graduate-level (600 or higher) coursework beyond the bachelor's degree.

Each student will also complete an area of specialization through a combination of tutorials (12 credits) and elective courses (12 credits). The tutorial rests upon a close working relationship between students and individual faculty members in particular areas where faculty members are actively engaged in research.

Students must pass written and oral comprehensive examinations on both the core and their specialization.

The capstone of the program is the dissertation where students must present the results of their research and successfully defend their dissertations in an oral examination.

A minimum of 63 credits beyond the master's degree is required.

MASTER'S DEGREE

Programs of advanced study leading to the master's degree are offered by the Departments of Biology, Chemistry, Economics, English, Geography, 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 M.S. degree will probably be the terminal scientific degree and who does not need extensive research experience.

The requirements are the same as the research option except that no thesis and research is undertaken, but a total of 38 credits of approved 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.
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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:602 Macroeconomic Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>3250:611 Microeconomic Theory I</td>
<td>3</td>
</tr>
<tr>
<td>3250:620 Applications of Mathematical Models to Economics</td>
<td>3</td>
</tr>
<tr>
<td>3250:625 Statistics for Econometrics*</td>
<td>3</td>
</tr>
</tbody>
</table>

Exceptional departures from these requirements may be approved with the permission of the graduate faculty and department head. A comprehensive examination is intended to test the candidate's knowledge of economic theory and the chosen field of specialization.

Labor and Industrial Relations Option**

- Core:
  - 3250:531 Human Resource Policy | 3
  - 3250:610 Framework of Economics Analysis | 3
  - 3250:626 Statistics for Econometrics | 3
  - 3250:633 Theory of Wage and Employment | 3
  - 3290:624 Collective Bargaining I | 3
  - 3256:535 Labor Law I | 3

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

- 3250:356 Collective Bargaining II | 3
- 3250:637 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
  - 3750:64 Industrial Psychology | 4
  - 3850:349 Sociology or Work | 3

- A total of 30 credits is required for the degree.

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**These courses may be waived for the student who can demonstrate, in a qualifying examination, adequate preparation in mathematics and statistics.

**The student should have an A.B. / 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:291 Principles of Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3250:202 Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>3250:330 Labor Problems</td>
<td>3</td>
</tr>
<tr>
<td>3470:251-7 Introductory Statistics</td>
<td>7</td>
</tr>
</tbody>
</table>

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English

Master of Arts

A minimum of 32 credits is required, of which 17 (exclusive of thesis) must be at the 600 level. Of these 17 credits, 12 must be in literature or literary theory:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3300:506 Chaucer I</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>
</tr>
<tr>
<td>3304:670 Modern Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>3300:615 Shakespearean Drama</td>
<td>3</td>
</tr>
<tr>
<td>3300:651 Bibliography and Literary Research</td>
<td>2</td>
</tr>
<tr>
<td>3300:669 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:
  - 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 advisor.

- Final comprehensive examination: 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 36 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>3350:581 Geographic Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>3350:657 Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>3350:587 History of Geographic Thought</td>
<td>3</td>
</tr>
</tbody>
</table>

- Thesis (M.A. only) — 4-6 credits.

- Statistics (M.S. only) — 8 credits.

- Successful completion of a comprehensive examination administered by the departmental committees.

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 M.S. in the geology or geophysics options.

Core requirements:
- 3820:665 Seminar in Geology 2
- 3820:699 Thesis Research 6
- 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, 520, 631, 632, 533, 654
- Earth History: 511, 525, 563, 623, 630, 660.
- Applied Geology: 535, 574, 670, 636, 638, 643, 674, 675, 678.
- Geophysics: 654, 541, 546, 608, 645, 656

Geophysics

Equivalents of the geology, geophysics 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

General areas of courses:
- Solid Earth: 510, 532, 533, 537, 550, 520, 631, 632, 533, 654
- Earth History: 511, 525, 563, 623, 630, 660.
- Applied Geology: 535, 574, 670, 636, 638, 643, 674, 675, 678.
- Geophysics: 654, 541, 546, 608, 645, 656

Degree Specialization

Geology

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

General areas of courses:
- Solid Earth: 510, 532, 533, 537, 550, 520, 631, 632, 533, 654
- Earth History: 511, 525, 563, 623, 630, 660.
- Applied Geology: 535, 574, 670, 636, 638, 643, 674, 675, 678.
- Geophysics: 654, 541, 546, 608, 645, 656

Geophysics

Equivalents of the geology, geophysics and mathematics requirements for the University's B.S. degree in geophysics are required. At least one course must be selected from each of the four general areas.

Geology

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 no deficiencies in either engineering or geology may have to satisfy one or more of the following requirements while proceeding with graduate studies.

- 3820:131 Introductory Physical Geology 4
- 3820:210 Geological Engineering 4
- 3820:350 Structural Geology 4
- 3450:221A Fundamentals of Geology (I, II, III) 12
- 4302:01 Statics 3
- 4302:02 Introduction to Mechanics of Solids 3
- 4303:311 Geotechnical Engineering 5
- Required courses:
  - 370:013 Rock Properties 3
  - 4302:11 Fundamentals of Soil Behavior 2
  - 4302:014 Foundation Engineering I, II 6

Environmental Geology

Equivalents of the science and mathematics requirements for the University of Akron B.S. 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: 3820:541, 570, 74, 678.) As many as eight credits may be selected from engineering, geology and/or geography with the approval of a geology adviser.

Student programs beyond the stated requirements will be designed in consultation with the approval of an adviser.

History

Master of Arts

- Admission to the program requires completion of at least 15 semesters 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, the 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
  - Italy
  - England and the Empire
  - Africa
  - Latin America
  - United States
  - Far East
  - History of Science

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

The student must pass an appropriate written examination in two of the three fields. The third field requirement will be met by at least seven credits of work at the graduate level. If the student does not pass an examination unconditionally, the examining faculty may 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 15 hours of 600-level work, exclusive of historiography and individual reading. May be fulfilled in one of the following ways:

  Option I
  - Three reading seminars and one writing seminar, with the writing seminar paper read and approved by two faculty members.

  Option II
  - Two reading and two writing seminar sequences under different professors with the writing seminar paper of the student's choice read and approved by two faculty members.

  Option III
  - Two reading seminars, one writing seminar and a thesis read and approved by two faculty members.

Special Summer Program

The department offers a special three-summer M.A. program. Designed primarily for public school teachers, this program makes it possible to schedule the requirement for an M.A. (Option I or Option II) over three summers and the two intervening years.

Mathematical Sciences

Master of Science — Mathematics

- Core:
  - 3450:611 Algebraic 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.

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.
Thesis Option (30 credits)

In addition to the core requirements, six to eight credits of 500/600 level mathematical sciences courses and two to four credits in 3450:699 Thesis Research must be completed.

- With the consent of the department, up to six credits of approved graduate-level electives outside the department may be substituted in the thesis or non-thesis option.
- A comprehensive examination, taking the form suggested by the department, must be completed in the thesis or non-thesis option.

Non-thesis Option (33 credits)

In addition to the core requirements, 13 credits in 500/600 level mathematical sciences courses must be completed.

Master of Science — Statistics

- Core:
  3450:692 Mathematics and Statistics Seminar 2
  3470:564 Experimental Design II 2
  3470:651 Mathematical Statistics I, II 6
  3470:655 Linear Models 3
  3470:665 Regression and Correlation 3
  3470:689 Advanced Topics in Statistics 2

Thesis Option (30 credits)

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.

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 — Applied Mathematics

- Core:
  3450:610 Matrix Algebra 3
  3450:621 Functions of a Real Variable I 3
  3450:627 Advanced Numerical Analysis I 3
  3450:650 Mathematics and Statistics Seminar 2
  3470:651 Mathematical Statistics I 2
  3470:655 Linear Models 3
  3470:665 Regression and Correlation 3
  3470:689 Advanced Topics in Statistics 2

Thesis Option (30 credits)

In addition to the core requirements, three to five credits in 500/600 level mathematical sciences courses and two to four credits in 3450:699 Thesis Research must be completed.

- With the consent of the department, up to six credits of approved graduate-level electives outside the department may be substituted for elective courses in the thesis or non-thesis option.
- A comprehensive examination, taking the form suggested by the department, must be completed in the thesis or non-thesis option.

Non-thesis Option (33 credits)

In addition to the core requirements, 10 credits in 500/600 level mathematical sciences courses must be completed.

**Philosophy**

**Master of Arts**

- Attain a minimum of 2.75 grade-point average in undergraduate work, a minimum 2.75 grade-point average in major area, complete the Graduate Record Examination or Miller Analogies Test and secure three letters of recommendation.
- Have completed at least four quarter or semester courses in undergraduate philosophy or a major in some related area. A student with inadequate background will be expected to make up the deficiency.
- Complete at least 30 semester credits with a 3.00 cumulative grade-point average.
- Complete:
  3600:615 Seminar in the History of Philosophy (3 credits) or equivalent in study of three different philosophers
  Logic One course
  - Pass a comprehensive examination in the history of philosophy and two others from the following fields:
    - Logic, philosophy of science and methodology;
    - Value theory, including ethics, aesthetics and social and political philosophy
    - Epistemology and metaphysics.
  - Demonstrate mastery of a second language by written translation.
  - Complete a thesis under departmental supervision after passing the comprehensive examination.

**Physics**

**Master of Science**

- Complete 30 graduate credits of approved courses. Up to six credits of graduate-level electives outside the department may be included in the program. There is no foreign language requirement for this degree.
- A cumulative grade-point average of 3.00 or better for all graduate-level credits applicable toward the degree.
- Complete an approved program of courses. The program is to be individually arranged in consultation with the student, considering professional goals. For preparation of continued graduate work in a physical science, or to academic or industrial employment, the following should be included:
  3650:581,2 Methods in Mathematical Physics I, II 6
  3650:681,2 Quantum Mechanics I, II 6
  - For preparation in teaching secondary school science, the following should be included:
    3650:500 History of Physics 3
    3650:510 Electricity and Magnetism 3
    3650:511,2 Intermediate Laboratory I, II 4
    3650:590 Workshops* (maximum credit) 6
  - A comprehensive examination, taking the form suggested by the department, must be passed. This exam consists of two parts, as follows:
    - Part I: The basic exam must be passed by all degree candidates. This is written examination covering the fields of mechanics, electricity and magnetism, atomic and nuclear physics, mechanics and experimental physics at the beginning-graduate level.
    - Part II: Successful completion of at least one of the following options:
      Option A: The advanced exam is a written examination covering the field of quantum physics, electronics and magnetism, atomic and nuclear physics, mechanics and experimental physics at the beginning-graduate level.
      Option B: A formal report, based upon an original research project, submitted in a form suitable for publication and approved by a physics faculty committee.
      Option C: A master's thesis.
- Graduate research participation is strongly encouraged. Up to five credits may be earned in 3650:687 Graduate Research. Upon the satisfactory completion of graduate research project, one additional credit may, upon approval by the department, be permitted in 3650:659 Master's Thesis Research for the completion of a master's thesis based on such research. A successful thesis may be accounted for up to six of the total of 30 graduate credits required.

*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 advisor.
- Complete 3700:640 Seminar in Political Behavior and at least one graduate seminar in one or more of the following areas:
  - American Government and Politics
    - 3700:630 Seminar in National Politics
    - 3700:641 Seminar in International 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
  - 3700:660 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.

In certain cases, at the discretion of the department head, a candidate may be asked to take undergraduate courses to overcome serious deficiencies.

Thesis Option
Thirty credits of graduate work, at least 18 credits of which (including six thesis credits) must be at the 600 level in political science. Thesis topic and completed thesis must be approved by student's thesis committee.

Non-thesis Option
Thirty credits of graduate work, at least 18 credits of which must be at the 600 level in political science. Each student must submit two high-quality seminar papers for approval by a departmental committee of three persons chosen by the department head.

Polymer Science

Master of Science
- A minimum of 24 credits in appropriate courses in biology, chemistry, mathematics, physics, polymer science and engineering as prescribed by the student's advisory committee.
- Completion of a research project (3840:699) 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 general or introductory course, statistics courses, 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 M.A. core courses or equivalents, specialty area required courses and electives as specified in the department's Graduate Student Manual.
  - A student is required to maintain at least a 3.00 grade-point average in M.A. core courses as well as overall.
- Master of Arts examination (first year):
  - Thesis option: first year examination covering core course subject area.
  - non-thesis option: written and oral comprehensive examinations in the specialty areas.
- Other requirements:
  - Refer to the Department of Psychology Graduate Student Manual for additional guidelines.
  - Complete and fulfill general master's degree requirements of the Graduate School.

Thesis Option
Completion of a minimum of 30 credits of graduate work including thesis in industrial/organizational, counseling or developmental psychology.

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:
  - 3850:604 Social Research Design
  - 3850:645 Social Psychological Theory
  - 3850:699 Sociology Research Methods

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.
- 3850:603 Sociological Research Methods
- 3850:604 Social Research Design
- 3850:606 Social Research Design
- 3850:607 Computer Applications in the Social Sciences
- 3850:611 Social Psychology
- 3850:645 Social Organization
- 3850:658 Directed Research
- 3850:706 Multivariate Techniques in Sociology
- 3850:707 Measurement in Sociology
- 3850:710 Survey Research Methods
- 3850:750 Research in Community and Area Problems ( Akron Area Survey)
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:
  - 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:
  - 3980:600 Basic Analytical Research
  - 3980:601 Advanced Research and Statistical Methods
  - 3980:602 American Urban Development
  - 3980:690 Urban Studies Seminar

Basic Program
Complete 34 credits of coursework as follows:
- Core — 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 — 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 — 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.
College of Engineering

Louis A. Hill, Jr., P.E., Ph.D., Dean
Glenn A. Atwood, P.E., Ph.D., Assistant Dean
Karen M. Mudry, Ph.D., Assistant Dean

DOCTOR OF PHILOSOPHY IN ENGINEERING

Areas of study offered through the College of Engineering include civil, chemical, electrical and mechanical engineering in addition to interdisciplinary programs in biomedical engineering, environmental engineering, materials science, mechanics, polymer engineering, systems engineering and transport processes. In addition to the general requirements of the Graduate School, a student must hold a bachelor’s degree in a curriculum accredited by the Accreditation Board for Engineering and Technology at the time of graduation, or provide evidence of an equivalent academic background to the satisfaction of the dean of the College of Engineering and the department head. An applicant must have completed the equivalent of Differential Equations, Elementary Classical Physics, Principles of Chemistry and demonstrate proficiency at the undergraduate level in courses related to the area of intended study. The student must also:

- Successfully complete a qualifying examination before completing either 10 credits of coursework 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 coursework, 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:600</td>
<td>Transport Phenomena</td>
<td>3</td>
</tr>
<tr>
<td>4200:605</td>
<td>Chemical Reaction Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

A student without a B.S. degree in Engineering but with a baccalaureate degree in a related field may be accepted for graduate study. The student will be required to make up the undergraduate deficiencies for which the student will not receive graduate credit.

The thesis must be satisfactorily defended in an oral examination. The student must pass a comprehensive examination and is expected to attend and participate in the department seminars.

Non-thesis Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>4200:610</td>
<td>Classical Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>4200:615</td>
<td>Chemical Engineering Electives**</td>
<td>6</td>
</tr>
<tr>
<td>4200:616</td>
<td>Approved Electives</td>
<td>6</td>
</tr>
<tr>
<td>4200:617</td>
<td>Approved Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>4200:618</td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

The student must pass a comprehensive examination and is expected to attend and participate in the department seminars.

Master of Science in Civil Engineering

Areas of study in the department include: structural mechanics, geotechnical, hydraulic and environmental engineering.

Thesis Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3650:581</td>
<td>Methods of Mathematical Physics I, II</td>
<td>6</td>
</tr>
<tr>
<td>4400:641</td>
<td>Random Signal Analysis</td>
<td>3</td>
</tr>
<tr>
<td>4400:651</td>
<td>Electromagnetic Fields</td>
<td>3</td>
</tr>
<tr>
<td>4400:652</td>
<td>Electrical Engineering Electives*</td>
<td>9</td>
</tr>
<tr>
<td>4400:653</td>
<td>Approved Engineering, Mathematics or Science</td>
<td>3</td>
</tr>
<tr>
<td>4400:655</td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

The thesis must be satisfactorily defended in an oral examination.

Non-thesis Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>4400:652</td>
<td>Electrical Engineering Electives*</td>
<td>9</td>
</tr>
<tr>
<td>4400:653</td>
<td>Approved Engineering, Mathematics or Science</td>
<td>9</td>
</tr>
</tbody>
</table>

A student must pass a graduate-level oral comprehensive examination which may be taken after 24 credits have been completed.

*The elective electrical engineering courses may not include more than three credits of 500-level courses.

**The elective chemical engineering courses may not include more than three credits of 500-level courses.
Master of Science in 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**
- Mechanical Engineering Coursework** 15
- Approved Mathematics 3
- Approved Electives** 6
- Thesis 6

The thesis must be defended in an oral examination.

**Non-thesis Option**
- Mechanical Engineering Coursework** 15
- Approved Mathematics 3
- Approved Electives** 12
- Special Problems 2

Master of Science in Engineering

This program is intended for the student whose educational objectives cannot be met by the chemical, civil, electrical or mechanical departmental programs or those who wish to specialize in biomedical or polymer engineering.

**Thesis Option**
- Engineering Coursework 12
- Approved Mathematics or Science 3
- Approved Electives 9
- Thesis 6

The thesis must be defended in an oral examination.

**Non-thesis Option**
- Engineering Coursework 18
- Approved Mathematics or Science 3
- Approved Electives 9
- Special Problems 2

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.

**Biomedical Engineering Specialization**
- Core:
  - 3100:561.2 Human Physiology I, II 8
  - 3100:695 Special Topics, Biomechanics 3
  - 4800:530 Biomedical Instrumentation I 4
- Elective (one of the following):
  - 4800:613 Biomaterials and Laboratory 4
  - 4800:623 Mechanics in Physiology and Medicine 3
  - 4800:633 Biological Signal and Image Processing 3
  - 4800:643 Biomedical Computing 3
  - 4800:653 Transport Phenomena in Biology and Medicine 3
- Biomedical elective (one of the following):
  - Second Area Elective (see previous section) 3
  - 4800:697 Special Topics 3
- Engineering electives 3
- Thesis 6

**Polymer Engineering Specialization**

The major emphases of the graduate program in polymer engineering are in polymer processing, engineering performance and structural and rheological characterization of polymers.

- Complete the following:
  - Engineering:
    - 4600:622 Continuum Mechanics 3
    - 4700:611 Structural Characterization of Polymers with Electromagnetic Radiation 2
    - 4700:622 Rheology and Polymer Processing 3
    - 4700:631 Engineering Properties of Solid Polymers 2
    - 4700:651 Polymer Engineering Laboratory 2
  - Mathematics and Science:
    - 3450: Approved Mathematics 3
    - 3150:674 Physical Chemistry of Polymers I 2
    - 3150:675 Physical Chemistry of Polymers II 2
    - 3940:613 Polymer Science Laboratory 2
- Approved Electives (one of the following):
  - 4200:681 Advanced Engineering Materials 3
  - 4700:622 Analysis and Design of Polymer Processing Operations 3
  - 4700:661 Polymerization Reactor Engineering 3
- Thesis 6
DOCTOR OF PHILOSOPHY DEGREE

Programs leading to the Doctor of Philosophy degree in elementary education, secondary education counseling psychology and guidance and counseling are offered through the College of Education. The degree will be awarded to the student who, in addition to filling the general requirements of the Graduate School, has met the following specific requirements:

- Completion of the Miller Analogies Test.
- A minimum of 90 graduate credits (including a 30-credit master's program where applicable), including the doctoral dissertation. A student considered deficient in any area may be required to take additional courses.
- Completion of a foundation studies program designed to prepare the student before specialization.
- Completion of preliminary examinations on foundation studies and the major field of concentration.
- Successful completion of a test in a language judged not to be the student's native tongue:
  - a student in the Department of Counseling and Special Education may elect to develop appropriate research skills prescribed by the adviser in lieu of the foreign language requirement.
  - a student in the Department of Elementary Education may elect to develop appropriate alternative research skills prescribed by the adviser, subject to review by the department head, depending upon the career goal of the student and upon the academic and/or scientific requirement of the dissertation in lieu of the foreign language requirement.
  - a student in the Department of Secondary Education may elect to develop appropriate research skills prescribed by the adviser, subject to review by the department head in lieu of the foreign language requirement.
- Completion of at least eight credits in cognate area.
- Completion of final written and oral examinations in the student's major field of concentration.
- Completion of a dissertation comprising not more than 20 credits. The oral examining committee must be constituted of at least five full-time staff members, one of whom must be from outside the College.
- Pass the general requirements for the Doctor of Philosophy degree.

DOCTOR OF PHILOSOPHY IN COUNSELING PSYCHOLOGY

The University of Akron offers a doctoral program in counseling psychology. The program allows the student a choice of emphases—a practitioner-scientist model through the College of Education or a scientist-practitioner model through the Buchtel College of Arts and Sciences. Students in both emphases are expected to attain a level of broad scientific competence in the core areas of psychology: the biological, social, cognitive-affective and individual bases of human behavior. Practice and internship experiences are also required of students in both emphases and range from skill building in basic psychological assessment and counseling, to actual work with clients, to a year-long, full-time internship in an applied service setting. Pertinent information regarding differences in emphasis orientation and coursework is included below. Students receive exposure to both colleges through shared coursework and faculty involvement with dissertations but must choose a specialization in one emphasis. The program in counseling psychology has been constructed so as to lead to APA approval in coming years.

The program is designed for students who hold a master's degree in counseling, psychology, or a related field. The practitioner-scientist emphasis provides students with a foundation in substantive areas of psychological theory and research, as well as extensive academic training in counseling specialty areas such as assessment, individual and group counseling, marriage and family therapy, career development and supervision and consultation in counseling psychology. A preventive, developmental and situation crisis orientation to training and professional practice is maintained. Graduates are employed in counseling testing centers in higher education, community and private mental health agencies, and other educational and health settings.

Admission to the Joint Program in Counseling Psychology will be handled through the department associated with the student's chosen emphasis.

Departures from the above program may be made only with the approval of the Counseling Psychology Program faculty.

- Practicum—each conducted in own department and evaluated there.
- Internship—2,000 hours post-masters with 1,600 hours over no more than two years.
- Psychology Core—3750:610, 620, 630, 640.
- Counseling Psychology Joint Core
  - scientist-practitioner track—15 credits required including group (3750:653) and introduction to marriage and family (3750:655) with others to be decided upon with adviser.
  - practitioner-scientist track—12 credits required including advanced counseling (3750:706) with other counseling psychology courses to be decided upon with adviser.
- Other course requirements for each track—up to faculty of the track.
- Comprehensive examinations—separate written exams, but shared goals.
- Dissertation—at least one faculty member from each track on the student's committee.
- In the scientist-practitioner emphasis, students must perform at an acceptable level on the qualifying exam over the basic areas of psychology to determine eligibility for M.A.-Ph.D. standing in that program. In the practitioner-scientist emphasis, M.A. students must take the preliminary exam to appraise their current competency level. These exams will be administered by the faculty specific to the student's chosen emphasis.
- Language and residency requirements—these will be completed in accordance with guidelines from the Graduate School and the appropriate department.

Counseling Psychology Practitioner-Scientist Track

Students may be considered for admission to the practitioner-scientist emphasis in counseling psychology if they have a master's degree in counseling and guidance, counseling, psychology, school psychology, or a related field.

- Psychology core

The following core must be taken at The University of Akron unless it has been taken in a psychology department of an accredited university prior to admission to the doctoral program and approved by the counseling psychology faculty. Students must have passed an undergraduate or graduate course in general psychology, experimental psychology and statistics prior to enrolling in 3750:610, 620, 630 and 640.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3750:610</td>
<td>Psychology Core I - Organizational, Social, Social Applied</td>
<td>4</td>
</tr>
<tr>
<td>3750:620</td>
<td>Psychology Core II - Developmental, Perceptual, Cognitive</td>
<td>4</td>
</tr>
<tr>
<td>3750:630</td>
<td>Psychology Core III - Counseling, Individual, Abnormal</td>
<td>4</td>
</tr>
<tr>
<td>3750:640</td>
<td>Psychology Core IV - Sensory, Biopsychological, Experimental</td>
<td>4</td>
</tr>
</tbody>
</table>

In addition to the psychology core, a minimum of 12 credits must be taken in a psychology department. These courses include 3750:706 and eight semester credits of electives.

- Foundations courses

Students must elect a minimum of six semester credits of graduate credits in behavioral, humanistic, historical and/or social-philosophical studies from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>510:600</td>
<td>Philosophies of Education.</td>
<td>3</td>
</tr>
<tr>
<td>610:602</td>
<td>Comparative and International Education.</td>
<td>3</td>
</tr>
<tr>
<td>510:604</td>
<td>Topical Seminar in the Cultural Foundations of Education</td>
<td>3</td>
</tr>
</tbody>
</table>
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's Certificate is obtainable.

The Higher Education Administration program is offered by the department and is designed for persons who wish to pursue a career in college, university or other post-secondary administrative positions. The program addresses 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>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:620 Behavioral Bases of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:624 Seminar in Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>5100:701 History of Education in American Society</td>
<td>3</td>
</tr>
<tr>
<td>5100:703 Seminar in History and Philosophy of Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:705 Seminar in Social-Philosophical Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:721 Learning Processes</td>
<td>3</td>
</tr>
<tr>
<td>5100:723 Teacher Behavior and Instruction</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistics and Research</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5100:640 Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>5100:741 Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:743 Advanced Educational Statistics</td>
<td>3</td>
</tr>
<tr>
<td>5600:704 Research Design in Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:705 Research Design in Counseling*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Counseling Psychology</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The following courses may be transferred into the program as part of a master's degree:</td>
<td></td>
</tr>
<tr>
<td>5600:643 Counseling: Theory and Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>5600:645 Group Testing in Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:647 Career Counseling: Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>5600:651 Techniques of Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:653 Group Counseling</td>
<td>3</td>
</tr>
<tr>
<td>5600:655 Introduction to Marriage and Family Therapy</td>
<td>2</td>
</tr>
<tr>
<td>5600:657 Consultant Counseling</td>
<td>3</td>
</tr>
</tbody>
</table>

The following courses must be taken at The University of Akron:

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<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>5600:675 Practicum in Counseling</td>
<td>4</td>
</tr>
<tr>
<td>5600:707 Advanced Counseling Practice (minimum)</td>
<td>8</td>
</tr>
<tr>
<td>5600:703 Advanced Seminar in Counseling Psychology (minimum)</td>
<td>6</td>
</tr>
<tr>
<td>5600:706 Supervision in Counseling Psychology I</td>
<td>3</td>
</tr>
<tr>
<td>5600:707 Supervision in Counseling Psychology II</td>
<td>3</td>
</tr>
<tr>
<td>5600:707 Independent Reading and/or Research in Counseling Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be elected with the approval of the student's doctoral adviser</td>
<td>10</td>
</tr>
<tr>
<td>Internship</td>
<td></td>
</tr>
<tr>
<td>Taken after completion of coursework, but prior to granting of degree</td>
<td>no credit</td>
</tr>
<tr>
<td>Dissertation (minimum: 15 credits)</td>
<td></td>
</tr>
<tr>
<td>Total Credits: 120</td>
<td></td>
</tr>
</tbody>
</table>

Humanistic Studies

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<tr>
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<tbody>
<tr>
<td>5100:701 History of Education in American Society</td>
<td>3</td>
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<tr>
<td>5100:703 Seminar in History and Philosophy of Higher Education</td>
<td>3</td>
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</tbody>
</table>

Social and Philosophical

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<tbody>
<tr>
<td>5100:660 Philosophies of Education</td>
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<tr>
<td>5100:624 Comparative and International Education</td>
<td>3</td>
</tr>
<tr>
<td>5100:664 Seminar in Cultural Foundations of Education</td>
<td>3</td>
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<tr>
<td>5100:675 Seminar in Social-Philosophical Foundations</td>
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Research

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<tr>
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<tbody>
<tr>
<td>5100:640 Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>5100:741 Statistics in Education</td>
<td>3</td>
</tr>
<tr>
<td>5---899 Dissertation</td>
<td>10-20</td>
</tr>
</tbody>
</table>

MASTER'S DEGREE

Programs leading to the degree of M.A. in education, M.S. in education and M.S. in technical education are offered.

The student who expects to earn the master's degree for advancement in the field of teaching must meet the general requirements for admission to the Graduate School and must be qualified to hold a standard teaching certificate. Exceptions to this latter requirement will be made for the qualified student who does not wish to teach or perform duties in the public schools provided the student presents or acquires an appropriate background of study or experience. The student who expects to earn the master's degree must 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**:

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<tbody>
<tr>
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<tr>
<td>5100:675 Seminar in Social-Philosophical Foundations</td>
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</tbody>
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PROGRAMS

Counseling and Special Education

Selected program offerings in the Department of Counseling and Special Education are available to a person with or without a teaching certificate. Interdisciplinary programs offered lead to certification by the Ohio State Department of Education and/or a master's degree. Program areas include counseling, school psychology, 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.

Students in some psychology programs may choose other options—see adviser.
Classroom Guidance for Teachers
- Foundation Studies courses — 9 credits.
- Guidance courses:
  5600:610 Counseling Skills for Teachers 3
  5600:526 Career Education 2
  5600:531 Elementary School Guidance 3
  5600:633 Secondary School Guidance 3
  5600:645 Group Testing in Counseling 3
  5600:651 Seminar in Guidance 2
  5600:671 Counseling Clinic: Tess Interpretation 1
  0600:695 Field Experience* 1
  5610:640 Developmental Characteristics of Exceptional Individuals 4
  5610:604 Education and Management Strategies for Parents of Exceptional Individual 3

- Area of concentration
  A minimum of eight credits may be selected from one of the following (the student may, with advisor approval, propose an area of concentration not listed). The courses in the area of concentration must be selected with, and approved by your advisor.
  - Middle School Education
    - Early Childhood Education
    - School and Community Relations
    - Curriculum and Instruction
    - Physical Fitness and Well Being
  - Special Education
    - Computers in Education
    - Family Ecology
    - Communicative Disorders
    - Outdoor Education

Community Counseling
- Foundation Studies courses — 9 credits (See department handbook for options.)
- Required courses:
  5600:620 Topical Seminar: Substance Abuse and Sexuality 2
  5600:635 Community Counseling 3
  5600:643 Counseling Theory and Philosophy 3
  5600:645 Group Testing in Counseling 3
  5600:647 Career Counseling: Theory and Practice 3
  5600:651 Techniques of Counseling 3
  5600:653 Group Counseling 3
  5600:655 Seminar: Counseling Practice** 3
  5600:671 Counseling Clinic 1
  5600:675 Practicum in Counseling I 4
  5600:678 Practicum in Counseling II 3
  5600:685 Internship 4
- Electives
  (Select a minimum of six credits only with help of advisor)

Counseling in Elementary or Secondary Schools
- Foundation Studies courses — 9 credits:
  5100:604 Topical Seminar in Cultural Foundations 3
  5100:624 Seminar: Educational Psychology 3
  5100:640 Techniques of Research 3
- Required courses:
  5600:620 Topical Seminar: Current Issues 2
  5600:631 Elementary School Guidance 3
  5600:633 Secondary 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 of Counseling 3
  5600:653 Group Counseling 3
  5600:655 Organization and Administration of Guidance Services 3
  5600:663 Seminar in School Counseling** 3
  5600:671 Counseling Clinic 1
  5600:675 Practicum in Counseling I 3
  5600:676 Practicum in Counseling II 3
  5600:685 Internship 4
  5610:640 Developmental Characteristics of Exceptional Individuals 4

Marriage and Family Therapy
- Foundation Studies courses — 9 credits (See department handbook for options.)
- Required courses:
  5600:645 Group Testing in Counseling 3
  5600:651 Techniques of Counseling 3
  5600:653 Group Counseling 3
  5600:655 Introduction to Marriage and Family Therapy 3
  5600:665 Seminar: Counseling Practice†† 3
  5600:667 Marital Therapy 3
  5600:669 Systems Theory in Family Therapy 3
  5600:671 Counseling Clinic 1
  5600:675 Practicum in Counseling I 4
  5600:676 Practicum in Counseling II 3
  5600:685 Internship 6
- Specialized studies
  (See department handbook for options)

Student Personnel Services in Higher Education
- Foundation Studies courses — 9 credits (See department handbook for options.)
- Required courses:
  5600:643 Counseling Theory and Philosophy 3
  5600:645 Group Testing in Counseling 3
  5600:647 Career Counseling: Theory and Practice 3
  5600:649 Counseling and Personnel Services in Higher Education 3
  5600:651 Techniques of Counseling 3
  5600:653 Group Counseling 3
  5600:665 Seminar: Counseling Practice†† 3
  5600:671 Counseling Clinic 1
  5600:675 Practicum in Counseling I 4
  5600:676 Practicum in Counseling II 3
  5600:685 Internship 6
- Specialized studies
  (See department handbook for options)

School Psychologist††:
- College requirements:
  5100:600 Philosopher of Education 3
  5100:640 Techniques of Research 3
  5100:721 Learning Processes 3
  3750:550 Learning and Cognition 4
  5620:694 Research Project 4
  5620:695 Master's Problem 2:4
- Departmental requirements:
  5610:540 Developmental Characteristics of Exceptional Individuals 3
  5610:643 Developmental Characteristics of Learning Disabled Individuals 3
  5600:643 Counseling Theory and Philosophy 3
  3750:703 Theories of Psychotherapy 3
- Program requirements:
  3750:500 Personality 3
  3750:704 Theories of Personality 3
  3750:620 Methods and Theories of Human Development 4
  5620:601 Cognitive Function Models for Prescriptive Educational Planning 3
  3750:700 Survey of Projective Techniques 2
  3750:702 Principles and Practice of Individual Intelligence Testing 4
  5100:741 Statistics in Education 3
  5600:645 Group Testing in Counseling 3
  3750:510 Psychological Tests and Measurements 4
  5621:900 Seminar: Role and Function of School Psychology 3
  9020:910 Educational Diagnosis for the School Psychologist 4

*Must be taken concurrently with 661.
**Must be taken with 645.
††Program admission is competitive based upon state internship allocations. Selection procedures and criteria are available upon request by contacting the school psychology program director in the Department of Counseling and Special Education. For recommendation for certification as a school psychologist in Ohio, the master's student must additionally complete the program prescribed under "Certification."
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</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal Psychology*</td>
<td>3</td>
</tr>
<tr>
<td>Organization and Administration of Guidance Services**</td>
<td>3</td>
</tr>
<tr>
<td>Behavioral Assessment</td>
<td>3</td>
</tr>
<tr>
<td>Consultation Strategies in School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Practicum in School Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>

The nine months full-time internship and the associated seminars entail the following registrations:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Internship School Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Field Seminar I: Issues and Assessment</td>
<td>2</td>
</tr>
<tr>
<td>Field Seminar II: Classroom Environment</td>
<td>2</td>
</tr>
</tbody>
</table>

The student who does not hold a valid Ohio teaching certificate must additionally complete the following course pattern:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School Curriculum and Instruction</td>
<td>2</td>
</tr>
<tr>
<td>Reaching Diagnosis: School Psychologist and Personnel</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience: Master's</td>
<td>3</td>
</tr>
<tr>
<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 including the six credits for the internship.

Special Education

A program of studies in special education will be selected from the following course listings. A student in special education who holds certification prior to enrollment in Graduate School must choose a program focus emphasizing one of the following areas: supervision, clinical practice, early childhood, developmental disabilities, school educational consultant or some other focus to meet an individual's educational need. Elective options may be utilized to meet state certification requirements for teaching the mentally retarded child, the learning and/or behavioral disordered child or the orthopedically handicapped child. However, the master's degree can be completed with or without meeting requirements for special education certification depending on program selection. Certification as a special education supervisor may also be pursued in combination with other departments.

At least one-half of the master's degree program must be 600-level courses and at least 20 credits must be within special education. The minimum program requirement is 35 credits.

- Foundation Studies courses — 9 credits.
- Departmental core (required of all candidates):
  - Techniques of Counseling 3
  - Developmental Characteristics of Exceptional Individuals 4
  - Deviopmental Characteristics of Learning Disabled Individuals 3
  - Classroom Behavior Management for Exceptional Individuals 3
  - Assessment and Educational Programming 3
  - Educational and Management Strategies for Parents of Exceptional Individuals 3
- Master's paper (candidate required to choose one):
  - Seminar in Special Education 3
  - Master's Problem 3-4
  - Thesis Research 4-6
- Other programs can be developed to meet needs.
- Electives: Select from the following areas after consultation with an advisor:

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 and a master's degree:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>Behavioral Bases of Education</td>
<td>3</td>
</tr>
<tr>
<td>Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>Seminar: Special Education Curriculum Planing</td>
<td>3</td>
</tr>
<tr>
<td>Supervision of Instruction — Special Education</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Educational Supervision</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience — Supervisors</td>
<td>2</td>
</tr>
<tr>
<td>Curriculum Development</td>
<td>3</td>
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</tbody>
</table>

Clinical Practice — Special Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Teaching Practicum: Children with Learning Problems</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience — Master's</td>
<td>3</td>
</tr>
<tr>
<td>Electives to complete program</td>
<td>3</td>
</tr>
</tbody>
</table>

Early Childhood — Special Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Adjustment: Preschool and Primary Level Exceptional Children</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience — Master's</td>
<td>3</td>
</tr>
<tr>
<td>Electives to complete program</td>
<td>3</td>
</tr>
</tbody>
</table>

Developmental Disabilities

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Adjustment: Moderately Severely and Profoundly Retarded</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience — Master's</td>
<td>3</td>
</tr>
<tr>
<td>Electives to complete program</td>
<td>3</td>
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</tbody>
</table>

School Educational Consultant — Special Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Development and Service Delivery Systems: Special Education</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience — Master's</td>
<td>3</td>
</tr>
<tr>
<td>Electives to complete program</td>
<td>3</td>
</tr>
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</table>

Visiting Teacher or School Social Worker Certification Program

Inquiry related to program requirements and admission standards should be addressed to the Department of Counseling and Special Education.

Educational Administration

Certification as Administrative Specialist: School and Community Relations

Program

- Foundation Studies — 9 credits.
- Required courses:
  - Principles of Educational Administration 3
  - School and Community Relations 2
  - Decision-Making Theory and Practice 3
  - Evaluation of Educational Institutions 3
  - Legal Basis of Education 2
  - Principles of School Finance 2
  - Principles of Educational Supervision 3
  - Master's Problem 2
  - Principles of Curriculum Development 3
  - Organizational Communications and the School Administrator 3
  - Field Experience — Superintendents 2
  - Studies in Communication Media: Radio 3
  - Studies in Communication Media: Television 3
  - Studies in Communication Media: Film 3

Elementary School Principal

Objectives

- Provide the student with an understanding of the elementary school and its history, its present purpose and its potential.
- Assist the prospective administrator in perceiving the role of the elementary principal and determining whether it is appealing as a career choice.

* May be taken at undergraduate level.
** Requirement dependent upon experience and related coursework completion.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Principles of Educational Administration</td>
<td>3</td>
</tr>
<tr>
<td>School and Community Relations</td>
<td>2</td>
</tr>
<tr>
<td>Decision-Making Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>Evaluation of Educational Institutions</td>
<td>3</td>
</tr>
<tr>
<td>Legal Basis of Education</td>
<td>2</td>
</tr>
<tr>
<td>Principles of School Finance</td>
<td>2</td>
</tr>
<tr>
<td>Principles of Educational Supervision</td>
<td>3</td>
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<tr>
<td>Master's Problem</td>
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<td>Principles of Curriculum Development</td>
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<tr>
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<tr>
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<td>Studies in Communication Media: Radio</td>
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<tr>
<td>Studies in Communication Media: Television</td>
<td>3</td>
</tr>
<tr>
<td>Studies in Communication Media: Film</td>
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</tbody>
</table>

Part of foundation core courses.
- Provide the student with the opportunity to experiment with alternative 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 — 9 credits.
- Administration courses:
  - 5200:630 Elementary School Curriculum and Instruction 2
  - 5500:732 Supervision of Instruction in the Elementary School 2
  - 5600:602 Introduction to Counseling 2
  - 5700:601 Principles of Educational Administration 3
  - 5700:619 Principles of Educational Supervision 3
  - 5700:651 Elementary School Administration 2
  - 5700:654 Field Experience for the Elementary Administrator 2
  - 5700:658 Master's Project 2
  - 5700:757 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.

**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 — 9 credits.
- Major field:
  - 5700:601 Principles of Educational Administration 3
  - 5700:604 School and Community Relations 3
  - 5700:605 Decision-Making Theory and Practice in Educational Administration 2
  - 5700:606 Evaluation of Educational Institutions 3
  - 5700:607 Legal Basis of Education 2
  - 5700:608 Principles of School Finance 2
  - 9700:611 Principles of Educational Supervision 3
  - 5700:658 Master's Project 2
  - 5700:710 Principles of Curriculum Development 3
  - 5700:795 Field Experience for the Superintendent 2

**Secondary School Principal**

**Objectives**
- Enable the student to gain a knowledge of the overall curriculum of the secondary school.
- Provide the student with an understanding of successful methods of improving instruction in the secondary school.
- Provide the student with practice in implementing a program to improve instruction.
- Develop within each the ability to communicate successfully with individuals and groups.
- Work with the individual and the group successfully to improve the educational program.
- Implement technical aspects of secondary education.

**Program**

- Foundation Studies courses — 9 credits.
- Administration courses:
  - 5300:615 Secondary School Curriculum and Instruction 2
  - 5300:721 Supervision of Instruction in the Secondary School 2
  - 5300:750 Seminar: Secondary Education: The Junior High School 2
  - 5400:635 Vocational Education for Youth and Adults 3
  - 5500:710 Principles of Curriculum Development 3
  - 5600:602 Introduction to Counseling 2
  - 5700:601 Principles of Educational Administration 3

**Sixth-Year Program: City School Superintendent**

This program requires 60 credits.

**Program**

- Required courses:
  - 5100:600 Philosophies of Education
  - 5100:604 Topical Seminar in Cultural Foundations of Education 3
  - 5100:620 Behavioral Bases in Education 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:640 Techniques of Research 3
  - 5100:701 History of Education in American Society 2
  - 5100:703 Seminar: History and Philosophy of Higher Education 3
  - 5100:721 Learning Processes
t  - 5100:723 Teacher Behavior and Instruction 3
  - 5100:741 Statistics in Education 3
  - 5700:601 Principles of Educational Administration 2
  - 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
  - 5700:668 Master's Project 2
  - 5700:701 School Buildings and Construction 2
  - 5700:703 Administration of Staff Personnel 2
  - 5700:710 Principles of Curriculum Development 3
  - 5700:805 Field Experience — Superintendent 3
- Elective courses — 15 credits.**

**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 — 9 credits.
- Major field:
  - 5700:601 Principles of Educational Administration 3
  - 5700:604 School and Community Relations 3
  - 5700:605 Decision-Making Theory and Practice in Educational Administration 3
  - 5700:606 Evaluation of Educational Institutions 3
  - 5700:607 Legal Basis of Education 2
  - 5700:608 Principles of School Finance 2
  - 5700:611 Principles of Educational Supervision 3
  - 5700:615 Principles of Curriculum Development 3
  - 5700:751 Field Experience for the Superintendent 2

**Secondary School Principal**

**Objectives**
- Enable the student to gain a knowledge of the overall curriculum of the secondary school.
- Provide the student with an understanding of successful methods of improving instruction in the secondary school.
- Provide the student with practice in implementing a program to improve instruction.
- Develop within each the ability to communicate successfully with individuals and groups.
- Work with the individual and the group successfully to improve the educational program.
- Implement technical aspects of secondary education.

**Program**

- Foundation Studies courses — 9 credits.
- Administration courses:
  - 5300:615 Secondary School Curriculum and Instruction 2
  - 5300:721 Supervision of Instruction in the Secondary School 2
  - 5300:750 Seminar: Secondary Education: The Junior High School 2
  - 5400:635 Vocational Education for Youth and Adults 3
  - 5500:710 Principles of Curriculum Development 3
  - 5600:602 Introduction to Counseling 2
  - 5700:601 Principles of Educational Administration 3

**Sixth-Year Program: City School Superintendent**

This program requires 60 credits.

**Program**

- Required courses:
  - 5100:600 Philosophies of Education
  - 5100:604 Topical Seminar in Cultural Foundations of Education 3
  - 5100:620 Behavioral Bases in Education 3
  - 5100:624 Seminar: Educational Psychology 3
  - 5100:640 Techniques of Research 3
  - 5100:701 History of Education in American Society 2
  - 5100:703 Seminar: History and Philosophy of Higher Education 3
  - 5100:721 Learning Processes
t  - 5100:723 Teacher Behavior and Instruction 3
  - 5100:741 Statistics in Education 3
  - 5700:601 Principles of Educational Administration 2
  - 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
  - 5700:668 Master's Project 2
  - 5700:701 School Buildings and Construction 2
  - 5700:703 Administration of Staff Personnel 2
  - 5700:710 Principles of Curriculum Development 3
  - 5700:805 Field Experience — Superintendent 3
- Elective courses — 15 credits.**

**Supervisor**

**Program**

- Foundation Studies — 9 credits.
- Major field:
  - 5200:600 Elementary School Curriculum and Instruction 3
  - 5200:721 Supervision of Instruction in the Elementary School 2
  - 5300:619 Secondary School Curriculum and Instruction 3
  - 5300:721 Supervision of Instruction in the Secondary School 2
  - 5300:732 Seminar: Special Education Curriculum Planning 3
  - 5300:762 Supervision of Instruction: Special Education 3
  - 5300:610 Principles of Educational Supervision 3
  - 5300:668 Master's Project 2
  - 5300:701 Principles of Curriculum Development 3
  - 5300:710 Principles of Curriculum Development 3
- With the approval of the adviser, the student will select at least one of the following courses and others which may include up to six pertinent electives from course offerings outside the College of Education:
  - 5100:701 History of Education in American Society 3
  - 5100:741 Statistics in Education 3
  - 5700:668 Master's Project 2
  - 5700:1040 Theories of Supervision 3

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*Required of those completing the master's degree.
**Electives should be selected with adviser's approval.
†Required only of an elementary student.
‡Required only of a secondary student.
§Required only of a special education student.
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**
  - 5200.695 Field Experience** 1-2
  - 5200.698 Master's Problem** 1-2
  - 5200.789 Elementary Education Seminar: Children's Literature - Reading** 2
  - 5250.683 Diagnosis and Correction of Reading Problem 5
  - 5250.684 Clinical Practice in Reading 5
  - 5250.692 Advanced Study and Research in Reading Instruction 3
  - 5250.693 Supervision and Curriculum Development in Reading Instruction 2
  - 5300.786 Secondary Education Seminar: Teaching Literature in Secondary Schools 2
  - 5200.590 Reading Programs in Secondary Schools** 3
- **Two credits from the following list of electives:**
  - 5200.590 Workshop in Reading 1-2
  - 5200.780 Elementary Education Seminar: Reading 2
  - 5250.511 Materials and Organizations for Reading Instruction 3
  - 5250.540 Developmental Reading in the Content Area** 3
  - 5250.585 Trends in Reading Instruction 2

**Educational Foundations**

**Educational Foundations**
This program area is designed for either the student interested in improving present educational skills or the student interested in educational or instructional positions in business, industry and social services.

A student's program of study will be determined jointly by the student and an academic advisor. Emphasis can range from advanced instructional technology to traditional studies in educational psychology or the social/philosophical aspects of education. A thesis is required.

**Program**
- **Foundation Studies — 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

**Elementary Education**

**Bilingual Multicultural Education**
The major purpose of this program is to provide education majors with the knowledge, skills and attitudes necessary to teach bilingual students.

Students may become certified in bilingual multicultural education at either the undergraduate or graduate level. The certification requires that a person also become certified in one of the following areas: elementary education, secondary education, special education or physical education.

At the end of the program, the student must demonstrate proficiency in English and a language other than English in order to meet the certification requirements of the Ohio State Department of Education.

Graduate students wishing a master's degree in addition to bilingual multicultural certification may earn a master's degree in multicultural education by taking additional 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:**
  - 3300.999 Seminar in English, Introduction to Bilingual Linguistics 3
  - 5630.582 Characteristics of Culturally Different Youth 3
  - 5630.584 Principles of Bilingual Multicultural Education 3
  - 5630.587 Techniques for Teaching English as a Second Language in the Bilingual Classroom 4
  - Select one of the following: 3
    - 5630.585 Teaching Reading and Language Arts to Bilingual Students 4
    - 5630.586 Teaching Mathematics, Social Studies and Science to Bilingual Students 3

**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.

*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.
This program is primarily for the student who expects to progress as a teacher in elementary schools.

**Middle School Education**

For elementary and secondary certified teachers, these courses comprise a major area of study within the master's programs in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum and programs. Students should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

**Program**

- **Required courses:**
  - 5100:604 Cultural Foundations of Education 3
  - 5100:624 Psychology of Early Adolescence 3
  - 5200:780 Curriculum-Development in Middle School 2
  - 5300:625 Reading Programs in Secondary School 3
  - 5300:780 Philosophy and Organization of Middle School 2
  - 5600:526 Career Education/Guidance in Middle School 2

**Outdoor Education**

The outdoor education program, requiring 32 credits, is designed for those students having an undergraduate background in 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** — 9 credits.
  - Required courses:
    - 5560:350 Application of Outdoor Education to the School Curriculum 4
    - 5560:352 Methods, Materials and Resources for Teaching Outdoor Education 3
    - 5560:596 Outdoor Pursuits 4
    - 5560:605 Outdoor Education, Special Topics 2-4
    - 5560:606 Outdoor Education, Rural Influences 3
    - 5560:690 Practicum in Outdoor Education 2-4
    - 5560:695 Field Experience or Master's Problem 2-4
    - 5560:699 Thesis Research 4-6

With the approval of the adviser, the student will select additional courses and/or workshops related to the graduate program.

**Physical Education**

Graduate programs in physical education may be designed for students interested in general physical education and teacher preparation. Specialized graduate programs may be designed in cooperation with the student's adviser, and the approval of the dean of Graduate Studies. Such areas of specialization include, but are not limited to, industrial fitness, cardiac rehabilitation, exercise physiology of the adult and aging, exercise sciences and gerontology and health promotion/enhancement. The program, totaling 30 credits, is designed to meet the needs of the student relative to graduate study and future employment.

**Program**

- **Foundation Studies** — 9 credits.
  - Required courses:
    - 5550:536 Adapted Physical Education for the Learning Disabled Child 2
    - 5550:601 Administration of Health, Physical Education, Recreation and Athletics 3
    - 5550:605 Curriculum Planning in Health and Physical Education 2
    - 5550:605 Physiology of Muscular Activity and Exercise 2
    - 5550:606 Measurement and Evaluation in Physical Education 3
    - 5550:608 Supervision of Physical Education 2

**Secondary Education**

**Bilingual Multicultural Education**

The major purpose of this program is to provide education majors with the knowledge, skills and attitudes necessary to teach bilingual students.

Students may become certified in bilingual multicultural education at either the undergraduate or graduate level. The certification requires that a person also become certified in one of the following areas: elementary education, secondary education, special education or physical education.

At the end of the program, the student must demonstrate proficiency in English and a language other than English 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:**
  - 3305:665 Seminar in English: Introduction to Bilingual Linguistics 3
  - 5630:585 Characteristics of Culturally Different Youth 3
  - 5630:584 Principles of Bilingual Multicultural Education 3
  - 5630:587 Techniques for Teaching English as a Second Language in the Bilingual Classroom 4
  - Field experience in bilingual classrooms/settings 3

Select one of the following:

- 5630:585 Teaching Reading and Language Arts to Bilingual Students 4
- 5630:584 Teaching Reading and Language Arts to Bilingual Students 4

**Middle School Education**

For elementary and secondary certified teachers, these courses comprise a major area of study within the master's programs in the elementary and secondary education departments. They deal with the middle-grade learner, curriculum and programs. The student should seek advisement within the appropriate department for other requirements peculiar to the elementary and secondary programs.

**Program**

- **Required courses:**
  - 5100:604 Cultural Foundations of Education 3
  - 5100:624 Psychology of Early Adolescence 3
  - 5200:780 Curriculum-Development in Middle School 2
  - 5300:625 Reading Programs in Secondary School 3
  - 5300:780 Philosophy and Organization of Middle School 2
  - 5600:526 Career Education/Guidance in Middle School 2

**Multicultural Education**

The purpose of this program is to provide knowledge, skills and attitudes which will enable the educators to design and implement programs that promote the concept of cultural pluralism. Special attention is given to educational programming for the culturally different learner.

**Program**

- **Required courses:**
  - 5100:640 Techniques of Research 3
The major objective of the Technical Education program is to prepare the instructor and other educational personnel for post-secondary education in technical 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** — 9 credits.
- **Professional technical education courses:**
  5400:510 The Two-Year College or 3
  5400:505 Vocational Education for Youth and Adults 3
  5400:521 Instructional Techniques in Technical Education 4
  5400:530 Course Construction in Technical Education 2
- **Teaching internship:**
  The student entering the program without teaching experience is required to take a teaching internship at a cooperating two-year institution.
  5400:690 Internship: Teaching Vocational Education 2
  5400:691 Internship: Teaching Technical Education 2
  5400:692 Internship: Post-secondary Education 2
- **Elective credits** may support the field of specialization, add to general education or be professional education courses — 0-4 credits.
- A comprehensive examination is required.

**Options** (Select one for a total of 8-13 credits.)

**Teaching**

An approved schedule of technical courses selected from the Graduate School offerings. Course selections will be determined by the student’s academic and professional background.

**Guidance Option A** (Must be followed in sequence)

  5600:643 Counseling Theory and Philosophy 3
  5600:651 Techniques of Counseling 3
  5600:653 Group Counseling 3
  5600:675 Practicum in Counseling I 4

**Guidance Option B**

  5600:625 Community Counseling 3
  5600:647 Career Counseling: Theory and Practice 3
  5600:645 Group Testing in Counseling 3
  Select one of the following:
  5600:649 Counseling and Personnel Services in Higher Education 3
  5600:526 Career Education 2
  5600:610 Counseling Skills for Teachers 3

**Curriculum and Supervision**

  5700:610 Principles of Educational Supervision 3
  5700:710 Principles of Curriculum Development 3
  Elective in Curriculum or Supervision 2

**Vocational Home Economics — Family Life** (8-9 credits)

Vocational Home Economics — Child Care and Development (Job Training Specialization) (8-9 credits)

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**Secondary Education**

**Objectives**

This program is for middle and junior high school, high school and post-secondary school teachers. Preparation is for the master teacher, department head, supervisor and resource teacher (the physical education major should see an adviser for alternate course requirements). This program also serves the holder of a baccalaureate degree who seeks a teaching certificate.

**Program**

- **Foundation Studies** — 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:**
  5300:613 Secondary Curriculum and Instruction 2
  5400:525 Reading Programs in Secondary Education 3
  5300:695 Field Experience 1-6
  5300:618 Master's Problem 2-4 or
  5300:699 Thesis Research 4-6
  5300:721 Supervision of Instruction 2
  5300:780 Seminar: Secondary Education (certification program) 2
  Topics: Senior High Middle and Junior High School 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)
- Middle school education
- Reading specialist (certification program)
- Economic education
- Mini-computer applications
- Business education supervisor (certification program)

- **Electives — 2-4 credits**

**Technical Education**

The major objective of the technical education program is to prepare the instructor and other educational personnel for post-secondary education in technical 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.

**Objectives**

- Electives in related special fields — 17 credits.
College of Business Administration

James W. Dunlap, Ph.D., Dean
Kenneth E. Mast, D.B.A., Assistant Dean

MASTER'S DEGREE

The College of Business Administration (CBA) offers graduate programs which lead to the degrees of Master of Business Administration, Master of Science in Accounting, Master of Science in Management, and Master of Taxation in Accounting. The University has offered programs of study in business since 1913, 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 five times a year through the Department of Commerce and Business, with one of the courses leading to the degree of Master of Science in Accounting (AACSB).

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 nationally 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 on the junior-senior (i.e., last 64 semester or 96 quarter credits) GPA (A=4.0) times 200 plus the GMAT score. In rare instances, the applicant who has taken the GMAT but does not meet requirements may be considered for admission. Also, those who have previously been denied admission may, upon presentation of new information, be reconsidered. In either case, the applicant must petition, in writing, the CBA Graduate Admissions Committee giving those reasons relevant to the situation which demonstrates the likelihood of success — the burden of proof is on the applicant.
- Hold a degree from a non-United States institutions and have an academic standing of first or high second class, satisfactory evidence of competence in English (i.e., TOEFL score of 550 or above) and a score of at least 450 on the GMAT.

**Procedure**

GMAT scores should be sent to the director of Graduate Programs in Business, College of Business Administration, The University of Akron, Akron, OH 44325 (institution code 1892). Since the GMAT test is administered world-wide only four times per year, the applicant should register for it sufficiently in advance to the filing of the graduate application, so evaluation for admission will not be delayed. GMAT registration bulletins can be obtained from the Graduate Programs in Business Office or the Educational Testing Service, Box 966-R, Princeton, NJ 08540. Those who have taken the GMAT (formerly called the ATGSB) more than five years ago are required to retake it.

Even though an applicant is eligible for consideration, an offer of admission is not guaranteed. Since staff, facilities, and resources are limited, a determination must be made as to the number of applicants who can be adequately serviced among those eligible. As a result, offers of admission may be limited to only the most qualified of the eligible applicants as determined by the CBA Graduate Admissions Committee. The committee will consider the following in making decisions: the difficulty of the applicant's undergraduate program; the length of time and activities since graduation, the percentile ranking on the GMAT. Applicants are expected to score at least in the 55th percentile on the GMAT — approximately 480 — in order for an offer of admission to be extended.

All applications and accompanying documentation are evaluated simultaneously by the Graduate Admissions Committee (GAC). The GAC meets four times approximately four weeks after each GMAT date. The applicant will be informed in writing of the GAC's decision after approximately one week.

Under the regulations of the Graduate School, eligible applicants who have been extended an offer of admission by the CBA Graduate Admissions Committee are recommended to the dean of the Graduate School for either "full" or "special" graduate status. Those admitted with the classification "special graduate status" who have not attained an overall 3.00 GPA upon the completion of 12 graduate credits will be dismissed from the program.

**Requirements**

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.

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 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 and II courses can be taken concurrently provided that all prerequisites have been met.

**Phase I Foundation Courses**

All required unless Phase I courses have been waived at the time of admission.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>3250:600</td>
<td>Foundations of Economic Analysis*</td>
<td>3</td>
</tr>
<tr>
<td>6200:601</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6400:602</td>
<td>Management Finance**</td>
<td>3</td>
</tr>
<tr>
<td>6400:655</td>
<td>Government and Business</td>
<td>3</td>
</tr>
<tr>
<td>6500:660</td>
<td>Management and Production Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:691</td>
<td>Quantitative Decision-Making</td>
<td>3</td>
</tr>
<tr>
<td>6500:602</td>
<td>Computer Techniques for Management</td>
<td>3</td>
</tr>
<tr>
<td>6606:600</td>
<td>Marketing Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

*If waived, student must select 6400:650 Administering Costs and Prices from the MBA Core (Breadth) courses.

**If waived, student must select 6400:674 Financial Management and Policy from the MBA Core (Breadth) courses.

If waived, the student must select 6500:620 Strategic Marketing Management from the MBA Core (Breadth) courses.
The following courses are required only for those selecting accounting as their area of concentration:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>6200:610</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:617</td>
<td>Intermediate Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>6200:618</td>
<td>Intermediate Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>6200:630</td>
<td>Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>6200:631</td>
<td>Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>6200:640</td>
<td>Auditing</td>
<td>3</td>
</tr>
<tr>
<td>6200:674</td>
<td>Accounting Management and Control</td>
<td>3</td>
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**Phase II Core Courses — Accounting Concentration**

- **Breadth Courses:**
  
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>6500:652</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6500:659</td>
<td>Quantitative Methods in Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>Choose two</td>
<td>Administering Costs and Prices or</td>
<td>3</td>
</tr>
<tr>
<td>6400:650</td>
<td>Financial Management and Policy</td>
<td>3</td>
</tr>
<tr>
<td>6500:662</td>
<td>Strategic Marketing Management</td>
<td>3</td>
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<tr>
<td>6500:674</td>
<td>Selective Elective</td>
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<tbody>
<tr>
<td>6200:617</td>
<td>Advanced Accounting Theory</td>
<td>3</td>
</tr>
<tr>
<td>6200:613</td>
<td>Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>6200:613</td>
<td>Cost Concepts and Control</td>
<td>3</td>
</tr>
<tr>
<td>6500:662</td>
<td>Elective (one accounting course above 610)</td>
<td>3</td>
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- **Integrative Course:**
  
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</thead>
<tbody>
<tr>
<td>6500:674</td>
<td>Business Strategy and Policy: Domestic and International (restricted to students graduating within two semesters)</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Free Electives:**
  
  Any six credits of CBA electives (any six credits of concentration courses may be used to satisfy one, three-credit elective requirement up to six credits of free electives). Electives outside the CBA must be approved by the graduate director (3)

**Phase II Core Courses — Finance Concentration**

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<td>6200:610</td>
<td>Accounting Management and Control</td>
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<td>6400:654</td>
<td>Financial Management and Policy</td>
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**Phase II Core Courses — Marketing Concentration**

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<td>6500:640</td>
<td>Accounting Management and Control</td>
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**Phase II Core Courses — International Business Concentration**

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<td>Administering Costs and Prices</td>
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*Requires reading and conversational proficiency in one language other than English.*
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.

**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 as well as an advanced concentration in accounting. Two phases of coursework are required. Phase I consists of specialized graduate and post-baccalaureate 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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:600</td>
<td>Foundation of Economic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>6200:601</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:605</td>
<td>Accounting Management and Control</td>
<td>3</td>
</tr>
<tr>
<td>6400:606</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>5200:605</td>
<td>Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>5500:601</td>
<td>Quantitative Decision-Making</td>
<td>3</td>
</tr>
<tr>
<td>6000:602</td>
<td>Business Strategy and Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Free Electives:** Any six credits of CBA electives (any six credits of foundation courses may be used to satisfy one three-credit free elective requirement up to six credits of free electives. Electives outside the CBA must be approved by the graduate director).

**Phase II**

**Required:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:630</td>
<td>Tax Research and Planning</td>
<td>3</td>
</tr>
<tr>
<td>6200:631</td>
<td>Corporate Taxation</td>
<td>3</td>
</tr>
<tr>
<td>6200:632</td>
<td>Taxation of Transactions in Property</td>
<td>3</td>
</tr>
<tr>
<td>6200:633</td>
<td>Estate and Gift Taxation</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives:**

- Eighteen credits of which at least 12 must be in taxation (6200:641-54):
- Taxation courses
- Any CBA courses

**Master of Science in Management**

The Master of Science in Management program is designed to provide the student with strong quantitative backgrounds an opportunity to pursue advanced study utilizing previously acquired knowledge. The student with undergraduate training in engineering, mathematics and the physical sciences will apply skills to management problem solving and decision making along quantitative lines. Two phases of 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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3250:600</td>
<td>Foundation of Economic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>6200:601</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6400:652</td>
<td>Managerial Finance</td>
<td>3</td>
</tr>
<tr>
<td>6400:652</td>
<td>Financial Management and Production Concepts</td>
<td>3</td>
</tr>
<tr>
<td>6500:601</td>
<td>Quantitative Decision-Making</td>
<td>3</td>
</tr>
<tr>
<td>6600:600</td>
<td>Marketing Concepts</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives** (any nine credits of the following):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:656</td>
<td>Advanced Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6400:657</td>
<td>Governmental and Institutional Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6500:657-54</td>
<td>Any taxation course</td>
<td>3</td>
</tr>
<tr>
<td>6200:660</td>
<td>International Accounting</td>
<td>3</td>
</tr>
<tr>
<td>6200:699</td>
<td>Seminar in Accounting (must register twice - three credits each)</td>
<td>6</td>
</tr>
</tbody>
</table>

**Phase II**

**Selected Electives (two required):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200:616</td>
<td>Accounting Management and Control</td>
<td>3</td>
</tr>
<tr>
<td>6400:674</td>
<td>Financial Management and Policy</td>
<td>3</td>
</tr>
<tr>
<td>6600:620</td>
<td>Strategic Marketing Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6500:645</td>
<td>Information Systems and Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:652</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>6600:653</td>
<td>Organizational Theory</td>
<td>3</td>
</tr>
<tr>
<td>6600:654</td>
<td>Industrial Relations</td>
<td>3</td>
</tr>
<tr>
<td>6600:662</td>
<td>Quantitative Methods and Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>6500:665</td>
<td>Applied Industrial Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>6500:664</td>
<td>Applied Industrial Statistics II</td>
<td>3</td>
</tr>
<tr>
<td>6200:671</td>
<td>Advanced Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>6600:695</td>
<td>Business Strategy and Policy</td>
<td>3</td>
</tr>
<tr>
<td>6600:699</td>
<td>Graduate Seminar in Management</td>
<td>3</td>
</tr>
</tbody>
</table>
Joint Programs
The School of Law and the College of Business Administration (CBA) offer a joint program in legal and administrative studies (J.D./M.B.A.) and a joint program in legal and taxation studies (J.D./M.Tax.). These combinations are open to the student preparing for a career in such areas as corporate law, tax accounting or legal practice in government. The amount of time required to complete a joint degree program is shorter than the time required to complete both programs independently. In order to pursue either cooperative program, the student must apply to and be accepted by both the School of Law and the Graduate School of the CBA. The student should contact each school independently for information covering admission criteria and procedures (for further information on School of Law admissions, write: Director of Admissions, School of Law, The University of Akron, Akron, OH 44325). A baccalaureate degree is required.

Degree Requirements
A student is required to fulfill the requirements of the School of Law (75 credits plus 10 credits transferred from the CBA. The requirements of the CBA may be met by fulfilling the requirements previously listed which include the common body of knowledge (Phase I) courses (18-27 credits unless waived because of prior undergraduate credits earned) and 24 credits for M.Tax. or 30 credits for M.B.A. of advanced courses in the CBA plus six credits transferred from the School of Law. The reciprocal acceptance of course credits by each school is the essence of the joint programs. All law courses used to fulfill CBA requirements must be approved by the director of Graduate Business Programs prior to completion. To earn both degrees, a total of 99 (J.D./M.Tax.) or 105 (J.D./M.B.A.) credits is required, depending on the master's program pursued. More credits may be required for the master's degree if courses (Phase I) are required.

Upon the approval of the director of Graduate Programs in Business, 10 credits of School of Law courses may be applied toward the Masters of Taxation degree. No more than six credits from the School of Law may be in non-tax courses. The other four credits taken in the School of Law must be in tax courses which substitute for equivalent tax courses in the CBA.
College of Fine and Applied Arts

Gerard L. Krieter, Ed.D., Dean
Kelvie C. Comer, Ed.D., Assistant Dean

MASTER'S DEGREE

Home Economics and Family Ecology

A program of study is offered leading to the Master of Arts in Home Economics and Family Ecology degree with an emphasis in either family development or child development. Prior to acceptance in the program, the student must meet the following conditions:

- The general requirements for admission to the Graduate School.
- The standard requirements for an undergraduate major in the proposed area of graduate study or preparation which has been accepted as equivalent by the department head and the department graduate faculty.

In addition to the above, the student will be expected to comply with the following requirements:

- Complete the course of study in one of the two options: child development or family development with a minimum of 40 credits. These credits will include:
  - foundation courses to prepare the student for research in home economics and family ecology as a discipline;  
  - core courses in the area of specialty;  
  - electives selected from within the department or from another discipline to strengthen 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 appropriate related area commensurate with the student's background and area of pursuit. The research may involve a creative, historical or experimental design. The internship option involves the design, development, implementation and evaluation of original and creative programs and/or resource materials pertaining to family and/or child development. Part of the internship experience may take place in a community-based agency which serves families and/or children. A written proposal for the thesis or internship option must be submitted at the completion of approximately 20 credits of graduate study.
- Pass a written comprehensive examination over major and minor areas after the completion of at least 24 credits of graduate work.
- Apply for Advancement to Candidacy upon successful completion of 25 credits of graduate study, the written comprehensive examination and an approval prospectus for a thesis or internship.
- Pass an oral examination covering the thesis or internship report.

Foundation Courses

<table>
<thead>
<tr>
<th>Course 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>7400:670</td>
<td>Conceptual Framework in Family Ecology</td>
<td>3</td>
</tr>
</tbody>
</table>

- One graduate-level research course to be approved by the adviser.

Suggested courses include:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3885:504</td>
<td>Social Research Design</td>
<td>3</td>
</tr>
<tr>
<td>5100:640</td>
<td>Techniques of Research</td>
<td>3</td>
</tr>
</tbody>
</table>

- Internship or Thesis (select one):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:656</td>
<td>Internship-student must have 7400:395 (3 credits)</td>
<td>5</td>
</tr>
<tr>
<td>7400:699</td>
<td>Thesis</td>
<td>5</td>
</tr>
</tbody>
</table>

- Core courses:

Select 15 credits from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:504</td>
<td>Apparatus in the Family Context</td>
<td>3</td>
</tr>
<tr>
<td>7400:560</td>
<td>Organization and Supervision of Child Care Centers</td>
<td>3</td>
</tr>
<tr>
<td>7400:569</td>
<td>Parenting Skills</td>
<td>3</td>
</tr>
<tr>
<td>7400:585</td>
<td>Developmental Parent-Child Interactions</td>
<td>3</td>
</tr>
<tr>
<td>7400:616</td>
<td>Infant and Child Nutrition</td>
<td>2</td>
</tr>
<tr>
<td>7400:660</td>
<td>Programming for Child Care Centers</td>
<td>2</td>
</tr>
<tr>
<td>7400:665</td>
<td>Development in Infancy and Early Childhood</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives - 9 credits

Family Development Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7400:602</td>
<td>Family Life-Span Perspective</td>
<td>2</td>
</tr>
<tr>
<td>7400:605</td>
<td>Developmental Parent-Child Relations</td>
<td>3</td>
</tr>
<tr>
<td>7400:607</td>
<td>Family Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>7400:651</td>
<td>Family and Child Nutrition</td>
<td>3</td>
</tr>
</tbody>
</table>

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 or 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 the languages, 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.

Accompanying Option

- Core courses - 16 credits:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7500:555</td>
<td>Advanced Conducting</td>
<td>2</td>
</tr>
<tr>
<td>7500:615</td>
<td>Musical Styles and Analysis I (Chant through Palestrina)</td>
<td>2</td>
</tr>
<tr>
<td>7500:616</td>
<td>Musical Styles and Analysis II (Baroque through early Beethoven)</td>
<td>2</td>
</tr>
<tr>
<td>7500:617</td>
<td>Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)</td>
<td>2</td>
</tr>
<tr>
<td>7500:619</td>
<td>Theory Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>7500:621</td>
<td>Historical Survey: Music of the Middle Ages and Renaissance</td>
<td>2</td>
</tr>
<tr>
<td>7500:622</td>
<td>Historical Survey: Music of the Baroque</td>
<td>2</td>
</tr>
<tr>
<td>7500:623</td>
<td>Historical Survey: Music of the Classic and Romantic Era</td>
<td>2</td>
</tr>
<tr>
<td>7500:624</td>
<td>Historical Survey: Music of the Twentieth Century</td>
<td>2</td>
</tr>
<tr>
<td>7500:641</td>
<td>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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7500:561</td>
<td>Repertoire and Pedagogy (Piano and Harpsichord)</td>
<td>3</td>
</tr>
<tr>
<td>7500:562</td>
<td>Repertoire and Pedagogy (Organ)</td>
<td>3</td>
</tr>
</tbody>
</table>

- Required courses - 9 to 12 credits:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7500:561</td>
<td>Repertoire and Pedagogy (Piano and Harpsichord)</td>
<td>3</td>
</tr>
<tr>
<td>7500:562</td>
<td>Repertoire and Pedagogy (Organ)</td>
<td>3</td>
</tr>
</tbody>
</table>

- 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.
Composition Option

- Core courses — 76 credits.
  - 7500:65 Advanced Conducting
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)
  - 7500:618 Theory Pedagogy
  - 7510:6 Thesis Research/Recital Document

- Electives — 4-7 credits

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.

- 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.
  - 34 credits.

Music History and Literature Option

- Core courses — 16 Credits.
  - 7500:555 Advanced Conducting
  - 7500:611 Historical Survey: Music of the Middle Ages and Renaissance
  - 7500:622 Historical Survey: Music of the Baroque
  - 7500:623 Historical Survey: Music of the Classic and Romantic Eras
  - 7500:624 Historical Survey: Music of the Twentieth Century
  - 7500:697 Advanced Problems in Music
  - 7510:6 Ensemble (participation in two, one-hour ensembles required)

- Required courses — 70-12 credits.
  - 7500:551 Introduction to Musicology
  - 7500:552 Bibliography and Research
  - 7500:616 Musical Styles and Analysis IV (Twentieth Century)
  - 7500:699 Thesis Research/Recital Document

- Electives — 4-6 credits

Performance Option

- Core courses — 16 credits.
  - 7500:555 Advanced Conducting
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)
  - 7500:618 Theory Pedagogy
  - 7500:621 Historical Survey: Music of the Middle Ages and Renaissance
  - 7500:622 Historical Survey: Music of the Baroque
  - 7500:623 Historical Survey: Music of the Classic and Romantic Eras
  - 7500:624 Historical Survey: Music of the Twentieth Century
  - 7510:6 Ensemble (participation in two, one-hour ensembles required)
  - 7520:55 Applied Music

- Required courses — 6-12 credits.
  - 7500:600-4 Repertoire and Pedagogy
  - 7500:618 Musical Styles and Analysis IV (Twentieth Century)
  - 7500:698 Graduate Recital

- Electives — 4-10 credits

Theory Option

- Core courses — 16 credits.
  - 7500:615 Musical Styles and Analysis I (Chant through Palestrina)
  - 7500:616 Musical Styles and Analysis II (Baroque through early Beethoven)
  - 7500:617 Musical Styles and Analysis III (late Beethoven through Mahler/Strauss)
  - 7500:618 Musical Styles and Analysis IV (Twentieth Century)
  - 7500:619 Theory Pedagogy
  - 7500:622 Historical Survey: Music of the Baroque
  - 7500:623 Historical Survey: Music of the Classic and Romantic Eras
  - 7500:624 Historical Survey: Music of the Twentieth Century
  - 7500:697 Advanced Problems in Music
  - 7510:6 Ensemble (participation in two, one-hour ensembles required)

- Required courses — 10-12 credits.
  - 7500:633 Bibliography and Research
  - 7500:555 Advanced Conducting
  - 7500:621-4 Music History Survey Seminars

- Electives — 4-6 credits

Communication

The Department of Communication offers the Master of Arts degree in a coordinated program of communication arts. The program is as follows:

- Meet the general requirements for admission to the Graduate School.
- Have undergraduate coursework required for a major in the chosen area of concentration. Complete a thesis, project, or production. The student may enroll for thesis credit only after passing all parts of the written comprehensive examination and completing an acceptable thesis prospectus.
- Complete a written qualifying examination over departmental coursework taken before advancement to candidacy. At the completion of 24 credits of work, the student should contact the director of graduate studies to arrange the examination.
- Earn a minimum of 32 semester credits plus one to four credits for the thesis, project, or production.

The program is as follows:

- Core
  - 7600:605 Introduction to Graduate Study in Mass Media—Communication
  - 7600:603 Empirical Research in Mass Media—Communication
  - 7600:624 Survey of Communication Theory
  - 7600:621 Theories of Mass Communication
  - 7600:670 Communication Criticism
Theatre

The following will qualify the student in the field of theatre.

- Complete the general requirements for admission to the Graduate School.
- Complete an undergraduate major in the area of proposed graduate work or equivalent work as approved by the coordinator of the graduate theatre program.
- Complete a minimum of 36 credits, including 7800:600 and 7800:694, from the following courses or approved courses in the cognate field.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7800:562</td>
<td>Playwriting</td>
<td>2</td>
</tr>
<tr>
<td>7800:567</td>
<td>Contemporary Theatre Styles</td>
<td>3</td>
</tr>
<tr>
<td>7800:568</td>
<td>Children’s Theatre</td>
<td>3</td>
</tr>
<tr>
<td>7800:590</td>
<td>Workshop in Theatre Arts</td>
<td>1-3</td>
</tr>
</tbody>
</table>

The requirement is designed to be the culmination of the student's academic program and involves the conception, design and execution of an academic problem in a manner which requires a high level of substantive, methodological and writing skills. These skills may be demonstrated in any of three types of activity, depending on the student's background and orientation.

- Departmental electives - 10 credits.
- Electives - 6 credits.

Arts Management Option

- Complete a minimum of 36 credits.
- Required theatre courses:
  - 7800:600 Introduction To Graduate Studies in Theatre Arts
  - 7800:665 Audiences for the Arts Research/Analysis
  - 7800:666 Introduction to Arts Management
  - 7800:691 Seminar: The Role of Arts Administrator
  - 7800:692 Legal Regulations and the Arts
  - 7800:698 Arts Management Internship

- Electives in business:
  - 6200:601 Financial Accounting
  - 6400:602 Managerial Finance
  - 6500:690 Management Concepts, Practices and Theory
  - 6600:692 Organizational Behavior
  - 6600:693 Management Marketing
  - 6600:694 Strategic Marketing Management
  - 6600:695 Marketing Information Systems and Research
  - 6600:696 Marketing Communications

- Electives in urban studies:
  - 3980:610 Urban Policy
  - 3980:611 Urban Administration
  - 3980:649 Fiscal Analysis
  - 3980:680 Topics (such areas as cultural policy and personal management)

- Related fields:
  - Options here include work in computer science, grantsmanship and advertising/promotion.

- Complete an oral defense of the thesis project.
College of Nursing

Lillian L. DeYoung, R.N., Ph.D., Dean
Phyliss Fitzgerald, R.N., Ph.D., Assistant Dean, Undergraduate Program
A. Jeanne Hoffer, R.N., Ed.D., Assistant Dean, Graduate Program
Carol A. Armbricht, R.N., M.S., Director, Continuing Education

MASTER OF SCIENCE IN NURSING

Philosophy

The philosophy of graduate education in nursing evolves from the undergraduate philosophy. Undergraduate education 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 undergraduate education health is viewed on a continuum of health/diminished health and as a purposeful interaction with ecological variables which seeks to maintain a state of well-being. In graduate education health is viewed as an evolving process which occurs throughout the lifespan of enfamilied selves in interrelationship with the ecosystem. Family health is perceived as expansion of consciousness of enfamilied selves.

Undergraduate education prepares a generalist who is capable of practicing in any environment and provides a foundation for research, continued study and leadership. Graduate education prepares a family health nurse specialist who implements the role of family health nurse by assisting families to experience health in any environment and who generates family health nursing knowledge through research. This educational process provides the foundation for doctoral study in nursing. Graduate education prepares this specialist for leadership in administration, education, and/or direct care with families. Graduate education focuses on man's interaction with ecological variables whereas graduate education focuses on the family as a unit within an ecological-phenomenological perspective.

Assumptions from theories of ecology and phenomenology provide an ecological-phenomenological perspective. The ecological-phenomenological perspective provides the framework for graduate education to prepare family health nurses to assist families in sustaining that quality of life which enables them to survive and prevail. From an ecological-phenomenological perspective the faculty views families within a macro-ecosystem, a meta-ecosystem, and a micro-ecosystem, and perceives the phenomena of the family ecosystem in terms of the intentionality of consciousness of enfamilied selves, as reported by family members.

The faculty believes that family health nurses, using an ecological-phenomenological perspective, evolve a dialectical process of family health. Using an ecological-phenomenological perspective the faculty perceives family health as an expansion of consciousness. Consciousness is viewed as five domains of living: valuing, thinking, feeling, acting and 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.

Characteristics of the Graduate

Graduates of the program shall be able to:

• Value the ecological-phenomenological perspective, the dialectical process and the concepts health, family, family health, enfamilied self and leadership.
• Evaluate health with families and enfamilied selves through health appraisal, anticipatory dynamics, stress management, health learning and enfamilied self care.
• Actualize the leadership role in administration, education and/or direct care with families.
• Generate family health nursing knowledge through research.
• Pursue doctoral study.

Admission

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 a statistics course for the health sciences, 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;
  — a former college or school faculty member.
• Write a 300-word essay describing professional goals and reasons for seeking graduate education.

A registered nurse who has a baccalaureate degree in a discipline other than nursing prior to September 1981; a registered nurse with a baccalaureate degree in nursing from a nonaccredited baccalaureate program; as well as persons who do not meet the above criteria will be considered for admission on an individual basis.

Grade-Point Average

• An applicant with a grade-point average of 3.00 or better in an undergraduate program will be granted Full Admission.
• An applicant with an undergraduate grade-point average of 2.75-2.99 will be admitted as Special/Non-Degree as deemed in the Graduate Bulletin.
Admission Procedures

The student secures application for Graduate School from the Office of the Dean of Graduate School, The University of Akron. Criteria for admission, forms for references, etc. may be secured from the director of the graduate program, the College of Nursing. The director of the graduate program along with the administrative assistant will review all applications for completion.

An admissions committee will meet and review all applications and make recommendations to the director regarding the status accorded the 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. The completed application must be in the office of the College of Nursing by March 1 or October 1. The student will be notified of status by April 1 or November 1.

Instructional Program

The Family Health Nursing program is one and one-half academic years and provides instruction in direct care with families, research, and a leadership role.

Nursing Core

All students receive instruction in the theoretical base from within the ecological-phenomenological perspective. The core consists of 14 credits which span both years of the curriculum. All students will take 8200:603 Theoretical Basis for Family Health Nursing, 8200:619 Family Health Appraisal, and 8200:621,2 Family Health Nursing I and II.

Nursing Research

All students will enroll in a research core for a total of 7 credits; 8200:613 Nursing Inquiry, and 8200:699 Thesis Research taken over the one and one-half years serve as a basis for understanding of research throughout the program. Statistics for the Health Sciences is a prerequisite for Nursing Inquiry.

Leadership Role

Options are provided for study in a leadership role, education, administration or direct care with families.

Seven credits are allocated to the leadership role which include: seminar, practicum, colloquium and two support courses.

Electives

One elective is provided in the curriculum. Students will choose a minimum of three credits free elective. A student is required to take a minimum 37 credits in the total program. Additional credits will provide the opportunity to individualize and strengthen the major. A four-hour statistics course is a prerequisite to Nursing Inquiry.

The following courses are required of all students:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>8200:603</td>
<td>Theoretical Basis for Family Health Nursing</td>
<td>3</td>
</tr>
<tr>
<td>8200:613</td>
<td>Nursing Inquiry</td>
<td>3</td>
</tr>
<tr>
<td>8200:619</td>
<td>Family Health Appraisal</td>
<td>3</td>
</tr>
<tr>
<td>8200:622</td>
<td>Family Health Nursing I</td>
<td>4</td>
</tr>
<tr>
<td>8200:624</td>
<td>Family Health Nursing II</td>
<td>4</td>
</tr>
<tr>
<td>8200:680</td>
<td>Colloquium</td>
<td>1</td>
</tr>
</tbody>
</table>

Select one of the following three areas:

- Direct Care
  
  8200:681 Family Health Nursing Leadership Seminar: Direct Care with Families 3

- Two of the following:
  
  8200:621 Nursing of Families with Children 3
  
  8200:626 Nursing of Families with Adult Members 3
  
  8200:628 Health Perspectives of the Expanding Family 3
  
  8200:671 Nursing of Families with Older Members 3
  
  8200:675 Culture, Ethnicity and Health Care 3
  
  Elective 3

- 8200:699 Thesis Research 1-4

- Educational
  
  8200:685 Family Health Nursing Leadership Seminar: Education 3
  
  8200:687 Family Health Nursing Leadership Practicum: Education 3

- Two of the following:
  
  5100:600 Philosophies of Education 3
  
  5100:642 Topical Seminar in Management and Evaluation 3
  
  8200:620 Teaching Strategies in Nursing Education 3
  
  Elective 3

- 8200:699 Thesis Research 1-4

- Administration
  
  8200:629 Financial Management for Nursing Administration 3
  
  8200:630 Human Resources in Nursing Settings 3
  
  8200:677 Family Health Nursing Leadership Seminar: Administration 3
  
  8200:688 Family Health Nursing Leadership Practicum: Administration 3
  
  Elective 3

- 8200:699 Thesis Research 1-4

Cooperative Statement

This program is in cooperation with Kent State University, School of Nursing, where a student has the option to take cognate or nursing electives and utilize library facilities.
School of Law

Donald M. Jenkins, B.A., J.D., Dean
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 or the study of law for the working student with classes scheduled primarily between 6:30 p.m. and 9:30 p.m.

The schedule of courses for the day division is designed so that the degree of Juris Doctor may be earned in three academic years consisting of six semesters. Attendance at Summer Sessions is optional.

The schedule of courses for the evening division is designed so that the degree of Juris Doctor may be earned in four academic years consisting of eight semesters and three summer sessions.

Each student is recommended for the degree of Juris Doctor upon satisfactory completion of the requirements.

OBJECTIVES

The purpose of the School of Law is to further the goals of The University of Akron by providing a quality program of university education for law and to pursue the following aims:

- To prepare the student for a career in the profession of law by imparting information concerning legal institutions, basic principles of the substantive and procedural law and jurisprudential thought concerning the role of law in society.
- To help to develop in the student an active and critical attitude rather than a passive approach toward the rules of law and their social implications.
- To develop in the student a high sense of professional responsibility in terms of technical competency, appreciation of professional standards and the responsibility of the lawyer to achieve a more nearly perfect system of civil and criminal justice.

The primary purpose of the student enrolling in the School of Law is to obtain a fundamental knowledge of law and the role of law in society, interlaced with a grasp of the public responsibilities of the lawyer. This course of study will enable 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 great leadership and interest, Mr. McDowell worked unflaggingly toward the creation of a law school at the University which resulted in the merger of the Akron Law School with the University in 1959.

ADMISSIONS INFORMATION

Pre-Legal Education

A student expecting to enter the School of Law must hold a baccalaureate degree granted by an accredited institution of higher learning. Requirements are flexible for undergraduate study preceding legal education. However, your college record and Law School Admissions 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. 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 demonstrated academic ability as evidenced in part by LSAT scores and the undergraduate grade-point average (GPA). The school will accept beyond the LSAT and GPA for special qualities in its applicants for 10 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 school should apply and complete applications as soon as possible after October 1 in the year preceding the start of fall classes. Review of completed files will begin in January and students will be admitted until the classes are filled. After that time, acceptable applicants will be placed on a waiting list. The school estimates the day class will be filled by April 1; the evening class by June 1. Because the school considers each application soon after it is completed, there is no way of knowing whether the classes will be closed before or after the above dates. The best policy is to complete one's application as early as possible. Admission from the waiting list will begin in late July, should vacancies occur.

In cases where specific questions on an application arise, a personal interview with the associate dean may be necessary or may be requested by the applicant.

Letters of recommendation are not necessary. However, if points relevant to academic or personal background are not addressed in the application material, they may be added to the applicant's file for review.

Application Procedures

Submit to the School of Law:

- Application for Admission form (available upon request from the Law School).
- A non-refundable application fee of $25 if never previously enrolled for credit courses at The University of Akron (check or money order payable to The University of Akron).
- A Law School Application Matching form obtained with 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 Service (LSDAS). The application for LSDAS is available upon request from LSAS Box 2000, Newtown, PA 18940.
- Applicants are urged to take the LSAT as early as possible and preferably October or December for day applicants; October, December or February for evening applicants.

If accepted for admission a student must file with the School of Law: a final, official transcript, mailed from the institution awarding the baccalaureate degree.

A Certificate of Completion of Degree Requirements is filed by the student with the School of Law temporarily in lieu of an official transcript for the student satisfactorily completing baccalaureate degree requirements during summer sessions, but the formal award of the degree is conferred upon receipt of a completed Certificate of Completion of Degree Requirements. A transcript showing award of the baccalaureate degree must be filed by the student with the school at the earliest time such transcript becomes available from the institution awarding the baccalaureate degree.

The official transcript, or, in cases where applicable, the certificate, should be received by the School of Law at least one week prior to the official registration period published in the University Calendar.

A student admitted to the Juris Doctor degree program is requested to file an official transcript only after receiving written notice of admission to the 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 or 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; (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 by the regular students enrolled for credit except taking examinations. The fee for the auditor is the same as for a regular student.

Transient Students

A student who is currently enrolled at a School of Law in the approved list of the Section of Legal Education and Admissions to the Bar of the 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 University of Akron. The applicant is also required to take both the LSAT and the GMAT. Individuals with baccalaureate degrees in any field of study are eligible to apply for a joint program.

A brochure describing the program in more detail and an application form are available from the School of Law or from the College of Business Administration. A more detailed description of the program can be found in the College of Business Administration Graduate School in this Bulletin.
Requirements

Requirements for the Degree Juris Doctor
The School of Law offers two programs leading to the degree Juris Doctor. The curriculum for a day student is designed so that the degree may be earned in three academic years consisting of six semesters. Attendance at the Summer Sessions is optional.

The curriculum for the evening student is designed so that the degree of Juris Doctor may be earned in four academic years consisting of eight semesters and three summer sessions. The Summer Sessions are an integral part of the evening program.

Except in certain exceptional cases, the day student is not permitted to take evening classes, likewise an evening student is not permitted to enroll in day class without the permission of the dean.

In addition, in exceptional cases the dean may authorize a student to take a reduced course load under either curriculum and stretch studies over the time prescribed for each program.

A new student is admitted at the beginning of the fall semester only.

Joint Degree Programs
The School of Law and the College of Business Administration offer a joint degree program in legal and administrative studies (J.D./M.B.A.) and a joint program in legal and taxation studies (J.D./M.Tax). These combinations are of interest to a student preparing for a career in such areas as private practice, corporate law, tax accounting and government. The total amount of time required to complete a joint degree program is less than the time required to complete both programs independently since certain courses in one college fill course requirements in the other college.

Degree Requirements
The degree of Juris Doctor is conferred upon a student of good moral character who has been recommended by the dean and faculty of the School of Law and who has:

- Completed satisfactorily all required courses, seminars and electives to earn at least 84 credits.
- Completion of a program involving extensive research and legal writing.
- Met the residency requirement of 96 weeks for the day division of 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 the 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 Supreme Court and the United States Supreme Court. Audio tapes, video tapes and microforms are also available for use in many related areas of study.

The library is a federal government depository giving the student access to law-related publications of the federal government. The latest addition to the library is an online computer terminal for accessing legal data bases. This tool of the law office of the future is available now.

Five professional librarians (two with both a law degree and a master’s degree in library science), five staff and a dozen assistants are available.

To supplement the collection are the University libraries with 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>
</tr>
</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 Communications</td>
<td>1</td>
</tr>
</tbody>
</table>

Spring Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Procedure II</td>
<td>3</td>
</tr>
<tr>
<td>Contracts II</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>Property II</td>
<td>3</td>
</tr>
<tr>
<td>Torts II</td>
<td>3</td>
</tr>
</tbody>
</table>

Evening Program
First Year, Required
Fall Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Contracts 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 Communications</td>
<td>1</td>
</tr>
</tbody>
</table>

Spring Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracts II</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>Legal Profession</td>
<td>1</td>
</tr>
<tr>
<td>Torts II</td>
<td>3</td>
</tr>
</tbody>
</table>

Writing Program

The tools of the practicing lawyer are oral and writing skills. As an incoming law student, experience will be gained in using and improving these skills. All first-year students take a course in legal research and advocacy. During the year the student learns to use the specialized research mate

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

The coursework for the first year is prescribed and provides essential framework for subsequent study.
A second-year student is enrolled in the appellate advocacy courses. There, a student reads a transcript, identifies and briefs the issues and bases, is supervised in a writing experience and has a chance to present written and oral arguments before a mock court. This exercise closely simulates a true appellate experience.

The Akron Law Review

A board of student editors prepares and edits, with the advice of the dean and faculty, The Akron Law Review, a quarterly legal periodical devoted to legal research and commentary on the law. Membership on the board is limited to the student of superior academic achievement or of demonstrated writing skill who desires to engage in legal research, analysis, writing and editorial work. 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.

Graduation with Honors

The School of Law awards Juris Doctor degrees with distinction in conformity with the present grade point average standards for the University. The following standards are applicable to students who entered the School of Law prior to January 1982:

<table>
<thead>
<tr>
<th>Grade Designation</th>
<th>Minimum 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>Grade Designation</th>
<th>Minimum Grade Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summa Cum Laude</td>
<td>3.80 or higher</td>
</tr>
<tr>
<td>Magna Cum Laude</td>
<td>3.60 through 3.79</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>3.40 through 3.59</td>
</tr>
</tbody>
</table>

Withdrawal From a Course

A student may withdraw from a course for any reason up to the mid-point of a semester or summer session with the signature of a dean. After the mid-point of a semester or a summer session, but prior to the last week of classes, a student must have the written approval of both instructor and dean. Should either refuse to sign the withdrawal form, the student may appeal to the dean of the School of Law who shall make the final decision. For complete withdrawal from the law school, a student must have written permission from a dean.

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

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 six to eight student staff members. The student becomes eligible to work in the office after completion of the first year and receives either an hourly wage or academic credit.

As the office name implies, most of the work done involves postconviction representation. The office staff has perfected appeals in the State Courts of Appeal, the Supreme Court of Ohio, all of the Ohio Federal Courts and the United States Supreme Court.

One unique characteristic of the office is the substantial responsibility each student has for assigned cases. The student is responsible for doing the research, preparing drafts, compiling the final briefs and corresponding with the courts and other attorneys. The school has established this program with the goal of giving the conscientious student the opportunity to experience the practice of law in a supervised environment.

In addition to the Appellate Review Office, there are other associated activities where a student may experience the full gamut of legal problems.

Domestic Relations

Under supervision of a staff attorney, the law student with a legal intern certificate represents indigent persons with domestic relation problems (e.g., dissolutions, divorces, child custody and support). The student has primary responsibility for the gathering of information, drafting of pleadings and court representation of the client.

Landlord-Tenant

Many people are becoming enlightened about their rights as tenants, and the need for quick and effective legal representation in this field affords the student the opportunity to represent clients at the inception of the case. The student has primary responsibility for fact gathering, which may entail on-site investigation, counseling and strategy planning.

Inmate Assistant Project

This is a 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 of inmates and follow-up on legal problems.

Clinical Seminar

The student interested in experiencing the operations of public agencies may sign up to work in outside agencies, for credit. The student is assigned to various agencies, such as the County and City Prosecutor's Offices, County Public Defender's Office and the County Legal Aid Office. At placement, the student is able to see the inner workings of these offices while gaining a rich variety of knowledge. In coordination with this clinic, a course is taught which emphasizes the learning of interviewing and client-counseling techniques.

Moot Court Programs

To develop the dual skills of advocacy, oral prowess and brief writing, the student is encouraged to participate in the several moot court programs within and 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 their 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 high light comes in the final round when the competitors are evaluated by judges from the State Court of Appeals.

Jessup International Law Moot Court Competition

The student interested in exploring international law on an appellate level competes on a national scale in this competition. Problems are always relevant and timely.

Bar Admission

Each student entering the School of Law is encouraged to read the rules for bar admission for the state in which the student intends to practice law. This information is available from the various state supreme courts. In addition, the information is on file in the library.

For the student interested in practicing in the state of Ohio, the Supreme Court of Ohio requires that each student entering a law school who intends to practice law in Ohio file within 120 days from the beginning day of the fall term after initiating studies:

- An application for registration as a law student;
- Evidence of meeting the pre-legal educational requirements established by the Rule;
- A legible set of fingerprints on a prescribed form;
- A filing fee of $30.

As a condition for taking the bar examination, the applicant must:

- File an application not less than 90 days prior to the date of the bar examination;
- Present a certificate from the School of Law stating that the student has completed or will complete all courses required by the Rule;
- Pay 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 in 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 legal community. The longest running program is the Law Day Speaker, in which the Student Bar Association and the Akron Bar Association jointly bring to campus a speaker of national stature to present a public address on an issue of concern to those involved in the study and practice of law.
Annual International Law Symposium
Each year since 1972, the school and the International Law Society have sponsored a two-day International Law Symposium. Participants in the program are internationally known experts within the field. The proceedings are published each year in a subsequent edition of the Akron Law Review.

Special Seminars
In addition, the Student Bar Association has conducted special seminar programs throughout the year. These programs have included:
- American Civil Liberties Union’s involvement in Skokie, Illinois’ march by the American Nazi Party — its first amendment implications and other topics.
- “Prisoners’ Rights Seminar.”
- Evidence Seminar — hearsay rule, and the art of cross-examination.
- Proposed revisions of the Federal Criminal Code.

The Student Bar Association 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 DeSausseres 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 to the highest ranking graduating student in Corporations each year a copy of Anderson’s Ohio Corporations Desk Book, and to the highest ranking graduating student in Wills a copy of Lynn Wilt Clauses.

The Banks-Baldwin Law Publishing Company awards annually a two-volume work entitled Jacoby’s Ohio Civil Practice: Under the Rules to the graduating law student displaying scholarship in the study of Code Reading, as determined by the dean, School of Law.

The Bracton’s Inn Award, established by the Law Wives Club of the University of Akron, presents annually a complimentary subscription to its Hornbook Series to students with the highest academic average in each of the classes, as determined by the dean, School of Law.

The BF Goodrich Company 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 Cleveland State University College of Law provides an annual award to the highest ranking graduating student.

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.

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 scholarships, 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 school. The Akron Bar Association University Scholarship Committee, on the basis of scholarship, legal aptitude, character and need and with the advice of the dean, shall make the selection giving first preference to a resident of Summit County, Ohio. A recipient may apply for an annual renewal of the scholarship.

The Professor Hollis P. Allan Memorial Book Fund was established in 1980 in memory of a beloved law professor and is awarded as determined by the dean, School of Law.

The Evan B. Brewster Book and Scholarship Award is funded by income from an endowed fund established in 1973 by Attorney Evan B. Brewster and is awarded to deserving law students, as determined by the dean, School of Law.

The Briner, Calanzarite and Rakas University of Akron School of Law Taxation Scholarship, established in 1978, is awarded annually in the amount of $1,000 to an entering student in the full-time program of law study, on the basis of merit, who was the outstanding graduate of the University of Akron College of Business Administration, from the finance or accounting department, as determined by the dean, School of Law, upon recommendations submitted by the dean, College of Business Administration. The scholarship is not renewable to the recipient.

The Goodyear Tire & Rubber Company Fund is a fund established in 1969 by the Goodyear Tire & Rubber Company Fund, of which the principal and income will be used for scholarships and emergency expenses of students admitted to the School of Law under the Legal Education Opportunity Program, on the recommendation of the dean, School of Law. The fund is administered by the University Development Foundation.

The Howland Memorial Fund provides Frank C. Howland Scholarships to deserving law students who have 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. James France in memory of her husband James France, who gave the School of Law 22 years of distinguished service. The scholarship is awarded to a deserving law student demonstrating scholastic attainment as determined by the dean, School of Law.

The Lee Ferstein Scholarship Fund established by the Akron Education Association (AEA) in 1979 as a tribute to Lee Ferstein, for more than 30 years AEA legal counsel and a former member of the University’s Board of
The University Board of Trustees Tuition Remission

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 Judge and Mrs. Charles Sacks Scholarship is a fund established in 1969-70, the Centennial Year of the University, in honor of Judge and Mrs. Charles Sacks by their children, Robert and Naomi Christman, Sy and Laurel Fischer and Harvey and Shirley Friedman, of which the income will be used to provide scholarships to deserving students in the School of Law, as determined by the dean, 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 Grand Chapter, School of Law.

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.

The Black American Law Student Association (BALSA) was accredited as a law student organization in 1974 and is an affiliate of National BALSA, Inc. Dedicated to the twin objectives of increasing minority enrollment and retention, BALSA sponsors seminars on subjects such as legal rights of blacks, poor and oppressed people.

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 Law School 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.
Section 8
Research Centers and Institutes; Continuing Education and Public Services
Research Centers and Institutes

Alan N. Gent, Ph.D., Dean, Graduate Studies and Research
Joseph M. Walton, Ph.D., Associate Dean, Graduate Studies and Research
John E. Mulhauser, MA., J.D., Acting Associate Director, Research Services and Sponsored Programs

In the past, colleges and universities have been thought of as ivy-covered storehouses of knowledge where neatly packed information was dispensed to eager students. But this has never been true, for it is here that much of the new knowledge developed. And with the accelerating tempo of our times, there is an increased call for the universities to provide more new knowledge to enable society to cope.

The University of Akron is alive to this challenge and has sought to develop its research program with an eye to the needs of the society it serves. Here the emphasis is on work that is relevant, not on mere knowledge for knowledge's sake. One consequence of the University's concern with relevant research has been the number of interdisciplinary teams that have been put together to tackle specific problems. For instance, problems in connection with water pollution have used the services of chemists, biologists and chemical, mechanical and civil engineers. While the planning and organization of a research project is usually carried out by or with the assistance of a faculty member, both the graduate and undergraduate student have the opportunity to participate, depending on the nature of the project and the skills and knowledge required.

Sponsored research activities on campus are coordinated by the Research Council founded in 1962; it also serves as the policy-making body for research. The council consists of the dean of graduate studies and research, the director of research services and sponsored programs and the directors of the various research institutes.

Institute for Biomedical Engineering Research
Karen Mudry, Ph.D., Acting Director

This institute was established in 1979 to promote interdisciplinary studies in the rapidly growing areas of knowledge which overlap the fields of biology and medicine on the one hand, and engineering and the physical sciences, on the other. It conducts seminars, courses and degree programs in biomedical engineering in association with the College of Engineering and individual departments.

In addition to its research and educational functions, the institute provides a research service to local hospitals and industry, as well as to private and government agencies. The premise for this program is that the combined resources of the University, Northeastern Ohio Universities College of Medicine and affiliated organizations will often permit more cost-effective solutions than would be possible by an individual or group doing the research independently.

The work of the institute is carried out by faculty of the Department of Biomedical Engineering in association with "members" selected from the faculties of The University of Akron and Northeastern Ohio Universities College of Medicine, as well as from the ranks of area physicians, engineers and scientists. The institute and the department occupy the third floor of the newly renovated Engineering Research Center on the north edge of the campus.

Institute of Civic and Educational Research
H. Kenneth Barker, Ph.D., Director

Concerned with the increas ingly 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, the World Food Forum, the Application of Geologic and Soils Information, workshops on energy, natural history and environmental studies in England also emphasize the interdisciplinary approach to the resolution of issues.

The center provides programs of environmental studies in the Cuyahoga Valley National Recreation Area (CVNRA). These programs are operated through the University's Oak Hill Center for Environmental Studies in the CVNRA. Expertise provided by the Oak Hill Center has benefited thousands of youngsters.

Center for Fire and Hazardous Materials Research
Paul D. Garn, Ph.D., Director
David H. Hoover, B.S.Tech. Ed., Associate Director

One of the oldest problems facing mankind is safety from fire and hazardous materials. Inadequate resources are being devoted to this international problem even as technological advances increase both our hazards and our awareness of hazards in the environment. In the United States, the fire incidence rate per capita is the highest in the world; the fire death rate per capita is almost twice the international average. Many immediate and long-range hazards to health and environment are already recognized but there are still many suspect materials.

In a unique approach to this problem, the Center for Fire and Hazardous Materials Research brings together University, government and industri
in one comprehensive regional center to integrate research, educational programs, fire and hazardous materials training and other applications of technology. The presence on a single campus of all the elements—strong scientific and engineering programs and research, special expertise in polymers, a fire protection technology degree program of high repute, highly skilled media people and an active continuing education program—enables communication of research results not only to the firefighting community but also to the fire safety and design communities.

The principal paths of center activity are threefold:

- Research, conducted through research fellows appointed to the center from University and visiting faculty;
- Education, through the Associate Degree program in fire protection technology, through a certificate program, and through media preparation; and,
- Fire and hazardous materials training, through short courses and seminars, in some cases under contract with various municipalities, industries, and agencies.

**Institute for Futures Studies and Research**

Gary Gappert, Ph.D., Director

The Institute for Futures Studies and Research was established in 1978 to provide a focal point, function as a catalyst and assist in establishing curricula, studies and cross-disciplinary activities dealing with the future. Because of its very nature, the institute encourages involvement and cooperation of faculty and students from a variety of disciplines.

Among its major activities, the institute will work with faculty, administration and the University’s standing Commission on Institutional Planning and Development to facilitate integration of futures research and awareness with academic programming, planning and decision making.

The institute also plans to involve local business, industry and government in futures studies by establishing a local chapter of the World Future Society to encourage interest in forecasting, trends and ideas about the future.

**Center for International Programs**

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

**Center for Organizational Development**

Joseph C. Latona, Ph.D., Director

The Center for Organizational Development in the College of Business Administration is an outgrowth of the Institute of Business and Economic Research which was one of the four facets of the Research Council established in September 1962 by the University Board of Trustees. The Institute was renamed in 1975 as its functions had been expanding to fill a community need. The general goal of the center is to update the organizational skills of area managers in all types of organizations and at all levels. The center cooperates with business, government, professional and service groups in evaluating and analyzing their specific needs, designing programs and coordinating programs to meet the particular needs of these groups.

**Center for Peace Studies**

Warren F. Kuehl, Ph.D., Director

The Center for Peace Studies has been established to study the subject of international peace within the threefold framework of the University’s goal of education, research and public service. A peace studies certificate program is available for the student who wishes to pursue this course of study, and the center sponsors special campus programs, a film series and an international newsletter. It is engaged in research projects and cooperates with organizations in the community interested in peace and with institutes and peace centers on other campuses.

**Center for Polymer Engineering**

James L. White, Ph.D., Director

The Center for Polymer Engineering carries out fundamental and applied research in polymer processing, engineering performance and associated characterization.

The center, founded in 1983, seeks to be a major intellectual and research resource in northeast Ohio. The center maintains up-to-date and futuristic processing and characterization laboratories, with continued interest in development investigation of new process technology and new materials. Its activities also include organization of scientific symposia and various seminars related to polymer processing and engineering.

**Institute of Polymer Science**

Frank N. Kelley, Ph.D., Director

The institute is concerned with basic and applied research in polymers. It was established in 1956 as the Institute of Rubber Research and in 1964 became the interdisciplinary Institute of Polymer Science. The University’s first Ph.D. program in polymer chemistry was started in 1956 and was administered by the institute until a separate Department of Polymer Science was established in 1967. The institute maintains extensive laboratory facilities and is the principal organization responsible for external funding of research projects and graduate fellowships in polymer science.

*For a complete description of this institute, see "Education and Research in Adult Development" under Continuing Education and Public Services in this section.*
Institute for Technological Assistance

Andrew L. Simon, Ph.D., Executive Director

The Institute for Technological Assistance coordinates public service functions of the University that cut across departmental and college boundaries and facilitates the performance of unconventional projects defined by contracts or protocols with foreign or domestic clients. Some of the typical projects in the past included the complete design of curricula and physical facilities of several colleges in the Middle East and the coordination and organization of American educational visits of South American educators. In a typical current project, the Institute coordinates the activities of engineering students who help the National Park Service develop facilities in the Cuyahoga Valley National Recreation Area.

Center for Urban Studies

Frank J. Costa, Ph.D., Director
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 solution. The center seeks to organize and develop programs and research areas which use and stimulate faculty participation in urban area analysis. The center’s objectives are to apply new methods and to experiment with new approaches in solving urban problems. Thus, it strives to stimulate, within the University, creative solutions to urban problems by coordinating the urban perspectives of the various disciplines and professions.

The center provides advisory and research expertise in a wide range of areas to both public and private agencies on all levels. Research covers such areas as urban and regional planning, administrative organization, cost-benefit analysis, community development, housing, intergovernmental relations, urban employment, criminal justice planning, recreation, social services planning and urban education.

The center represents a multidisciplinary approach to the analysis of the urban region. It augments its research capabilities by drawing upon the expertise of the faculties in the various colleges within the University. Through its programs in research, data accumulation and extension, the center provides the setting and facilities through which interested faculty and graduate students can become involved in urban research or public service activities.
Continuing Education and Public Services

William A. Rogers, Ed.D., Executive Dean
Kathryn Vegso, M.S.Ed., Associate Dean

BACKGROUND

Continuing Education and Public Services is a catalyst, bringing together the skills and expertise of University personnel and community members to focus on the issues and problems of the urban society.

Learners from all walks of life can improve or maintain their professional competence, meet the demands of a changing career and prepare to use new skills to improve both personal and professional goals. Through instruction and research, individuals are trained to become specialists in adult development.

The Center for Continuing Education, located in the Leslie M. Buckingham Center for Continuing Education, features courses, conferences and career/life planning services in tune with today's economic, social and health issues.

HISTORY

The University of Akron has a rich history of educating adults. In 1872, Buchtel College's first class was composed of 46 regular college freshmen and 164 preparatory noncredit students, including Civil War veterans. Within a year, Buchtel College enrolled noncredit students in business courses as an outreach venture in Barberton. Adult noncredit education and outreach to the community have remained part of the University basic fabric through the years.

DEFINITION

In 1983, the Ohio Board of Regents defined noncredit Continuing Education as an institutionally sponsored offering which carries no credit towards a degree, i.e., associate, baccalaureate or higher degree. Noncredit does include, however, offerings providing Continuing Education Units (CEU's) or similar certification or diploma. Curriculum categories include:

- Skill Training and Development — Entry Level
- Professional Upgrading and In-service Programs
- Intellectual Development of the Individual
- Family Living and Management
- Society, Behavior, and Culture
- Recreation, Health, and Fitness of the Individual

Continuing education is a necessity for many persons wishing to improve work skills. For others, it is a leisure-time avocation for personal enrichment. Since 1872, year-round sessions have offered courses in both categories for adults and youth who do not prefer academic credit.

CONTINUING EDUCATION

Department of Noncredit Courses

Sandra B. Edwards, M.A., Director

Noncredit courses complement the credit offerings of The University of Akron by providing noncredit courses for a broad spectrum of adult and youthful learners. The department provides learning opportunities in the areas of professional continuing education; skill development, personal and intellectual development, personal and family living, society and community awareness, and cultural and avocational activities. Courses are offered on campus as well as on-site for business and at off-campus locations. More than 600 classes based on the educational needs of the community are enrolled each year by adults.

Noncredit course offerings provide a forum for examination of ideas and concepts and provide educational programs which lead to the awarding of Continuing Education Units (CEU's). The noncredit department meets community and regional commitments which expand educational opportunities for area adults and youth.

On-Site Training

Continuing education brings workshops and courses in local and regional business and service organizations to help them make more efficient use of training dollars. One hundred classes are held off campus on-site for business and industry. Program consultants visit the site, discuss the particular work situation, analyze needs and develop a customized training program.

The high quality training and educational programs can be conducted on-site and are designed specifically to meet the requirements of the organization, so costs are always kept under control. Scheduling is done at the organization's convenience, and the instructors are coordinated through The University of Akron.

Continuing Education Units

All courses, seminars and conferences offered through Continuing Education awards Continuing Education Units (CEU's). A CEU is defined as "ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction."

The availability of these useful permanent records and official recognition makes the pursuit of knowledge through continuing education more attractive and satisfying as a way of personal and professional development. A record of CEU's provides a framework within which individuals can develop and tailor their own learning programs.

Progress towards such goals, at the individual's own pace and possibly planned over a number of years, can be demonstrated and documented in terms of the record of CEU's earned.

The department strives to help the University meet the learning needs of those persons who desire credit-free learning opportunities. Homework and examinations may be given; however, certificates of satisfactory completion are awarded based on attendance. Permanent student records are kept for all persons enrolled.

Following is a representative, though partial, listing of types of subjects taught in classes:

- Fine Arts — acting, ballet, children's piano, drawing for realism, fashion illustration, jazz dancing, music reading, music theory, oil painting, piano playing, preparatory music, private music lessons, watercolor painting.
- Languages — Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Slovak, Spanish, Turkish
- Mathematics and Test Taking Skills — Algebra, ACT, GRE, GSE, GMAT, GRE, LSAT, SAT, PSAT preparation, mathematics skills.
- Nursing and Community Services — Fund raising for nonprofit organizations, Greater Akron Community Cardiovascular Program, LPN pharmacology, medical terminology, understanding clinical laboratory tests and results.
Some activities include the Community Ambassador Program, Weekly Current Issues Forum and radio broadcasts. Akron Film Society, academic conferences, hearings and public lectures.

Current knowledge and research are shared by developing partnerships with the public and private sectors of these communities. This interchange results in future opportunities which contribute to organizational and individual growth. These collaborative efforts of public service lead to new research, education and prototype programs applicable to a changing community.

This University meets its public service commitment through consultation, helping services, educational programming and research.

Education and Research in Adult Development

Harvey L. Sterns, Ph.D., Director

The Institute for Life-Span Development and Gerontology, founded in 1976, coordinates multidisciplinary credit certificate programs in Life-Span Development: Adulthood and Aging at the undergraduate and graduate levels and Life-Span Development: Gender Identity and Roles at the undergraduate level. Faculty fellows at the institution representing 15 University departments conduct research, provide special courses, workshops and seminars as well as participate in community research and demonstration projects. Students in the certificate programs carry out field placements at numerous community service settings including the Adult Resource Center.

Examples of outreach activities include the Elderhostel program, offered each summer for older adults who participate in a week-long residential learning experience and the Ohio Senior Olympics.

The institute is a member of the Northeastern Ohio Consortium on Geriatric Medicine and Gerontology, joining together with the Office of Geriatric Medicine and Gerontology, Northeastern Ohio Universities College of Medicine; Gerontology Center, Kent State University; and Gerontology Committee, Youngstown State University.

Life and Work Planning Services

Pauline A. Russell, B.A., Director

The Adult Resource Center (ARC) offers life and work planning services to individuals and organizations. Through workshops and individual assistance, 500 people monthly learn to make the most of their skills, abilities and interests. ARC helps individuals set personal, career and educational goals and makes referrals to a vast network of education, training and social services in a ten-county area.

ARC offers life- and work-planning services to business and industry. These services are designed to help employees continue to grow, to perform better on the job and to set educational goals; to help employees take charge of their own lives; and to help organizations and employees match their interests with abilities.

All of ARC's services, based on more than a decade of research, help people take more responsibility for their own lives.

Established in 1978, the center was cited in 1982 by the American Association of State Colleges and Universities as one of the most innovative and successfully implemented programs in American higher education.

Training in the Field of Long-Term Health Care

Genevieve A. Gipson, M.S.E., Director

Nursing Home Training Center programming emphasizes the wellness concept for older adults by improving services in home-based and institutional health care. Serving a 15-county area, the model personnel training program is delivered in 368 long-term care facilities to administrators, staff, patients and family members. Those in training represent administrative and direct care givers for nursing homes, home health, adult day care and other long-term care facilities.
section 9 Courses of Instruction
**Course Numbering System**

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<td>Army ROTC</td>
<td>1600 Military Science</td>
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**Interdisciplinary Programs**

| 1810 Afric-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           |
| 2015 Distinguished Student Program   |
| 2020 Associate Studies               |
| 2100 Individualized Study            |
| 2200 Educational Technology          |
| 2210 Handicapped Services            |
| 2220 Criminal Justice Technology     |
| 2230 Fire Protection Technology      |
| 2240 Commercial Art                  |
| 2250 Public Service Technology       |
| 2260 Community Services Technology   |
| 2270 Labor Studies                   |
| 2280 Hospitality Management          |
| 2420 Business Management Technology  |
| 2430 Real Estate                     |
| 2440 Data Processing                 |
| 2520 Marketing and Sales Technology  |
| 2540 Office Administration           |
| 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                          |
| 3170 Biology/ N.E.O.U.C.O.M.          |
| 3120 Medical Technology               |
| 3130 Cytotechnology                  |
| 3150 Chemistry                        |
| 3200 Classics                         |
| 3210 Greek                            |
| 3220 Latin                            |
| 3250 Economics                        |
| 3300 English                          |
| 3350 Geography                        |
| 3370 Geology                          |
| 3400 History                          |
| 3450 Mathematics                      |
| 3460 Computer Science                 |
| 3470 Statistics                       |
| 3480 General Mathematical Sciences    |
| 3530 Modern Languages                 |
| 3520 French                           |
| 3530 German                           |
| 3550 Italian                          |
| 3570 Russian                          |
| 3580 Spanish                          |
| 3600 Philosophy                       |
| 3650 Physics                          |
| 3700 Political Science                |
| 3750 Psychology                       |
| 3850 Sociology                        |
| 3980 Anthropology                     |
| 3940 Polymer Science                  |
| 3980 Urban Studies                    |

**College of Engineering**

| 4100 General Engineering             |
| 4200 Chemical Engineering            |
| 4300 Civil Engineering               |
| 4400 Electrical Engineering          |
| 4450 Engineering Computer Science    |
| 4600 Mechanical Engineering          |
| 4700 Polymer Engineering             |
| 4800 Biomedical Engineering          |
| 4960 Construction Technology         |

**College of Education**

| 5000 Cooperative Education           |
| 5100 Educational Foundations         |
| 5200 Elementary Education            |
| 5250 Reading                         |
| 5300 Secondary Education             |
| 5400 Technical and Vocational Education |
| 5550 Physical Education              |
| 5560 Outdoor Education               |
| 5570 Health Education                |
| 5600 Educational Guidance and Counseling |
| 5610 Special Education               |
| 5620 School Psychology                |
| 5630 Multicultural Education         |
| 5700 Educational Administration      |
| 5800 Special Educational Programs    |
| 5850 Educational Technology          |
| 5800 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                        |
| 7810 Theatre Organizations           |
| 7900 Dance                           |
| 7910 Dance Organizations             |

**College of Nursing**

| 8000 Cooperative Education           |
| 8200 Nursing                         |

**School of Law**

| 9200 Law                             |

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*A more detailed explanation of the numbering system can be found in "Course Numbering Systems." Section 3 of this Bulletin*
Department of Developmental Programs

DEVELOPMENTAL PROGRAMS

1020:

040 BASIC WRITING I 4 credits
Provides basic instruction in composition skills: grammar, sentence structure, sentence combining and punctuation. Develops skills necessary to write expository paragraphs.

042 BASIC WRITING II
Provides additional practice in the basic writing skills required for College Composition.

050 BASIC MATHEMATICS I 4 credits
Introduces the basic concepts of elementary algebra and provides an extensive review of arithmetic operations.

052 BASIC MATHEMATICS II
Designed to review and strengthen the basic skills of mathematics, and provides an extensive review of arithmetic operations.

091 ENGLISH PROFESSIONAL WRITING
Introduces the basic concepts of English reading and writing. Provides intensive instruction in reading and writing, test-taking techniques, and application of principles in speech, group discussions, and other oral and written assignments.

092 ENGLISH DEVELOPMENTAL PROGRAMS

095 ENGLISH LANGUAGE INSTITUTE: COMPREHENSIVE
Provides intensive instruction in English writing, reading, listening, and speaking for students whose native language is not English who are planning to seek admission to a United States university. Offered only during the summer.

University College

GENERAL STUDIES

1100:

105 INTRODUCTION TO PUBLIC SPEAKING 3 credits
Introduction to principles and practice of speaking by reviewing examples of speeches, studying techniques and methods employed, and applying them in a variety of speaking situations.

106 EFFECTIVE ORAL COMMUNICATION 3 credits
Principles of communication in speaker-audience, group and informal settings, and application of the principles in speeches. Group discussions and other oral and written assignments.

111.2 ENGLISH COMPOSITION
Sequential. Proficiency in reading and writing of English is obtained. Reading materials used are literary works of our Western tradition. 4 credits each

111.8 INSTITUTIONS IN THE UNITED STATES
Nonssequcntial. Descriptive and comparative study of development of modern American institutions. Covers various aspects of growth and elaboration of American governmental, social, and economic institutions. 2 credits each

120-81 PHYSICAL EDUCATION
Individual and group sports. Individual can acquire knowledge and skill in activities which may be of value and satisfaction throughout life. One-half credit courses are offered one-half semester. Permission of coach necessary for enrollment in varsity sports (170-181).**

120 ARCHERY
121 BADMINTON
122 BASKETBALL
123 BOWLING
124 CANOEING
125 DIVING
126 FITNESS
127 GOLF
128 GYMNASTICS (apparatus)
129 GYMNASTICS (tumbling)
130 HANDBALL
131 INDOOR SOCCER
132 KARATE**
133 LIFE SAVING**
134 MODERN DANCE
135 RACQUETBALL
136 RUGBY
137 SAILING
139 SELF-DEFENSE**
140 SKIING (cross country)
141 SKIING (downhill)
142 SOCCER
143 SOCIAL DANCE
144 SQUARE AND POLK DANCE
145 SQUASH RACQUETS
146 SWIMMING (beginning)
147 SWIMMING (Intermediate)
148 SWIMMING (advanced)
149 TEAM HANDBALL
150 TENNIS (beginning)
151 VOLLEYBALL
152 WATER POLO
153 WATER SAFETY**
154 WRESTLING
155 VARSITY BASEBALL
156 VARSITY BASKETBALL
157 VARSITY CROSS COUNTRY
158 VARSITY FOOTBALL
159 VARSITY GOLF
160 VARSITY SOCCER
161 VARSITY SOFTBALL
162 VARSITY SWIMMING
163 VARSITY TENNIS
164 VARSITY TRACK
165 VARSITY WRESTLING
166 VARSITY VOLLEYBALL

**Varsity sports are one credit each.
 evidenced by each. Two periods each week.

*Institutional credit only
### Interdisciplinary Programs

#### AFRO-AMERICAN STUDIES

**1810:**

- **401 GENERAL SEMINAR IN AFRO-AMERICAN STUDIES**
  - 3 credits
  - Prerequisite: 3400 or permission. Exploration and intensive examination of variety of issues related to race and minority group relations which normally stand outside the compass of any one subject matter.

#### 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.
- **401 SEMINAR IN ENVIRONMENTAL STUDIES**
  - 2 credits
  - Specific environmental topic or topics from interdisciplinary viewpoint each semester. The director of Environmental Studies coordinates course. Resource persons are drawn from the University and surrounding community.
- **450/590 WORKSHOP IN ENVIRONMENTAL STUDIES**
  - 1-4 credits
  - Prerequisite: Topics vary. Credit in graduate program must have prior approval of advisor. Skills, attitudes and fundamental concepts dealing with items environmental problems and issues covered. Instruction under direction of University faculty.
- **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; their limitations and interpretation and limitations.
- **661 GRADUATE SEMINAR IN ENVIRONMENTAL STUDIES**
  - 3 credits
  - Prerequisite: Graduate standing. Explores topics of current environmental concern. Emphasis on presentation of oral and written reports and subsequent student-faculty dialogue.

### Air Force ROTC

#### AEROSPACE STUDIES

**1500:**

- **113 FIRST YEAR AEROSPACE STUDIES**
  - 1.5 credits each
  - (AS100, General Military Course.
    Mission and organization of Air Force and current events discussed to show how the military contributes to national defense. Laboratory develops leadership skills.
- **253 SECOND YEAR AEROSPACE STUDIES**
  - 1.5 credits each
  - (AS200, General Military Course.
    Emphasis on air power history. Films, lectures and class discussions. The role-military environment is presented. Leadership Laboratory.
- **303 THIRD YEAR AEROSPACE STUDIES**
  - 3 credits each
  - (AS300, Professional Officer Course.
    Management concepts in the military. Leadership theory and functions and practices, professionalism and responsibilities. Communicative skills are developed. Leadership Laboratory.
- **453 FOURTH YEAR AEROSPACE STUDIES**
  - 3 credits each
  - (AS400, Professional Officer Course.
    Focuses on the military profession, military justice systems, civil-military interactions, and the framework and formulation of defense policy. Communicative skills are developed. Leadership Laboratory.

### Army ROTC

#### MILITARY SCIENCE

**1600:**

- **100 INTRODUCTION TO MILITARY SCIENCE I**
  - 1.5 credits
  - Introduction to the United States Army, Army ROTC and career opportunities for ROTC graduates. Emphasis on the organization, capabilities and mission of the US Army. Basic military skills and leadership.
- **201 INTRODUCTION TO MILITARY SCIENCE II**
  - 1.5 credits
  - A study of the organization, capabilities and mission of the US Army. Basic military skills and leadership.
- **200 SMALL UNIT OPERATIONS**
  - 1.5 credits
  - Application of the principles of war to the techniques of unit tactical operations. Study of national defense, policies, military communications and mountaineering techniques. Acquisition of cross-country skiing skills. No military obligation incurred.
- **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.
- **300 ADVANCED LEADERSHIP I**
  - 3 credits
  - Prerequisite: 100/200/300 and/or permission. Study of small unit leadership and tactics stressing application and problem-solving processes. Practical work with communications equipment and navigation. Laboratory.
- **301 ADVANCED LEADERSHIP II**
  - 3 credits
  - Prerequisite: 201/300 and/or permission. Study and analysis of small unit leadership and tactics stressing application and problem-solving processes. Practical work with communications equipment and navigation. Laboratory.
- **401 MILITARY MANAGEMENT I**
  - 3 credits
  - Prerequisite: 300 and/or permission. Study of the Army training, logistics and personnel policies and programs. Examination of the American military experience in theory in relationship to the principles of war. Study of the military judicial system. Laboratory.
- **402 MILITARY MANAGEMENT II**
  - 2 credits
  - Prerequisite: 300/400 and/or permission. Study of the Army command and staff procedures. Examination of officer leadership and managerial responsibilities to include planning and organizing, delegation and control, and oral and written military communications. Laboratory.
INSTITUTE FOR LIFE-SPAN DEVELOPMENT AND GERONTOLOGY

1850:

300 PERSPECTIVES ON GENDER IDENTITY AND ROLES 3 credits
An examination of biological, historical, political, legal, economic, educational, intellectual and social influences which have shaped gender identity and roles in society.

450 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1 credit
(May be repeated for a total of two credits)
Prerequisite: A certificate program student only. Guest speakers from various disciplines and services which have life-span development and gerontological components and from government and community facilities and services. A certificate program student must complete two semesters of this course.

485 SPECIAL TOPICS 1-3 credits
Prerequisite: permission of instructor. Specialized topics and current issues in life-span development, gerontology, or gender. Co-eds consent or issues not currently addressed in other academic courses.

490 WORKSHOP 1-3 credits
(May be repeated)
Group studies of special topics in life-span development and gerontology. May not be used to meet certificate requirements. May be used for elective credit only.

493 INDEPENDENT STUDY IN GENDER IDENTITY AND ROLES 3 credits
Prerequisite: permission of instructor. Specialized topics in life-span development and gerontology. May not be used to meet certificate requirements. May be used for elective credit only.

495 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1-3 credits
Prerequisite: permission of instructor. Specialized topics in life-span development and gerontology. May not be used to meet certificate requirements. May be used for elective credit only.

Graduate Courses

680 INTERDISCIPLINARY SEMINAR IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 1 credit
Prerequisite: permission. The certificate program student only. Explores interdisciplinary issues in life-span development and gerontology. Guest speakers from various disciplines and services which have life-span development and gerontological components and from government and community facilities and services.

685 SPECIAL TOPICS 1-3 credits
Prerequisite: permission of instructor. Specialized topics and current issues in life-span development, gerontology, or gender. Emphasis is on original source materials, critical analysis and synthesis of empirical, theoretical and applied aspects.

690 WORKSHOP 1-3 credits
(May be repeated)
Group studies of special topics in life-span development and gerontology. May be used as elective credit but not as part of certificate required courses.

695 PRACTICUM IN LIFE-SPAN DEVELOPMENT AND GERONTOLOGY 3 credits
Prerequisite: permission. Supervised experience in research or community agency work.

PEACE STUDIES

1860:

300 TOPICS IN PEACE STUDIES 1-3 credits
(May be repeated for a total of three credits)
Interdisciplinary topics related to peace studies.

HONORS PROGRAM

1870:

150-350-450 HONORS COLLOQUIUM: HUMANITIES 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in humanities.

260-360-460 HONORS COLLOQUIUM: SOCIAL SCIENCES 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in social sciences.

276-376-476 HONORS COLLOQUIUM: NATURAL SCIENCES 2 credits each
Prerequisite: admission to University Honors Program. Interdisciplinary colloquium on important issues in natural sciences.

MEDICAL STUDIES

1880:

201 MEDICAL SEMINAR AND PRACTICUM I 3 credits
Prerequisite: 310 or 311 and permission. Provides basic experiences in health care delivery in geographic areas served by Northeastern Ohio Universities College of Medicine and The University of Akron. Students directed in supervised role 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.

301 MEDICAL SEMINAR AND PRACTICUM II 1 credit
(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 I of B.S./M.D. program; others by permission.

310 SEMINAR ON HUMANITIES IN MEDICAL EDUCATION 3 credits
Prerequisite: junior standing in B.S./M.D. program; others involved in health care delivery programs by permission. Introduction to the humanities as they bear upon history and practice of medicine. Seminar draws upon lectures from the University and community, and includes performances, film, film and musical appreciation appropriate to topics selected.

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 in medical education offered by professionals. Intended to provide advanced undergraduate education and continuing education for student and practitioners in the health sciences.
201 TECHNOLOGY AND HUMAN VALUES 2 credits
Examination of impact of scientific and technological change upon man, his values and his
existing environment. Topics include biotechnological development, economics
growth, natural environment and technology and equality in use.

242 AMERICAN URBAN SOCIETY 3 credits
Multidisciplinary treatment of urban problems and problems. Concepts historical, political,
social, economic and other environmental forces which impact upon the urban setting.

247 SURVEY OF BASIC ECONOMICS 3 credits
Introduction to economic analysis and issues designed for the student taking only one course
economics. Coverage includes economic systems, exchange, money and banking,
national income, employment, fiscal policy and current domestic economic problems.

251 WORK RELATIONSHIPS 2 credits
Examination of relationships between man and the work organization. Emphasis on involve-
ment, supervisory job satisfaction, supervision and growth of the organization.

254 THE BLACK AMERICAN 2 credits
Examination of the Black American-including origins, historical achievements and present
status. Includes racial conflict among American society. Emphasis on analysis of forces
in American society that create racial separations.

290 SPECIAL TOPICS: ASSOCIATE STUDIES 1-4 credits
May be repeated with a change in topic.
Prerequisite: permission. Selects topics on subject areas of interest in associate studies.

334 MATHEMATICS FOR TECHNICAL APPLICATIONS 3 credits
Prerequisites: 233. Applications of integration, methods of integration (including Fourier),
numerical methods of approximation, introduction to differential equations, second-
order differential equations, Laplace transforms.

ASSOCIATE STUDIES 2020:

121 ENGLISH 4 credits
4 credits
A study of the effect of current coursework. Opportunities resulting from educational
experiences and application of these in planning areas of study. Students required to enroll in
this course in first semester.

120 INTRODUCTION TO TECHNICAL MATHEMATICS 3 credits
Elements of algebra, operations on signed numbers and polynomial solutions and
applications of first- and second-degree equations. English and metric systems; various
types of graphs with applications. Linear systems; trigonometry of right triangles. May not be
used to meet General Studies mathematics requirement.

130 MATHEMATICAL ANALYSIS I 4 credits
Prerequisite: two units of high school mathematics. Fundamental algebraic concepts
real, proportion and variation, graphing equations; right triangle trigonometry. Linear
systems, solving and evaluating functions, quadratic equations, trigonometric functions, classification
and simple transformations.

132 MATHEMATICAL ANALYSIS II 3 credits
Prerequisite: 131 or equivalent. Exponents and radicals, exponential equations, logarithms,
graphs of trigonometric formulas and identities, complex numbers.

141 MATHEMATICS FOR DATA PROCESSING I 4 credits
Prerequisite: two units of high school mathematics, including Algebra I. Numerical systems,
fundamental algebraic concepts and operations, functions and graphs. Systems of linear
equations, determinants, matrices, factoring and algebraic fractions and quadratic equations.

142 MATHEMATICS FOR DATA PROCESSING II 3 credits
Prerequisite: 141 or equivalent. Sets, logic, Boolean probability and statistics and mathematics
of finance.

227 TECHNICAL REPORT WRITING 3 credits
Prerequisite: 201 or 1102111. Prepares student to the types of reports most often
required of engineers, scientists, and technicians. Includes types of reports, manuvering,
leather, techniques of research, documentation and oral presentations.

228 WRITING FOR ADVERTISING 4 credits
Prerequisite: 227. Study of language used in advertising practices in writing
advertisements for various media.

233 MATHEMATICAL ANALYSIS III 3 credits
Prerequisite: 132. Analytic geometry of the curve, introduction to differentiation, the
derivative, application of the derivative, integration, differentiation and integration of tran-
scendental functions.

240 HUMAN RELATIONS 3 credits
An examination of principles and methods which aid in understanding the individual's response
to his society and relationship between society and individual.

EDUCATIONAL TECHNOLOGY 2200:

100 INTRODUCTION TO LIBRARY TECHNOLOGY 3 credits
Introduces student to library technology program and career opportunities available as library
technology. Includes discussions, field observations, guest speakers, interviews, readings
and extensive practical on-campus experience.

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, practices in using catalog cards and filing.

202 ORGANIZING AND OPERATING LIBRARY MEDIA CENTERS 3 credits
Involves functional aspects of facility, cataloging and processing materials, circulation
processes and other control systems. Operational functions include program development
and implementation of services of library media centers and public relations.

207 MATERIALS SELECTION 3 credits
Introduces decision-making process in selecting tools and relevant materials for libraries/ media centers
solutions. Problems of intellectual freedom and academic freedom discussed as they relate
to evaluation selection process.

209 REFERENCE PROCEDURES 3 credits
Introduction to study and use of basic information tools including almanacs, encyclopedias
directories, bibliographies, encyclopedias and specialized reference tools. Actual reference
practices and procedures used.

205 INFORMATION RETRIEVAL SYSTEMS IN LIBRARY TECHNOLOGY 3 credits
Prerequisites: 202, 207. Introduction to computerized systems and retrieval systems and
their application. Emphasis on Ohio College Library Center networks and their impact on
library technical and public services. Hands-on experience with OCLC and other online
terminal operations.

265 INFANT/ TODDLER DAY CARE PROGRAMS 3 credits
Survey of infant/toddler development. Principles of infant/toddler caregaring. Design
environment and curriculum based on child's needs. Includes observation of children.

280 OBSERVING AND RECORDING CHILDREN'S BEHAVIOR 3 credits
Prerequisite: 2400/202. Observing and recording behaviors using different
types of scales and assessors children's development and behavior. One-half of total hours
spent in classroom and one-third on site in field.

DISTINGUISHED STUDENT PROGRAM 2015:

110 Distinguished Student Colloquium 2 credits
Prerequisite: permission. Introduces student to Distinguished Student Program. Interscience collo-
quium on topics and issues in the humanities, social sciences and natural sciences.

Distinguished Student Program 2015:

110 Distinguished Student Colloquium 2 credits
Prerequisite: permission. Introduces student to Distinguished Student Program. Interscience collo-
quium on topics and issues in the humanities, social sciences and natural sciences.

140 INTEGRATED STUDY 2100:

119 INTEGRATED STUDY EVALUATION 1 credit
Prerequisite: permission. Evaluation of student's learning and potential opportunities available in
student's work experience in business, industry or governmental agency. Comprehensive performance evaluation and written report required.
290 SPECIAL TOPICS: EDUCATIONAL TECHNOLOGY 1-2 credits
Prerequisite: permission. Selected topics on subject areas of interest in educational technology.

297 INDEPENDENT STUDY 1-3 credits
(3 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.

HANDICAPPED SERVICES 2210:

100 INTRODUCTION TO INTERPRETING FOR THE DEAF 4 credits
Prerequisites: 104 and 7700:211. Introduction to basic principles and practice of interpreting for the deaf in general and in special settings. A survey course intended to familiarize the student with ethics and guidelines appropriate in situations. Will also emphasize interpreting/translating processes and skill building.

104 SIGN LANGUAGE, GESTURE AND MIME 3 credits
Non-language aspects in communication which forms base for communication in American Sign Language and international sign language. Emphasis on eye training use of gestures, pantomime, body language.

110 SPECIALIZED INTERPRETING I 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.

150 HANDICAPPED SERVICES PRACTICUM 1-4 credits
(Must be repeated for a total of 8 credits)

200 REVERSE INTERPRETING 3 credits
Prerequisites: 104, 7700:100. Designed to enhance skills in comprehending the various sign language systems; a continuum from gesture signs to American Sign Language systems based on English. Deaf speakers, guests and videotapes will be featured to provide situational practice. Principles and problems of reverse interpreting manual, oral and written communications of deaf persons into proper English equivalent will be covered.

230 SPECIALIZED INTERPRETING II 3 credits
Prerequisite: 7700:150. Introduction to interpreting in vocational/technical, legal, educational and religious settings with an overview and development of specific translations in these areas.

295 SPECIAL TOPICS: HANDICAPPED SERVICES 1-3 credits
Selected topics or subject areas of interest in handicapped services.

CRIMINAL JUSTICE TECHNOLOGY 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.

101 INTRODUCTION TO SECURITY 4 credits
Overview of functions, problems and strategies of contract and proprietary security agencies. Philosophy of protection of business assets based on risk analysis and cost effectiveness.

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.

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.

109 JUVENILE JUSTICE PROCESS 3 credits
Prerequisite: 100. Examination of juvenile justice system functions of various components, adolescent subculture, legislation, causative factors, prevention and treatment methodologies and programs.

110 SOCIAL VALUES AND THE CRIMINAL JUSTICE PROCESS 3 credits
Prerequisite: 100. An in-depth exploration stressing philosophy that social values and ethics are basic principles of a sound criminal justice process. Role of administration of justice practitioners in relation to public they serve.

200 CRIMINAL JUSTICE THEORY AND PRACTICE 3 credits
Prerequisite: 100, 150. Examination of criminal justice administrative problems in personal selection, training, advancement and personnel utilization. Consultation and cooperation between agencies. Advances concepts for change within criminal justice system.

240 DYNAMICS OF VICE CRIME AND SUBSTANCE ABUSE 3 credits
Prerequisite: 100 and permission. Introduction to problems of vice crime and narcotics and drug abuse in our society. Provides knowledge concerning issues involved in consensus acts' impact on society of physical and psychological results of substance abuse.

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.

290 SPECIAL TOPICS: CRIMINAL JUSTICE 1-4 credits
May be repeated for a total of six credits.
Prerequisite: permission. Workshops and special programs in selected areas of criminal justice such as community relations, crime statistics, ethics, survival.

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 internship.

295 CRIMINAL JUSTICE INTERNSHIP 3 credits
Prerequisites: 100, 30 credits and permission. Supervised work experience in criminal justice agency for purpose of increasing student understanding of criminal justice process.

FIRE PROTECTION TECHNOLOGY 2230:

100 INTRODUCTION TO FIRE PROTECTION 3 credits
History and philosophy of fire protection. Introduction to agencies involved, current legislative developments, discussion of current related problems, expanding future of fire protection and career orientation.

102 FIRE SAFETY IN BUILDING DESIGN AND CONSTRUCTION 3 credits
Exploration of building construction and design with emphasis on fire protection concerns, review of related statutory and suggested guidelines — local, state and national scope.

104 FIRE INVESTIGATION METHODS 3 credits
History of fire investigation; gathering of evidence and development of technical reports. Fundamentals of arson investigation; processing of criminal evidence and procedures related to local and state statutes.

153 PRINCIPLES OF FIRE PROTECTION AND LIFE SAFETY 3 credits

202 FIRE SUPPRESSION METHODS 3 credits
Efficient and effective utilization of manpower, equipment and apparatus. Emphasis on preplanning, fireground organization, problem solving related to fireground decision making and attack tactics and strategy.

204 FIRE HAZARDOUS RECOGNITION 3 credits
Inspection techniques and procedures, setting up a fire prevention bureau. Recognition and control of fire hazards, public relations and code enforcement.

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.

206 FIRE DETECTION AND SUPPRESSION SYSTEMS II 3 credits
Prerequisite: 205. Design, installation and operation of automatic fire suppression systems. Includes sprinkler, foam, carbon dioxide, dry chemical, halogenated agent systems.

250 HAZARDOUS MATERIALS 4 credits
Prerequisite: 2840:100. Study of chemical characteristics and reactions related to storage, transportation and handling of hazardous materials. Emphasis on emergency situations, firefighting and control.

254 FIRE CODES AND STANDARDS 3 credits
Prerequisite: 104. Study of legal rights and duties, liabilities and responsibilities of fire department organizations.

257 FIRE PROTECTION FOR BUSINESS AND INDUSTRY 3 credits
Industrial fire protection problems including specialized hazards, automatic extinguishing systems, codes and standards, fire prevention planning, fire brigade organizations.

259 SPECIAL TOPICS: FIRE PROTECTION TECHNOLOGY 1-2 credits
May be repeated for a total of four credits.
Prerequisite: permission. Selected topics or subject areas of interest in fire protection technology.

295 FIRE PROTECTION INTERNSHIP 4 credits
Prerequisite: 30 credits in program and permission of program coordinator. Supervised work experience in fire protection to increase student understanding of fire technology, analysis by student and instructor of internship experience, sharing of knowledge gained during internship.
COMMERCIAL ART

2240:

124 DESIGN IN COMMERCIAL ART
Projects in visual design fundamentals. Analysis of design/research process applied to advertising layout and composition. Design constructions in pattern and self-contained forms.

160 TYPOGRAPHY AND LETTERING
Prerequisite: 124. Letter synthesis studied in terms of communication and aesthetic design. History of letter forms, type fashion, copying and type specification for commercial application. Analysis of contemporary type faces.

222 ADVERTISING PHOTOGRAPHY
Prerequisite: 7100/275. Creative commercial use of photographic materials and equipment. Photography studied in its use in advertising and creative photo illustration. Student must own or have use of camera with controllable shutter, lens, diaphragm and focus.

247 ADVERTISING LAYOUT DESIGN
Prerequisite: 140. Problems in commercial graphic design. Analysis of layout and finish work solving in advertising and communications.

248 PUBLICATION DESIGN
Prerequisites: 242 and 190-275. Survey of publications and design of promotional/cover, annual reports and other multi-paged communication devices. Emphasis on total design systems from concept to camera-ready art. Portfolio development.

265 DESIGNING FOR PRODUCTION
Prerequisite: 140. Analytical design process as applied to commercial printing processes. Design projects taken to camera-ready art. Color separation systems, key-line, mechanicals and preparation of finished art procedures.

247 PACKAGING DESIGN
Prerequisites: 242 and 245. Visual design and development of protective devices for packaging, transport and display of consumer products. Analysis of product marketing potential and point-of-purchase advertising.

290 SPECIAL TOPICS: COMMERCIAL ART
Prerequisite: permission of instructor. Selected topics or subject areas of interest in commercial art.

PUBLIC SERVICE TECHNOLOGY

2250:

266 ADMINISTRATION AND SUPERVISION IN THE PUBLIC SERVICE
Prerequisites: 2220/00 or 2230/00. Examination and analysis of basic concepts of administration, supervision, policy formulation as they pertain to public service agencies. Practical application of supervisory responsibilities, functions of police fire departments.

COMMUNITY SERVICES TECHNOLOGY

2260:

150 INTRODUCTION TO COMMUNITY SERVICES
3 credits
Introduction to community service. Basic orientation to community service. Techniques in service delivery. Issues and policies of community service. Practical orientation to community service.

154 INTRODUCTION TO GERONTOLOGICAL SERVICES
3 credits
Introduction to gerontological services. Practicum experiences in community service agencies. Introduction to professional roles in community services.

156 COMMUNITY BASED RESIDENTIAL SERVICES
3 credits
Introduction to community-based residential services. Techniques in service delivery. Issues and policies of community service. Practical orientation to community service.

223 ADVOCACY FOR THE DISABLED
3 credits
Basic orientation to programs for disabled individuals. Introduction to advocacy roles. Advocacy in social service agencies.

245 DRUG USE AND ABUSE
3 credits
Basic introduction to drug use and abuse. Basic knowledge of illegal drugs. Basic knowledge of alcohol and other drug use. Rehabilitation issues.
Courses of Instruction 173

HOSPITALITY MANAGEMENT 2280:

129  SAFETY AND SANITATION 3 credits
Introduction to food service sanitation, safety practices pertinent to hospitality managers. Emphasis on sanitation laws, rules, food microbiology, safe food handling, storage practices, accident prevention.

121  FUNDAMENTALS OF FOOD PREPARATION I 4 credits
Skills and basic knowledge of food preparation procedures in a laboratory situation.

122  FUNDAMENTALS OF FOOD PREPARATION II 4 credits
Prerequisite: 121. Continuation of Fundamentals of Food Preparation I. Advanced food preparation techniques presented in laboratory situations.

133  MEAT TECHNOLOGY 2 credits
Intensive examination of meat cutting, portioning, determining product yield, and calculating cost.

135  MENU PLANNING AND PURCHASING 3 credits
Principles of food purchasing procedures including policies, writing specifications, recognizing quality standards integrated with marketing techniques, menu merchandising, menu planning.

150  HOTEL/MOTEL FRONT OFFICE PROCEDURES 3 credits
Prepares student for entry-level positions in the hotel/motel industry. Basic principles of public service, standard systems, techniques within hotel/motel industry.

152  MAINTENANCE AND ENGINEERING FOR HOTELS AND MOTELS 3 credits
Familiarization with organization, terms, concepts, responsibilities common to engineering and building maintenance.

160  WINE AND BEVERAGE SERVICE 2 credits
Intensive examination of wine as related to hospitality industry. Emphasis on business practices, history and development of viticulture, enology.

223  DINING ROOM SERVICE AND TRAINING 2 credits
In-depth study of the styles of dining service, development of job descriptions, importance of customer, customer relations.

233  RESTAURANT OPERATIONS AND MANAGEMENT 4 credits
Introduction to large quantity food service procedures with emphasis on sound principles of food handling service and sanitation in large quantity operations. Gourmet meals served in simulated restaurant atmosphere.

238  FOOD AND BEVERAGE COST CONTROL 3 credits
Prerequisite: 135. Principles and procedures of effective food and beverage control. Adaptations to various types of operations. Control process with emphasis on calculating food costs, establishing standards, production planning.

231  INTERNSHIP 1 credit
Prerequisite: permission. Off-campus observation/work experience integrated with academic instruction. Concepts applied to practical situations.

240  SYSTEMS MANAGEMENT AND PERSONNEL 3 credits
Identifies systems utilized in successful food service operations. General principles of each system, its interrelationships with total food service organization explored.

243  FOOD EQUIPMENT AND PLANT OPERATIONS 3 credits
Available food service equipment, its selection, use and care. Field trips taken to wholesale buyers and food service establishments to see food service equipment demonstrated and in operation.

254  HOTEL/MOTEL HOUSING MANAGEMENT 3 credits
Analysis of housekeeping procedures, organization of successful housekeeping department.

255  HOTEL/MOTEL SALES PROMOTION 3 credits
Sales promotion techniques, functioning of sales department, retail for sales planning. Sales tools, selling techniques for food and beverage, group business, Advertising, community relations, internal personal, telephone selling.

256  HOSPITALITY LAW 3 credits
Introduction to hotel, restaurant, travel law. Fundamental constitutional, statutory, administrative rules, regulations, applicable to hospitality industry. Case study, problem-solving approaches applied to legal problems confronting hospitality executives.

261  BAKING AND CLASSICAL DESSERTS 3 credits
Prerequisite: 122. Production of basic items in takeout, use of equipment, materials, cost control to produce the desired products.

262  CLASSICAL CUISINE 3 credits
Prerequisites: 122, 123. Lecture-demonstration experience in preparation of traditional American hotel cuisine. Includes traditional repertoire of foods, spirits, application of kitchen production controls, menu planning.

263  INTERNATIONAL FOODS 2 credits
Prerequisite: 122. Lecture-demonstration laboratory experience in preparing foods of different nationalities. Demonstration, preparation of selected foods by visiting chefs. Recipes developed.

290  SPECIAL TOPICS: HOSPITALITY MANAGEMENT (May be repeated for a total of 4 credits) 1-2 credits
Prerequisite: permission. Selected topics or subject areas of interest in food service management.

BIZNESS MANAGEMENT TECHNOLOGY 2420:

101  ELEMENTS OF DISTRIBUTION 3 credits
Study of basic principles and methods in distribution. Presentation of marketing process as it relates to consumer and industrial products. Emphasis on pricing, product, promotion, as well as distribution.

103  THE ROLE OF SUPERVISION IN MANAGEMENT 3 credits
Prerequisites: 101, 102. Emphasis on supervision in planning, organizing, leading and controlling. Emphasis on group behavior, communication and employee supervision.

104  INTRODUCTION TO BUSINESS 3 credits
Survey course of business in its entirety including production, distribution, finance, control and personnel functions. Emphasis on describe materials, technical vocabulary and career opportunities and responsibilities in various business fields.

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 of evaluation of financial statements.

111  PUBLIC RELATIONS 2 credits
Study of philosophy, techniques and ethics of the management function known as public relations. Defines variety of publics and methods of communication.

113  INTRODUCTION TO BANKING 2 credits
Covers fundamentals of banking in operational perspective. Emphasis on bank functions, types of accounts, relationship to depositors, loans, investments trust, safe deposit operations, internal and external control public service obligations.

115  CREDIT UNION OPERATIONS 2 credits
Operations with emphasis on teller transactions, credit principles, services and policies, financial planning and counseling. Delinquency control and collections, credit union law.

117  SMALL BUSINESS MANAGEMENT I 3 credits
Prerequisite: 104. Fundamentals of small business operations, emphasis on small business marketing.

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.

123  FEDERAL REGULATION OF BANKING 2 credits
Prerequisite: 113. Study of agencies, regulation banks, bank charters, bank reports and examinations, federal limitations on banking operations. Regulation of bank expansion. Supervision of employees to conform with regulation.

173  ...
125 PERSONAL FINANCIAL COUNSELING 3 credits
Family resource management; consumer decision making including consumer credit and family budget decisions; retirement planning; types of insurance, annuities and savings; consumer education, types and techniques of counseling.

170 BUSINESS MATHEMATICS 3 credits
Review of fundamentals of 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.

202 PERSONNEL PRACTICES 3 credits
Provides information necessary to develop policies and programs that attract, retain and motivate employees. Includes staffing, human resources development, compensation plans, labor and management relations, appraisal systems and career planning.

211 BASIC ACCOUNTING I 3 credits
Accounting for sole proprietorships and partnerships. Service and merchandise concerns. Journals, ledgers, work sheets and financial statements. Includes handling of cash, accounts receivable, notes, inventories, plant and equipment and payroll.

212 BASIC ACCOUNTING II 3 credits
Prerequisite: 211. Study of accounting principles as applied to corporate form of business and manufacturing accounting for job order and process costing, budgeting and standard costs.

221 ADMINISTRATIVE OFFICE SUPERVISION 2 credits
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.

225 CREDIT UNION LENDING AND COLLECTIONS 2 credits
Credit and collections including nature and role of credit, types of consumer credit, credit report preparation and collection and related aspects. Includes legal basis for collection and related legal aspects of credit and collections.

227 ENTREPRENEURSHIP 4 credits
Prerequisite: 118. An overview of small business management. A project course during which students create a hypothetical business.

233 INSTALLMENT CREDIT 2 credits
Prerequisite: 113. Prerequisite: Course emphasizing evaluation, maintenance of consumer, commercial credit. Covers evaluation, legal aspects; collection and indirect installment lending, leasing and other special situations; credit department management.

243 SURVEY IN FINANCE 3 credits
Prerequisites: three credits of economics and three credits of accounting. Survey of field including instruments, procedures, practices and institutions. Emphasis on basic principles.

245 CREDIT UNION FINANCIAL MANAGEMENT 2 credits
Prerequisite: 211. Credit union accounting, financial statement analysis, budgeting and planning, management of cash and investments, liquidity, cost of funds, risk.

253 ELEMENTS OF BANK MANAGEMENT 2 credits
Prerequisite: 113. Applied course in bank operations and management. Bank case studies utilized to focus on objectives, planning, structure, control and interrelationships of bank functions and departments.

273 MONETARY SYSTEMS AND THE PAYMENTS MECHANISM 3 credits
Prerequisite: 280. Structure of banking system, Federal Reserve System policies and operations. Article IV of the BCC, paperless electronic payments mechanism, bank responsibilities in deposit, collection, dishonor and return, payment of checks.

280 ESSENTIALS OF LAW 3 credits
Brief history of law and judicial system, study of contracts with emphasis on sales, agency, commercial paper and bailments.

290 SPECIAL TOPICS: BUSINESS MANAGEMENT TECHNOLOGY 1-3 credits
May be repeated for a total of four credits.
Prerequisite: permission. Selected topics or subject areas of interest in business management technology.

205 INTRODUCTION TO REAL ESTATE MANAGEMENT 3 credits
Prerequisites: 105, 185. Survey course focusing on application of management principles to the specialized field and product of real estate. Discussion and research topics include property analysis, marketing and administration.

215 ESSENTIALS OF REAL ESTATE ECONOMICS 2 credits
Prerequisites: 105, 185. Student learns and applies techniques of analysis found in economics to local real estate market and to parcels of real estate found within the market.

225 INDUSTRIAL REAL ESTATE 2 credits
Prerequisites: 105, 185. Elements course focusing on functions of industrial real estate broker. Topics of discussion and research include site selection, development, marketing and financing transfer of industrial property.

235 COMMERCIAL REAL ESTATE 2 credits
Prerequisites: 105, 185. Elements course focusing on functions of commercial real estate broker. Topics of discussion and research include site selection, development, marketing and financing transfer of commercial paper.

245 REAL ESTATE FINANCE 2 credits
Prerequisites: 105, 185. Study of contents of contemporary real estate finance. Units on reading and discussion include mortgage instruments, financial institutions, mortgage market, governmental influence on finance and risk analysis and mortgage lending.

255 VALUATION OF RESIDENTIAL PROPERTY 2 credits
Prerequisites: 105, 185. Methods used to estimate value in residential property including cost of reproduction, market data and income approach. Student prepares an appraisal on a residential property.

265 REAL ESTATE BROKERAGE 2 credits
Prerequisites: 105, 185. Application of management functions of planning, organizing, directing and staffing to real estate brokerage office. Student activities include reading, discussion and research.

275 SPECIAL PROJECT IN REAL ESTATE 2 credits
Prerequisites: 105, 185. Student demonstrates knowledge of real estate by preparing a written report covering brokerage process as it relates to a parcel of property.

285 APPLIED REAL ESTATE MATHEMATICS 2 credits
Prerequisites: 105, 185. Student learns and applies mathematics necessary to profession of real estate. Topics include proration of taxes, area calculations, appraising math, mortgage math and closing statements.

290 SPECIAL TOPICS: REAL ESTATE 1-3 credits
Prerequisite: permission. Selected topics or subject areas of interest in real estate.

DATA PROCESSING

2430:

120 INTRODUCTION TO INFORMATION PROCESSING 2 credits
General overview of data processing techniques providing fundamentals necessary for subsequent computer-oriented courses.

130 BASIC PROGRAMMING FOR BUSINESS 3 credits
Prerequisite: two years of high school algebra or equivalent. Introduces the student to the fundamental concepts of computer programming via the BASIC language. Emphasis will be placed on developing computer programs on a microcomputer system. Larger systems utilizing time-sharing also considered.

131 INTRODUCTION TO PROGRAMMING 2 credits
Prerequisite: 120. Illustrates basic functions of computers and provides specific information about third-generation computers, including programming in actual and assembly language.

132 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.

133 COBOL PROGRAMMING 2 credits
Prerequisite: 131. Introduction to COBOL with specific orientation toward the IBM System/370.

224 ADVANCED COBOL PROGRAMMING 2 credits
Prerequisite: 133. Continuation of 133 including detailed applications in areas such as payroll and inventory. Disk concepts emphasized.

235 CURRENT PROGRAMMING TOPICS 2 credits
Prerequisite: 234. Emphasizes topics varied to fit needs of the student at the time. Such topics as APL programming, teleprocessing and PL/I programming may be included.

239 RPG II PROGRAMMING 1 credit
Prerequisite: 133. Report Program Generator II (RPG II) programming. Includes training in RPG II coding and logic implementation as well as discussion of applications which lend themselves to the use of RPG II.

241 DATA PROCESSING SYSTEMS 3 credits
Prerequisite: 132. Covers all phases of business systems analysis, design, development and implementation. Such principles as system and program flowcharting, and file and document design emphasized.

250 BASIC PROGRAMMING APPLICATIONS IN BUSINESS 2 credits
Prerequisite: 130. Offers intensive training in business applications programming on microcomputer systems including data analysis, text processing, error trapping, sorting, development of menu driven programs; IBM file creation and upkeep.

REAL ESTATE

2430:

105 REAL ESTATE PRINCIPLES 2 credits
Introduction to real estate as a profession, process, product and measurement of its productivity. The student is responsible for reading and discussions relative to real estate and the American system.

115 ELEMENTS OF HOUSING DESIGN AND CONSTRUCTION 2 credits
Prerequisites: 105, 185. Discussions and readings on neighborhoods and sites, details of the interior and exterior of homes, mechanical systems and house construction which help professionals discharge agency responsibilities.

125 ELEMENTS OF LAND AND REAL ESTATE DEVELOPMENT 2 credits
Prerequisites: 105, 185. Learning and applying step-by-step processes needed by professional developer in producing real estate for consumption.

185 REAL ESTATE LAW 2 credits
Prerequisite: 105. Contents of contemporary real estate law. The student is responsible for readings covering units on estates, property rights, license laws, contracts, deeds, mortgages, civil rights and zoning.
MARKETING AND
SALES TECHNOLOGY

2520:

103 PRINCIPLES OF ADVERTISING
3 credits
- Review of basic principles and functions of current advertising practice
- Includes overview of related distribution institutions, media types, and economic functions of advertising

109 VISUAL PROMOTION
4 credits
- Studio course in retail display and promotion techniques
- Window, interior, and point of purchase categories
- Principles of design as applied to commercial art
- Function in visual design, elements of design, color theory
- Lettering, printing, paper stock, layout, camera-ready art

261 PRINCIPLES OF WHOLESALEING
2 credits
- Examination of wholesaler and retailing function
- Attention given to buying processes and relationships of ultimate consumer to wholesaler

202 RETAILING FUNDAMENTALS
4 credits
- Presents basic principles and practices of retailing operations, including site selection, buying, pricing and promotion practices
- Use of extensive projects and investigations and actual retail operations

203 FUNDAMENTALS OF INDUSTRIAL DISTRIBUTION
3 credits
- Prerequisite: 2420:101
- Introduction to the industrial distribution network and pertinent middlemen included
- Wholesalers, service institutions, and other channel members

207 TECHNIQUES OF MERCHANDISING RESEARCH
2 credits
- Prerequisite: 2420:101
- Introduction to merchandising research
- Uses of research for merchandisers, concepts in planning research
- Approaches to research in a non-mathematical approach to analysis
- Case histories of small merchandisers

216 CONSUMER SERVICE FUNDAMENTALS
2 credits
- Prerequisite: 2420:101
- Discussion of problems facing today's business created by social issues in society
- Emphasis on understanding viewpoints of all groups involved

217 MATHEMATICS OF RETAIL DISTRIBUTION
3 credits
- Basic course dealing with merchandising mathematics
- Includes understanding markup types, retail method of inventory, sales and stock planning
- Open to all computations

211 PRINCIPLES OF SALES MANAGEMENT
4 credits
- Study of basic principles of selling, emphasizing individual demonstrations and sales projects
- Includes review of sales function as integral part of marketing process

290 SPECIAL TOPICS: MARKETING AND SALES
(1-3 credits)
- Prerequisite: permission
- See all topics or subject areas of interest in sales and merchandising

OFFICE ADMINISTRATION

2540:

119 BUSINESS ENGLISH
3 credits
- Functions of English language with emphasis on grammatical correctness, acceptable usage, spelling and punctuation
- Limited writing primarily involves choice of precise words and effective sentence structure with some attention to paragraph development

121 OFFICE PROBLEMS
3 credits
- Introduction to concepts regarding role of office worker
- Human relations, communications
- Office materials, technological advances in processing information and employment opportunities

125 BUSINESS MACHINES
2 credits
- Basic operations of 10-key electronic calculators
- Applied business problems in depreciation, retuning, payroll, interest, taxes, metrics, proportion, expense reports, percentages, invoices and business statistics

130 INTRODUCTION TO INFORMATION MANAGEMENT
3 credits
- Corequisite: 150
- A study of the creation, classification, encoding, encapsulating, transmission and storage of information
- Emphasis on electronic storage and transmission of information

131: COMPUTERIZED DOCUMENT CONTROL
4 credits
- Prerequisite: 120
- Study of the planning and controlling of documents from their creation until their final disposition with emphasis on automated storage and retrieval systems

140 TYPING FOR NON-SECRETARIAL MAJORS
2 credits
- Beginning typing for the non-secretarial student
- Fundamentals of the operation of the typewriter
- Application emphasis on individual student needs such as resumes, application letters and forms, term papers, all typesetting, etc.
- Video display terminal instruction
- Credit not applicable toward Associate Degree in Office Administration

150 BEGINNING TYPING
3 credits
- For the beginning student or one who desires a review of fundamentals
- Includes basic keyboard letters, skills, and manuscript
- Minimum requirement: 30 words with a maximum of 5 errors for 3 minutes

151 INTERMEDIATE TYPING
3 credits
- Prerequisite: 150 or equivalent
- Further development of typing
- Advanced letter styles
- Forms, reports and shorthand
- Minimum requirement: 40 words with a maximum of 5 errors for 5 minutes

171 SHORTHAND PRINCIPLES
4 credits
- Gregg shorthand theory is taught
- Minimum requirements: reading from notes at 100 words and taking dictation from new material at 50 words for 3 minutes
- Credit not allowed if taken after 171

172 SHORTHAND REFRESHER AND TRANSCRIPTION
4 credits
- Accelerated review of Gregg shorthand theory
- Minimum requirements: reading from notes at 100 words and taking dictation from new material at 60 words for 3 minutes
- Credit not allowed if taken after 171

173 SHORTHAND AND TRANSCRIPTION
4 credits
- Prerequisite: 171 or equivalent
- Emphasis on developing skill in taking shorthand dictation and transcribing at typewriter speed
- Minimum speed attainment of 70 words in 5 minutes on new material required

241 INFORMATION MANAGEMENT
3 credits
- Prerequisite: 150 or equivalent
- Study of creation, classification, encoding, transmission, storage, retention, transfer and disposition of information
- Emphasis on written, oral, and machine language communication media used in business information systems

243 INTERNSHIP
2 credits
- Prerequisite: permission of instructor
- Work experience in office environment
- Integrated with instruction in information management systems
- Sharing of knowledge gained during internship in on-campus seminars

247 AUTOMATED OFFICE SYSTEMS
4 credits
- Prerequisite: 131
- Examination of automated methods of controlling information
- Application of office information management techniques

253 ADVANCED TYPING
3 credits
- Prerequisite: 151 or equivalent
- To increase student's ability to do office-style production typing with minimal supervision
- Minimum requirements: 50 words with a maximum of 15 errors for 5 minutes

254 LEGAL TYPING
2 credits
- Prerequisite: 151
- Develops skill in typing legal documents and printed legal forms from rough draft materials, form straight-copy material

263 BUSINESS COMMUNICATIONS
3 credits
- Prerequisite: 119 and 2200:121 or equivalent
- Business writing with emphasis on communicating in typical business situations and expressing ideas effectively to achieve specific purposes
- Includes business letters, memos, application letter, resumes and a business report

274 ADVANCED DICTATION AND TRANSCRIPTION
4 credits
- Prerequisite: 173 or equivalent
- Emphasis on building dictation speed, producing mailable transcripts, increasing shorthand and shorthand vocabulary and reviewing theory and expert shortcuts
- Minimum speed attainment: 90 words for 5 minutes

276 EXECUTIVE DICTATION AND TRANSCRIPTION
4 credits
- Prerequisite: 247
- Final shorthand course in Executive Secretarial program
- Development of skills to meet the demands of 100-160 words

277 LEGAL DICTATION AND TRANSCRIPTION
4 credits
- Prerequisite: 274
- Development of shorthand and transcription skills of legal correspondence, basic pleadings, legal papers, reports and rules of procedure
- Speed range: 100-160 words

279 LEGAL OFFICE PROCEDURES
4 credits
- Prerequisite: 254 corequisite: 277
- Provides an understanding of various facets of the law
- when and how to use documents, important legal procedures and typical office routine

280 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 correspondence secretary

281 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

286 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
TRANSPORTATION

2560:

110 TRANSPORTATION ECONOMIC POLICY 3 credits
Analysis of role of transportation in nation's economic development. Survey of theoretical and economic aspects of rail, highway, water, air and pipeline.

115 MOTOR TRANSPORTATION 3 credits
Corequisite: 110 is to be taken in the first semester of the first year of the program. Study of economic characteristics of commercial motor industry with emphasis on problems, practices, regulations, rates, tariffs, operations, equipment and financial aspects.

116 AIR TRANSPORTATION 2 credits
Prerequisite: 110. Analysis of economic characteristics of commercial air industry. Study of its problems, practices, regulations, rates, tariffs and services.

117 WATER TRANSPORTATION 2 credits
Prerequisite: 110. Theories, practices, regulations of inland and ocean-going water transportation including classification, rates, practices and tariffs.

118 TRANSPORTATION RATE SYSTEMS 3 credits
Analysis of freight rates, tariffs and classifications with particular attention to their application in motor transport field and extensive study through progressive problem solving.

220 TRANSPORTATION TERMINAL MANAGEMENT AND SAFETY OPERATIONS 2 credits
Prerequisite: 110. Management problems, practices, decision making pertaining to location of facilities, personnel programs, operations, organization and control. Attention directed to safety aspects of transportation operations.

221 TRAFFIC AND DISTRIBUTION MANAGEMENT 3 credits
Prerequisite: 110. Principles and practices applicable to industrial traffic management and factors affecting transportation economics. Some items analyzed are operations, services, warehousing, privileges and documentation.

224 TRANSPORTATION REGULATION 4 credits
Prerequisite: 224. Interstate Commerce Act and related acts including leading cases involving interstate commerce. Law of freight loss and damage. Regulatory procedures including practice and procedure before Interstate Commerce Commission.

227 TRANSPORTATION OF HAZARDOUS MATERIALS AND WASTES 2 credits
Federal regulations; identification and classification of hazardous materials; handling, loading and shipping procedures.

228 INTRODUCTION TO TRAVEL 2 credits
Travel geography, overview of passenger transportation systems, role of travel agent, discussion of trends in travel industry.

229 PASSENGER TICKETING 2 credits
Prerequisite: 228. Use and preparation of passenger and group tickets, tour orders, ticket exchange notices, refund notices and internal documents used by travel agent organizations.

230 TOUR PLANNING AND PACKAGING 2 credits
Prerequisite: 229. Planning and packaging of Independent and Escorted Tours (domestic and foreign). Cost estimating, time distribution, itinerary preparation and routing.

290 SPECIAL TOPICS: TRANSPORTATION 1-3 credits
(3 may be repeated for a total of four credits) Prerequisite: permission. Selected topics, subject areas of interest.

RADIOLOGIC TECHNOLOGY

2760:

701 INTRODUCTION TO RADIOLOGIC TECHNOLOGY 2 credits
Prerequisite: admission to the program; Introduction to field of radiology including history of medicine and radiology, ethical and professional responsibilities of radiologic technologist, basic protection and basic skills. Orientation to radiology departments of affiliated hospitals. General patient care.

106.7 ANATOMY FOR RADIOLOGIC TECHNOLOGY I, II 3 credits each
Prerequisite: admission to the program. Study of human structure and function approached and visualized through a number of imaging techniques and prepared specimens in the laboratory.

140 MEDICAL AND SURGICAL DISEASES, RADIOLOGY 3 credits
Prerequisites: 101 and 161. Fundamental principles of disease processes, functional arrangements. Background in pathology needed for radiographer will be provided by lecture and demonstrations.

161 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY I 2 credits
Prerequisite: 202.131 and permission. Introduction to systems of measurement. Matter, force, motion, work, power, energy, basic electricity and magnetism.

165 RADIOGRAPHIC PRINCIPLES I, II 3 credits each
Prerequisite: 151. Elementary principles of electron motion and their application in medical setting. Radiographic accessories and chemical processing of exposed x-ray film.

170 RADIOGRAPHIC POSITIONING I 3 credits
Corequisite: 101. Introductory course in instructing student in basic positioning nomenclature and radiographic positions. Positioning laboratory experience included.

171 RADIOGRAPHIC POSITIONING II 3 credits
Prerequisite: 170. Continuation of 170. Includes additional positioning and refinement of positioning strategies. Laboratory.

184 CLINICAL APPLICATION I 4 credits
Prerequisites: 101 and 170. Introduction to clinical procedures including clinical experience in hospital radiology departments. Lectures and laboratory experience combined and clinical experience closely supervised. Film critique stressed. Observation rotation through nuclear medicine, therapy and diagnostic techniques. Large student observation.

185 CLINICAL APPLICATION II 4 credits
Prerequisite: 184. Continuation of 184 with more involvement by student continuing under close supervision. Special procedures introduced. Student observations and student participation.
230 RADIOGRAPHIC TECHNIQUE AND CONTROL
Prerequisite: 261. Technique and control as related to basic positioning procedures for various parts of body. Relationships among electricity, time, distance, films and contrast on radiograph. A student performs experiments to demonstrate effects of these factors. Emphasis on clinical equipment utilized.

261 PHYSICAL SCIENCE FOR RADIOLOGIC TECHNOLOGY II

272 RADIOGRAPHIC POSITIONING III
Prerequisite: 171. Continuation of 171. Includes additional positioning and refinement of positioning techniques. Laboratory.

273 RADIOGRAPHIC POSITIONING IV
Prerequisite: 272. Continuation of 272 utilizing advanced techniques and providing instruction in different age groups in positioning care and special techniques for pediatric and geriatric patients. Laboratory.

286 CLINICAL APPLICATION III
Prerequisite: 185. Summer clinical internship in which student practices all radiographic procedures under supervision. Some independent performance with minimal supervision.

287 CLINICAL APPLICATION IV
Prerequisites: 286 and permission. Clinical performance with supervision. Application at an advanced level. Special techniques, nuclear medicine therapy, medical surgical pathology, firm examination and critical maintenance of equipment, department administration, ethical, legal and professional responsibilities. Clinical experience in hospital radiology departments.

288 CLINICAL APPLICATION V
Prerequisite: 287. Clinical experience and minimal supervised clinical procedures of diagnostic radiography.

289 CLINICAL APPLICATION VI
Prerequisite: 288. Continuation of 288, final internship. Terminal course including review, lecture on corrosion and interpretation of radiographic technology. Prepares student for certification examination.

290 SPECIAL TOPICS: RADIOLOGIC SCIENCE
(1-3 credits) May be repeated with a change in topic. Prerequisite: permission. More advanced study in one or more topics in radiological sciences. Emphasis and topics vary from year to year but will be in areas where a formal course is not otherwise available.

SURGICAL ASSISTING

2770:

100 INTRODUCTION TO SURGICAL ASSISTING TECHNOLOGY
Prerequisite: admission to the program. Study of basic principles which underlie patient care in the operating room. Role of operating room technician and legal and ethical responsibilities defined.

121 SURGICAL ASSISTING PROCEDURES I
Prerequisite: 100. Didactic and laboratory practice in principles and practices of surgical asystics, the surgical patient, surgical procedures, care and maintenance of equipment and materials, immediate postoperative responsibilities and emergency situations in operating room.

131 CLINICAL APPLICATION I
Prerequisite: permission. Application of learned skills in care of patients in operating room of an affiliated hospital.

222 SURGICAL ASSISTING PROCEDURES II
Prerequisite: 121. Continuation of 121.

133 CLINICAL APPLICATION II
Prerequisite: 131. Application of learned skills in care of patients in operating room of an affiliated hospital.

233 CLINICAL APPLICATION III
Prerequisite: 222. Application of learned skills in care of patients in operating room of an affiliated hospital.

246 CLINICAL APPLICATION IV
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.

235 CLINICAL APPLICATION V
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.

236 CLINICAL APPLICATION VI
Prerequisite: 235. 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.

241 SURGICAL ANATOMY
Prerequisites: 100 and 3100:106. Surgical anatomy of the human body as it relates to the various surgical specialties.

242 SURGICAL LABORATORY PROCEDURES
Prerequisites: 121 and admission to program option: corequisite: 241. Classroom, laboratory instruction in surgical techniques and procedures.

243 INTRODUCTION TO MEDICINE
Prerequisites: 241, 242. Pathophysiology, clinical manifestations, therapeutic management of surgically related disorders.

244 MEDICAL HISTORY AND PHYSICAL EVALUATION
Prerequisites: 241, 242. Introduction to techniques of obtaining medical histories and physical evaluations. Techniques of interviewing and physical diagnosis.

245 RÖNTGENOGRAM ASSESSMENT
Prerequisite: 242. Roentgenogram assessment and its use as a diagnostic tool. Recognition of gross abnormalities in roentgenograms of the head, neck, chest, abdomen, pelvis and extremities.

246 MEDICAL LABORATORY PROCEDURES
Prerequisite: 242. Introduction of collection, preparation, and analysis of biological fluids and other substances through standard procedures utilized in medical laboratories to aid the physician in diagnosis, treatment, and prevention of diseases.

247 PULMONARY ASSESSMENT AND ELECTROCARDIOGRAPHY
Prerequisite: 242. Oxygen administration, humidity control, breathing exercises, postural drainage, percussion techniques, intercostal pressure, positive pressure breathing, management of ventilators and bedside vital sign measurements. Electrocardiogram recording techniques, interpretation of electrocardiographic abnormalities-a-rhythmia.

290 SPECIAL TOPICS: SURGICAL ASSISTING
(1-2 credits) Prerequisite: permission. Selected topics or workshops of interest in surgical assisting technology.

ALLIED HEALTH

2780:

101 INTRODUCTION TO PHYSICAL THERAPY
History of physical therapy, survey of treatment procedures. Role and rationale for physical therapist. Role of therapist as assistant. Legal, ethical responsibilities.

290 SPECIAL TOPICS: ALLIED HEALTH
(1-2 credits) Prerequisite: permission. Selected topics or subject areas of interest in allied health.

RESPIRATORY THERAPY

2790:

121 INTRODUCTION TO RESPIRATORY THERAPY TECHNOLOGY
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 oxygen therapy. Lecture/Laboratory.

122 PATIENT CARE IN RESPIRATORY THERAPY
Prerequisite: 121. Covers basic hospital practices in sterile technique, suctioning and postural drainage. Lecture/Laboratory.

123 MECHANICAL VENTILATORS
Prerequisite: 122. Introduction to different brands of ventilators and their functions, Airway and airway complications.

131 CLINICAL APPLICATIONS I
Prerequisite: 121 and admission to program. Introduction to work in hospital and hands-on experience in hospital equipment. Laboratory.

132 CLINICAL APPLICATIONS II
Prerequisites: 122; 131. First of several rotations through hospital. Mechanical ventilation is stressed.

133 CLINICAL APPLICATIONS III
Prerequisites: 123; 132; 141. 1. Sanatorium is broken into three, five-week sections. They will be spent at different clinical sites working on their specialty areas. Laboratory.

134 CLINICAL APPLICATIONS IV
Prerequisites: 133; 142; 223. Semester has three, five-week sections. May be repeatable for a total of four credits.

141 PHARMACOLOGY
Prerequisites: 2640:100 and 3100:103. Drugs administered by respiratory therapy and their effect, route of action in the body. Lecture.

142 PATHOLOGY FOR RESPIRATORY THERAPY
Prerequisites: 201 and 3100:103. Discussion of disease processes, diseases of lung and heart, their effect on respiratory therapy.
## CHEMICAL TECHNOLOGY 2840:

### 100 BASIC CHEMISTRY
3 credits
Elementary treatment of facts and principles of chemistry emphasizing biological application. Elements and compounds important in everyday life, biological processes and medicine. Introduction to laboratory techniques. Primarily for medical-assistant, criminal justice and allied health students. Laboratory.

### 101 INTRODUCTORY CHEMISTRY
1 credit
Facts and theories of general chemistry. Elements and compounds. Laboratory.

### 102 INTRODUCTORY AND ANALYTICAL CHEMISTRY
3 credits
Prerequisite: 101 or permission. Chemical equilibria, ionization, radioactivity. Properties of selected metals and nonmetals. Introduction to organic chemistry. Basic concepts of qualitative analysis. Identification of cations and anions. Laboratory.

### 103 CHEMICAL CALCULATIONS
2 credits
Prerequisite: permission. Review of mathematics as applied to problems in introductory chemistry and other science courses. Topics include unit conversions, percentages, concentration, pH, gas laws, chemical equilibrium, solubility, ionic products. Suitable as a refresher course.

### 121 ORGANIC PRINCIPLES
4 credits
Structure, nomenclature and classification of simple organic compounds, their physical and chemical properties, methods of separation, analysis and synthesis. Laboratory.

### 151 BASIC PHYSICS: MECHANICS
3 credits
Corequisite: 2020.131. Principles of mechanics. Topics include force and motion, work and energy, properties of fluids and gases and introduction to atomic physics. Laboratory.

### 152 BASIC PHYSICS: ELECTRICITY AND MAGNETISM
2 credits
Prerequisites: 151 and 2020.131. Principles of electricity and magnetism. Electrostatics, basic direct current circuits, magnetism and electromagnetic induction, alternating currents, basic AC circuits. Laboratory.

### 153 BASIC PHYSICS: HEAT, LIGHT AND SOUND
2 credits
Prerequisites: 151 and 2020.131. Principles of heat, light and sound. Topics include thermal behavior of matter, light motion, sound waves, light and illumination, reflection and refraction, mirrors and lenses, interference and diffraction. Laboratory.

### 201 QUANTITATIVE ANALYSIS
4 credits
Prerequisite: 103. Theory and practice of qualitative and quantitative analysis. Introduction to gravimetric, volumetric and electrochemical procedures. Laboratory.

### 202 INSTRUMENTAL METHODS
4 credits
Prerequisites: 201 and one year of physics, or permission. Instrumentation employed in qualitative and quantitative analysis. Theory and practice in chromatographic, spectrophotometric and other instrumental methods. Laboratory.

### 210 SCIENTIFIC GLASS BLOWING
1 credit
Laboratory instruction in art of glass blowing. Fabrication and blowing of scientific glassware and chemical apparatus.

### 250 ELEMENTS OF PHYSICAL CHEMISTRY
2 credits
Prerequisites: 102, 153. 2020.132. Physical principles governing behavior of chemical systems. Introductory thermodynamics. Solution properties, chemical equilibrium, phase rule, chemical kinetics and structure of matter. Laboratory.

### 256 LITERATURE OF SCIENCE AND TECHNOLOGY
1 credit
Prerequisite: permission. Literature of science and technology as used to gather information. Techniques of abstracting and the literature search.

### 260 COMPOUNDING METHODS
2 credits
Prerequisite: 121 or permission. Principles and methods of selecting and compounding rubber for specific uses. The compounder's art. Processing and testing of basic elastomers and products. Laboratory.

### 270 NATURAL AND SYNTHETIC ORGANIC POLYMERS
4 credits
Prerequisite: 121 or permission. Structure and properties of macromolecules. Polymers, nucleic acids, rubber. Synthetic thermoplastics, thermosetting and elastomeric polymers.

### ELECTRONIC TECHNOLOGY 2860:

#### 120 DC CIRCUITS
4 credits

#### 122 AC CIRCUITS
3 credits
Prerequisite: 120. Corequisite: 2020.132. Sinusoidal voltage and currents, resonance and impedance, methods of AC circuit analysis, AC power, transformers, resonance, polyphase circuits.

#### 123 ELECTRONICS I
3 credits
Corequisite: 122. Physical theory, characteristics, operational parameters and incircuit considerations of solid state electronic devices.

#### 225 ELECTRONICS II
3 credits
Prerequisite: 123. Linear devices and/or pertinent applications widely used in electronics. Topics include transistors, operational amplifiers, special linear integrated circuits and power amplifiers.

#### 272 MEASUREMENTS
2 credits
Prerequisite: 123 or 271. Principles and use of electronic instruments including voltmeters, ammeters, oscilloscopes and signal generators. Analysis of measurement errors.

#### 231 CONTROL, PRINCIPLES
3 credits

#### 237 DIGITAL CIRCUITS I
4 credits
Prerequisite: 123. Introduction to devices and techniques used in design of combinational logic circuits. Topics include number systems, binary arithmetic, codes, Bolean algebra, Karnaugh mapping, and interfacing digital circuits and its application in combinational circuits. Topics include 9916 selection, decoding, binocular functions and ROM synthesis.

#### 238 DIGITAL CIRCUITS II
3 credits
Prerequisite: 237. Continuation of combinational logic design. Introduction to sequential logic design and microcomputer. Integrated circuit design and analysis. For MOS and CMOS devices. Microprocessors and applications.

#### 242 MACHINERY AND CONTROLS
4 credits
Prerequisites: 122 and 123 or 271. Principles, characteristics, applications of DC and AC generators and motors. Basic control circuits for factory machinery. Principles of industrial electronic devices used in machine control such as, surge, SCR's, thyristors, Laboratories practice with industrial machines in practical industrial circuits.

#### 251 COMMUNICATIONS CIRCUITS
3 credits

#### 255 ELECTRONIC DESIGN AND CONSTRUCTION
2 credits

#### 260 ELECTRONIC PROJECT
2 credits
Prerequisite: final semester or permission. Design, construction and test by student of an electronic circuit of choice. Progress reports, oral and written reports required. Discussion of electronic design and fabrication techniques.

#### 270 SURVEY OF ELECTRONICS I
3 credits

#### 271 SURVEY OF ELECTRONICS II
3 credits
Prerequisite: 270, corequisite: 2020.132. Survey of most commonly used solid-state circuit components. Analysis, selected topics. For non-electronic technology majors.

#### 290 SPECIAL TOPICS: ELECTRONIC TECHNOLOGY
1-2 credits
(May be repeated for a total of four credits.) Prerequisite: permission. Selected topics or subject areas of interest in electronic technology.

#### 350 ADVANCED CIRCUITS
4 credits

#### 351 INDUSTRIAL ELECTRICAL SYSTEMS
3 credits
Prerequisites: 150 and 450. Power system single-and three-phase analysis, balanced and unbalanced systems. Fault calculations, symmetrical components with industrial applications.
Courses of Instruction 179

INSTRUMENTATION TECHNOLOGY

2900:

121 FUNDAMENTALS OF INSTRUMENTATION
Prerequisites: 2405.151 and 2905.123 or 276. Study of variables encountered in process instrumentation, indicating and recording devices and applications of physical principles affecting measurement and control.

2 credits

122 PROCESS CONTROL
Prerequisite: 231. Study of analysis and design of process control systems with emphasis on techniques and instrumentation used in process control. Digital control fundamentals introduced.

2 credits

123 PULSE-CIRCUIT TESTING

3 credits

124 CALIBRATION AND STANDARDIZATION
Prerequisite: 231. Laboratory experience in calibration and standardization of electrical, electronic and mechanical systems. Instrument theory, maintenance, troubleshooting, specifications, performance and safe working practices involved.

3 credits

124 INSTRUMENTATION PROJECT
Prerequisites: fall semester or permission. Design construction and testing of an approved instrumentation project by an individual student, promoting independent study, initiative, assumption of responsibility and application of skills attained in related courses.

2 credits

125 SPECIAL TOPICS: INSTRUMENTATION TECHNOLOGY
(May be repeated for a total of four credits)
Prerequisites: permission. Selected topics or subject areas of interest in instrumentation technology.

1-2 credits

MANUFACTURING TECHNOLOGY

2880:

100 INTRODUCTION TO MANUFACTURING MANAGEMENT
3 credits
Introduction to functions of major sections of manufacturing concern. Departmental purposes identified with major emphasis on their sequential relationship with each other. Intention to identify and relate major functions encountered later in individual courses.

2 credits

101 INTRODUCTION TO COMPUTER AIDED MANUFACTURING
3 credits
Prerequisite: permission of instructor. Introduction to use of computer controlled equipment in solution of manufacturing related problems. Concepts of NC machine operation and programming, robotics and computer aided assistance.

1 credit

111 SAFETY PROCEDURES
3 credits

2 credits

200 MANUFACTURING PROFITABILITY
3 credits
Prerequisites: 100 and 2405.121. Profit-oriented cost analysis and control studies. Control of price and profit within market limitations. Discussion.

1 credit

210 CONTROLLING AND SCHEDULING PRODUCTION
2 credits
Prerequisite: 100. Production order followed from sales order through manufacturing, plant loading, expediting, scheduling and shipping. Also covers material control and inventory record keeping. Critical path, linear programming and EDP techniques discussed.

3 credits

231 PLANT Layout
3 credits
Prerequisite: 100. Solution of activities for a production facility. Optimum arrangements of factors of production, manpower, material and equipment.

2 credits

232 LABOR MANAGEMENT RELATIONS
3 credits
Prerequisite: 100. Study of historical background of labor movement, management viewpoint, legal framework for modern labor organizations, and collective bargaining process.

1 credit

235 WORK MEASUREMENT PROCEDURES I
2 credits
Prerequisite: 130. Continuation of 130. Work measurement techniques and establishments of production standards for optimization of lower costs.

2 credits

241 QUALITY CONTROL PROCEDURES
3 credits
Prerequisite: 2020.131. Theory and practice of inpection and sampling techniques for measurement of quality. OC-charts, sampling plans, millspc., checking machine capabilities and setting tolerances.

3 credits

SPECIAL TOPICS: INDUSTRIAL TECHNOLOGY
2 credits
(May be repeated for a total of four credits)
Prerequisites: permission. Selected topics or subject areas of interest in industrial technology.

1-2 credits

MECHANICAL TECHNOLOGY

2920:

121 TECHNICAL DRAWING I
3 credits
Prerequisite: 231. Study of technique and method of drawing instruments, freeman and sketching, geometric drawing, orthographic projection, pictorial introduction to basic descriptive geometry.

2 credits

122 TECHNICAL DRAWING II
3 credits
Prerequisites: 121. Sections and conventions. Dimensioning, tolerances and tolerances, thread and fasteners, descriptive geometry. Intersections, developments.

3 credits

124 DESIGN MATERIALS
2 credits
Prerequisite: 2900.123. Fundamental properties of materials. Material testing. Application of methods and control of materials properties.

3 credits

242 KINEMATICS
2 credits
Prerequisite: 231. Study of rigid-body motion of simple linkages, cam, gears and gear trains. Graphical vector solutions emphasized. Industrial applications presented.

3 credits

244 DYNAMICS
2 credits
Prerequisites: 231, 2420.233 and 2900.125. 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 vibrators.

5 credits

245 MECHANICAL DESIGN I
3 credits

3 credits

247 TECHNOLOGY OF MACHINE TOOLS
3 credits

4 credits

249 APPLIED THERMAL ENERGY
2 credits

2 credits

251 FLUID POWER
2 credits
Prerequisites: 2405.233, 2401.153. Statics and dynamics of fluids. Viscosity, energy and momentum relationships, fluid machinery and measurements.

2 credits

252 THERMO-FLUIDS LABORATORY
1 credit
Prerequisites: 249, corequisite: 251. Laboratory experiments in applied thermal energy and fluid power.

2 credits

260 SPECIAL TOPICS: MECHANICAL TECHNOLOGY
1-3 credits
(May be repeated for a total of four credits)
Prerequisites: permission. Selected topics or subject areas of interest in mechanical technology.

1-2 credits
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>2980:</td>
<td><strong>SURVEYING AND CONSTRUCTION TECHNOLOGY</strong></td>
<td></td>
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<td><strong>2980:</strong></td>
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<td></td>
<td><strong>122</strong> <strong>BASIC SURVEYING</strong></td>
<td>3 credits</td>
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<tr>
<td></td>
<td>Basic tools and computations for surveying, measurements of distance, elevations and angles, traverse surveys, field practice</td>
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<td></td>
<td><strong>123</strong> <strong>SURVEYING FIELD PRACTICE</strong></td>
<td>2 credits</td>
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<td></td>
<td>Prerequisite: 2980:122 Practical experience in use of surveying equipment and methods of surveying</td>
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<td>Provides student with responsibility for making decisions after planning and directing complete project</td>
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<td><strong>183</strong> <strong>STATICS</strong></td>
<td>3 credits</td>
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<td></td>
<td>Prerequisites: 2940:151 and 2920:132 Forces, resultant, and couples. Equilibrium in force systems. Trusts, frames, trusses, and second moment of areas, friction</td>
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<td><strong>222</strong> <strong>CONSTRUCTION SURVEYING</strong></td>
<td>4 credits</td>
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<td></td>
<td>Prerequisite: 122 Methods and procedures for establishing line and grade for construction. Circular, spiral, and parabolic curves. Cross-sectioning methods and earthwork</td>
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<td></td>
<td>Field practice</td>
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<td><strong>224</strong> <strong>LAND SURVEYING</strong></td>
<td>3 credits</td>
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<td></td>
<td>Prerequisite: 122 of permission. Historical development of boundary surveying. Rectangular system of public and surveys. Systems used to describe property, working and interpretation of deed descriptions, surveyor's rights, duties and responsibilities</td>
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<td></td>
<td><strong>225</strong> <strong>ADVANCED SURVEYING</strong></td>
<td>4 credits</td>
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<td></td>
<td>Prerequisite: 122. Introduction to theory of errors, precise leveling, bi-axial measurement, triangulation, trilateration and bearings from celestial observation. Photogrammetry. Field practice</td>
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<td></td>
<td><strong>226</strong> <strong>SUBDIVISION DESIGN</strong></td>
<td>2 credits</td>
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<td></td>
<td>Prerequisite: 222. Covariance 224. Site analysis, land use controls and plotting procedures Laboratory includes preparation of various types of projects leading to a complete subdivision</td>
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<td><strong>231</strong> <strong>BUILDING CONSTRUCTION</strong></td>
<td>2 credits</td>
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<td></td>
<td>Materials and types of construction used in heavy construction. Incorporates buildings constructed with heavy timber, steel, concrete in a combination of these materials</td>
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<td><strong>232</strong> <strong>CONSTRUCTION</strong></td>
<td>3 credits</td>
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<td>Prerequisite: 222 of permission. Planning in construction operations. Construction equipment and selection for typical jobs. Emphasis on heavy construction</td>
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<td></td>
<td><strong>233</strong> <strong>CONSTRUCTION ADMINISTRATION</strong></td>
<td>2 credits</td>
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<td>Construction specifications, Office organization, preparation of construction documents. Bonding bonds, Construction Management and supervision. Agreements and contracts</td>
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</table>

**DRAFTING TECHNOLOGY 2940:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>140</td>
<td><strong>SURVEY OF ENGINEERING TECHNOLOGY</strong></td>
<td>3 credits</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<td>150</td>
<td><strong>DRAFTING DESIGN PROBLEMS</strong></td>
<td>2 credits</td>
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<tr>
<td></td>
<td>Prerequisite: 2920:131 Introductory course in basic concepts in engineering technology computations. A study of technical terminology and applied mathematics.</td>
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<tr>
<td>151</td>
<td><strong>TECHNICAL COMPUTATIONS</strong></td>
<td>1 credit</td>
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<tr>
<td></td>
<td>Prerequisite: 2920:131: covariate for drafting technology students only. 150 Use of computer to solve typical problems in engineering technology. Concepts of flow charting, looping, variables, arrays, subroutines, examined. BASIC computer language introduced.</td>
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<tr>
<td>160</td>
<td><strong>MANUFACTURING AND CONSTRUCTION PROCESSES</strong></td>
<td>2 credits</td>
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<td></td>
<td>(One hour lecture; three hours laboratory)</td>
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<td></td>
<td>Plans and field files in various technologies to familiarize student with manufacturing and construction processes. Written or oral reports will be required after each field trip.</td>
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<tr>
<td>170</td>
<td><strong>SURVEYING DRAFTING</strong></td>
<td>3 credits</td>
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<td>(One hour lecture; six hours laboratory)</td>
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<td></td>
<td>Prerequisite: 2920:121, corequisite: 2920:131 Provides basic understanding of drafting procedures, techniques and tools required for the various phases of survey office work. Production of topographic maps, plan profile drawings, cross-section drawings and earthwork calculations.</td>
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<tr>
<td>Course Code</td>
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<tr>
<td>234</td>
<td>ELEMENTS OF STRUCTURES</td>
<td>3</td>
</tr>
<tr>
<td>237</td>
<td>MATERIALS TESTING I</td>
<td>2</td>
</tr>
<tr>
<td>238</td>
<td>MATERIALS TESTING II</td>
<td>2</td>
</tr>
<tr>
<td>241</td>
<td>STRENGTH OF MATERIALS</td>
<td>3</td>
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<tr>
<td>245</td>
<td>COST ANALYSIS AND ESTIMATING</td>
<td>3</td>
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<tr>
<td>250</td>
<td>STRUCTURAL DRAFTING</td>
<td>2</td>
</tr>
<tr>
<td>290</td>
<td>SPECIAL TOPICS: SURVEYING AND CONSTRUCTION TECHNOLOGY</td>
<td>1-2</td>
</tr>
</tbody>
</table>
### Cooperate Education

#### 300: Cooperate Education

**0 credits**

For Cooperate Education Students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.

### Biology

#### 3100:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>100</td>
<td>Nature Study: Plants</td>
<td>3</td>
</tr>
<tr>
<td>101</td>
<td>Nature Study: Animals</td>
<td>3</td>
</tr>
<tr>
<td>103</td>
<td>Introduction to Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>104</td>
<td>Ecology and Biological Resources</td>
<td>1</td>
</tr>
<tr>
<td>105</td>
<td>Ecology and Biological Resources Field Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>111</td>
<td>Principles of Biology</td>
<td>3</td>
</tr>
<tr>
<td>112</td>
<td>Principles of Biology*</td>
<td>4</td>
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<tr>
<td>120</td>
<td>Principles of Microbiology</td>
<td>3</td>
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<tr>
<td>190.1</td>
<td>Health Care Delivery Systems*</td>
<td>1</td>
</tr>
<tr>
<td>192</td>
<td>Biology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>206.7</td>
<td>Human Anatomy and Physiology</td>
<td>3</td>
</tr>
<tr>
<td>211</td>
<td>General Genetics</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Prerequisites:

- **112 Principles of Biology**
- **111 Cell Reproduction, Genetics, Development, Evolution, Classification, Behavior, Ecology, History of Plants and Animals**
- **120 Principles of Microbiology**
- **190 Principles of Biology**
- **192 Biology of Aging**
- **206.7 Human Anatomy and Physiology**
- **211 General Genetics**

*Field trips involved, minor transportation costs.
400/500 FOOD PLANTS 2 credits
Prerequisite: 311 or permission of instructor. A survey of the plants used for human food, including their history, structure, uses.

422/522 CONSERVATION OF BIOLOGICAL RESOURCES* 4 credits
Prerequisite: 217 or permission. Basic principles for management of plant and animal resources and natural areas. Political, economic and social aspects of resource management. Laboratory with field trips.

424/524 LIMNOLOGY* 3 credits
Prerequisite: 217. Field laboratory study of lake ecosystems. Species composition of selected pelvic communities, community energetics, nutrient cycling. Limnological survey of a local lake. Laboratory.

426/526 APPLIED AQUATIC ECOLOGY* 3 credits
Prerequisite: permission. Biological methods for assessing quality of natural waterways. Emphasis given to use of bentic invertebrates as indices of water quality. Laboratory.

428/528 BIOLOGY OF BEHAVIOR 2 credits
Prerequisite: 211, 217 and 216. Biological basis of behavior: ethological theory; function, causation, significance, evolution and adaptability of behavior.

431/531 BACTERIAL PHYSIOLOGY 3 credits
Prerequisites: 332 and 315022 (organic and biochemistry). Biochemical activities in nacterial cell, emphasizing enzymatic modifications of metabolic transformations. Energy relationships in catalytic and biosynthetic pathways stressed.

433/533 PATHOGENIC BACTEROLOGY 4 credits
Prerequisite: 332. Study of major groups of bacteria which produce infections in man. Biochemical properties of microorganisms which engender virulence and resistance of host. Laboratory.

435/535 VIROLOGY 4 credits
Prerequisite: 332. Physical, chemical and biological properties of viruses including mechanisms of infection, genetics and tumor formation. Methods of cultivation and identification. Laboratory.

437/537 IMMUNOLOGY 4 credits
Prerequisite: 332: recommended. 433. Nature of antigen, antibody response and antigen-antibody reactions. Use and mechanism of antibody formations, hypersensitivity, immunologic tolerance and immune diseases considered. Laboratory.

458/558 HEMATOLOGY 4 credits
Prerequisite: 437/537 or permission of instructor. Quantitative and qualitative evaluation and interpretation of function elements of blood including study of hematology, metastatic, nutritional, inflammatory, immunologic and neoplastic diseases encountered in field of hematology. Lecture/Laboratory.

440/540 MYCROLOGY 4 credits
Prerequisite: 112. Structure, life history, classification of representative fungi with emphasis on the importance of fungi to man. Laboratory.

441/541 PLANT DEVELOPMENT 4 credits
Prerequisites: 112 and one year of organic chemistry. Embryology and morphogenesis of plants in relation to physical, chemical, genetic and spatial factors. Laboratory.

442/542 PLANT ANATOMY 3 credits
Prerequisite: 112. Structure and development of cells, tissues, organs and organ systems of seed plants. Laboratory.

443/543 PHYLOGENY 4 credits
Prerequisite: 112. Examination of major groups of algae with emphasis on major orders and their relationship to algal form and structure. Laboratory.

445/545 PLANT MORPHOLOGY* 4 credits
Prerequisite: 112. Structure, reproduction, life cycles, ecology, evolution, ecological significance of seed plants. Bryophytes, Club moss, whisk ferns, horsetails, ferns, seed plants. Laboratory.

447/547 PLANT PHYSIOLOGY 3 credits
Prerequisites: 112 and one year of organic chemistry. Water, soil and minimal requirements of plants, and their metabolism, growth and response to internal and external stimuli. Laboratory.

449/549 PLANT BIOMETRICS 2 credits
Prerequisites: 112 and 400 level. Current research methods and theories in plant physiology and taxonomy. Includes study of original publications, discussion of experimental methods and use of herbarium in research.

458/556 VEGETAL BIOLOGY 4 credits
Prerequisite: 316 or permission. Biology of vertebrates, except birds — evolution, ecology, behavior, systematics and anatomy. Laboratory with field trips.

462/581Z HUMAN PHYSIOLOGY* 4 credits each
Prerequisite: sophomore or graduate standing. Detailed study of function of the human body with special emphasis on neuromuscular, cardiovascular, respiratory, renal and endocrine systems. Laboratory.

464/584 GENERAL AND COMPARATIVE PHYSIOLOGY 4 credits
Prerequisites: 112 and one year of organic chemistry. Study of cellular, osmoregulatory, respiratory, cardiovascular, endocrine and nervous systems involved in understanding physiology of various invertebrate and vertebrate animals. Laboratory.

485/585 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 failure. Controversial issues in each area will be examined and current research presented.

466/587 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.

468/586 THE PHYSIOLOGY OF REPRODUCTION 1 credit
Prerequisite: 462 or 562 or permission. Study of the physiological mechanisms of reproduction throughout the animal kingdom with special emphasis upon mammalian endocrinological control. Controversial issues in the field will be examined and current research presented.

480/589 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 radiolabeled compounds in laboratory. Laboratory.

481/581 ADVANCED GENETICS 3 credits
Prerequisite: 211. Nature of the genetic code: hereditary determinants, mutagenesis and genes in population. Lecture and seminar.

484/584 PHARMACOLOGY* 3 credits
Prerequisite: 311. Recommended: college-level physiology. Interactions of drugs and the body systems with emphasis on molecular and cellular mechanisms of action, drug metabolism and excretion, and selected aspects of environmental toxicology. Clinical aspects and specific drug therapies not considered in detail.

485/588 LABORATORY ANIMAL MANAGEMENT** 3 credits
Prerequisites: 112 and permission. Principles involved in maintaining laboratory animals. Emphasis on selection of animal models, proper care, nutrition and legal aspects of animal use. Laboratory.

494/594 WORKSHOP IN BIOLOGY 1-3 credits
(May be repeated)
Prerequisite: permission of instructor. Group studies of special topics in biology. May not be used to meet undergraduate or graduate major requirements in biology. May be used for elective credit only.

495 SPECIAL TOPICS IN BIOLOGY 1-3 credits
(May be repeated)
Prerequisite: permission. Special topics course offered once or only offered in areas where no formal course exists. A maximum of six credits may be applied to requirements for a major.

497/597-8 BIOLOGICAL PROBLEMS 1-2 credits each
Prerequisite: permission. Honors-level work. Usually consisting of laboratory investigations.

499 SENIOR HONORS PROGRAM IN BIOLOGY 1-3 credits
(May be repeated for a total of five credits)
Prerequisite: senior standing in honors program and approval of honor's program. Open only to biology majors in honors program. Independent study leading to completion of approved senior honors project.

Graduate Courses

511 EXPERIMENTAL BACTERIAL PHYSIOLOGY 4 credits
Prerequisite: 311 or permission of instructor. Basic techniques peculiar to study of microbial physiology and modification of selected biochemical techniques for application to microbial systems. Laboratory.

600 ENVIRONMENTAL PHYSIOLOGY 3 credits
Prerequisites: 581.2. Study of physiological reactions of healthy mammals to natural changes or extremes of physical environment.

667 EXPERIMENTAL EMBRYOLOGY 3 credits
Prerequisite: permission. Principles and experimental methods of developmental biology. Practical application to oncology, drug interaction and inductive mechanisms. Laboratory.

681 CYTOLOGY 3 credits
Prerequisite: 311. Structure and functional organization of cells at ultrastructural level. Three lecture hours a week.

682 ANIMAL TISSUE CULTURE 3 credits
Prerequisite: 322. 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.

686 RESEARCH IN THE BIOLOGY OF AGING 3 credits each
Prerequisites: graduate standing in biology, or by approval in related fields. Introduction to research techniques in study of biological aspects of aging and experience in a special research project in the field.

688 PRINCIPLES OF TRANSMISSION ELECTRON MICROSCOPY 3 credits
Prerequisite: 311 or 110 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.

*Field trips involved; minor transportation costs.

**Field trips involved; minor transportation costs.
595 PRINCIPLES OF SCANNING ELECTRON MICROSCOPY 3 credits
Prerequisites: 311, 661 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.

596 SPECIAL TOPICS: BIOLOGY 1-3 credits
(May be repeated)
Prerequisites: permission. Special courses offered once or only occasionally in areas where no formal course exists.

607 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-opn students who have not presented their thesis research.

699 MASTER'S RESEARCH 1-6 credits
(May be repeated)
A minimum of six credits is required for thesis option student.

BIOLoGY/NEUROCOM

3110:

626 MICROSCOPIC ANATOMY 4 credits
Prerequisite: graduate standing or permission. An introduction to histology and cell biology. A brief overview of histological basis for normal and disturbed functions. Structure-function relationships in human microscopical anatomy. Lectures, special laboratory, learning techniques using human tissues.

630 HUMAN GROSS ANATOMY AND EMBRYOLOGY 3 credits
Prerequisites: graduate standing and permission. An intensive survey of human macroanatomy.

631 HUMAN GROSS ANATOMY AND EMBRYOLOGY LABORATORY 3 credits

641 FUNCTIONAL NEUROANATOMY 6 credits
Prerequisite: permission or graduate standing. Study of structure and function of mammalian nervous system with emphasis on human brain and human behavior. Laboratory.

643 NEUROPHYSIOLOGY 4 credits
Prerequisite: 4641. The process of neural functions as the foundation for the study of the nervous system; establishing a firm base in experimental neurobiology. Laboratory.

680 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 and laboratory.

MEDICAL TECHNOLOGY

3120:

401 SPECIAL TOPICS LABORATORY MANAGEMENT, EDUCATION AND SAFETY 1-4 credits
Seminar, lectures, workshops in medical technology not included in formal clinical courses. Minimum one credit required for graduation.

410 CLINICAL ANALYSIS OF URINE AND OTHER BODY FLUIDS I 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.

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.

420 CLINICAL CHEMISTRY AND BIOCHEMISTRY I 4 credits
Prerequisites: 3100:383,4, or equivalent; 3150:201, 02, 329, 36, or equivalent. Concepts of clinical biochemistry; identification and quantitation of specific chemical substances in body fluids in normal and disease states; principles of instrumentation and quality control.

431 CLINICAL CHEMISTRY AND BIOCHEMISTRY II PRACTICUM 4 credits
Prerequisites: 3100:383,4, or equivalent; 3150:201, 02, 335, 36, or equivalent. Clinical application by various laboratory techniques: clinical correlation of results with disease states.

430 CLINICAL HEMATOLOGY I 2 credits
Prerequisites: 3100:311 and 3100:361.2 or equivalent. Theory of blood cell formation; determination of blood and bone marrow cells; differentiation of erythrocytes, leukocytes, and thrombocytes.

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.

432 CLINICAL COAGULATION 1 credit
Prerequisites: 3100:311 and 3100:361.2 or equivalent. Theory of coagulation mechanisms and their relationship to disease states. Emphasis on identification of coagulation deficiencies and abnormalities.

440 CLINICAL IMMUNOLOGY I 2 credits

441 CLINICAL IMMUNOLOGY II PRACTICUM 2 credits
Prerequisites: 3100:347, 211, or equivalent. Clinical application of theory of cross-matching blood donors, blood bank management.

450 CLINICAL MICROBIOLOGY I 1 credit
Prerequisite: 3100:347, 211, or equivalent. Antigens and antibodies and their interaction in disease states.

451 CLINICAL MICROBIOLOGY II PRACTICUM 1 credit
Prerequisite: 3100:347, 211, or equivalent. Qualitative and quantitative serological laboratory procedures in immunology.

460 CLINICAL MICROBIOLOGY III PRACTICUM 1 credit
Prerequisites: 3100:331.2 or equivalent. Theory of diagnosis of medical microbiology with emphasis on pathogenic bacteria and their relationship to disease.

461 CLINICAL MICROBIOLOGY II PRACTICUM 4 credits
Prerequisites: 3100:331.2 or equivalent. Isolation and identification of pathogenic bacteria, viral agents, and mycotic agents. Principles of the study and diagnosis of disease.

462 CLINICAL MICROBIOLOGY LABORATORY 1 credit
Study of pathogenic fungi. Basic methods of identification and cultivation, treatment and safety precautions.

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.

CYTOTECHNOLOGY

3130:

401 INTRODUCTION TO CYTOLOGY 1 credit
A brief course in which by means of lecture and demonstration the student becomes familiar with the cytotechnologist's role and with cytology laboratory areas covered include historical background of clinical cytology, microscopy, and basic histology.

410 CYTOPREPRAATION 2 credits
Combined lecture and laboratory of different cytological techniques, staining procedures, mounting and cover slipping of specimens. Also included are pertinent laboratory measurements, record keeping and safety measures for cytopreparation laboratory.

411 GYNECOLOGIC CYTOPATHOLOGY 5 credits
Anatomy, histology and cellular morphology of female reproductive system. Study of disease, processes, and carcinomatous and benign lesions. Stressed are malignant lesions of cervix and endometrium, as well as malignant neoplasms and their cytologic characteristics. Study of extraneous and metastatic tumors is included.

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 and malignant conditions in the urinary tract by microscopic studies of urine sediment.

413 RESPIRATORY CYTOPATHOLOGY 3 credits
Study of disease processes as related to cytology of respiratory tract. Covers general anatomy, normal histology and cytology, inflammation and mycotic diseases, benign proliferative disorders and malignant neoplasms with emphasis on their associated histology.

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 stressed. Emphasis is placed on cellular morphology of primary and metastatic tumors in different body cavities.

415 CYTOPATHOLOGY OF THE ALIMENTARY TRACT 3 credits
Anatomy, histology, and pertinent physiology of the oral cavity, esophagus, stomach, small and large intestines, colon, and anal canal. The biology and behavior, clinical presentation, and cellular morphology of various benign epithelial lesions and malignant tumors emphasized.

416 BREAST CTERCETION AND NEEDLE ASPIRATION BIOPSY 2 credits
The study of anatomy, histology and biopsy subject to needle aspiration biopsy with emphasis on cellular morphology of both benign and malignant tumors.

417 CYTOGENETICS 1 credit
Basic genetic principles are taught in a foundation for study of chromosomal aberrations and their pathological manifestations. Techniques include techniques of sex chromatin determination, culturing and harvesting of blood cells, preparation of metaphase plate and preparation of karyotypes.
CHEMISTRY

3150:

121.2 INORGANIC CHEMISTRY I, II
3 credits each

Sequential. Preparation for a student in medical technology. Fundamentals and theories of chemistry, the materials of the periodic table, and their components. Laboratory.

124 CHEMISTRY
3 credits

Fundamentals of organic, inorganic and physiological chemistry. Discussion.

129, 130 INTRODUCTION TO GENERAL, ORGANIC AND BIOCHEMISTRY I, II
4 credits each

Sequential. Introduction to principles of chemistry and fundamentals of inorganic and biochemistry. Structure and chemistry of macromolecules, lipids, proteins, bioavailability of vitamins, metabolism, body fluids and radiation effects.

132 PRINCIPLES OF CHEMISTRY I
4 credits

Introduction to basic facts and principles of chemistry including atomic and molecular structure, states of matter and thermodynamics. For chemistry major, premedical student and most other science majors. Laboratory.

133 PRINCIPLES OF CHEMISTRY II
3 credits

Preerequisite: 122. Continuation of 132, including aqueous solution theory, chemical kinetics, equilibrium, electrochemistry and nuclear chemistry. For chemistry major, premedical student and most other science majors.

134 QUALITATIVE ANALYSIS
2 credits

Corequisite: 133. Laboratory course applying principles of chemical equilibrium to inorganic qualitative analysis.

201.3 ORGANIC CHEMISTRY AND BIOCHEMISTRY I, II
4 credits each

Sequential. Prerequisite: 122. Designed especially for student in medical technology. Principles of organic chemistry with emphasis on organic chemical laboratories. Laboratory.

263 NUTRITIONAL BIOCHEMISTRY
3 credits

Prerequisite: 122 or 133. Catabolic processes for energy production and nutritional requirements in liver, heart and skeletal muscle and adipose tissue. Biochemistry of diabetes, heart disease, obesity and some hereditary and congenital conditions. May not be used to meet undergraduate major requirements in chemistry.

264A ORGANIC CHEMISTRY LECTURE I, II
3 credits each

Sequential. Prerequisite: 134 or permission. Structure and reactions of organic compounds, mechanism of reactions.

265A ORGANIC CHEMISTRY LABORATORY I, II
2 credits each

Sequential. Corequisites: 264A, 264B. Laboratory techniques employed in organic chemistry and illustrate principles.

303.4 ELEMENTARY PHYSICAL CHEMISTRY I, II
3 credits each

Sequential. Prerequisites: 264, 266 or 292, 292, 3450.222 or permission of instructor. Chemical thermodynamics and kinetics (1) and molecular structure and spectroscopy (II). Not accepted for credit toward B.S. degree in chemistry or chemical engineering.

313.4 PHYSICAL CHEMISTRY I
3 credits

Sequential. Prerequisites: 264, 3450.236, 3650.212 or permission of instructor. Gas, thermodynamic, thermodynamics, transition states, solvation, chemical equilibrium, phase rule, chemical equilibria, electrochemical equilibria, atomic and molecular structure.

315A PHYSICAL CHEMISTRY LABORATORY I, II
2 credits each

Sequential. Corequisites: 313.4 or 122. Laboratory techniques employed in physical chemical investigations.

335A ANALYTICAL CHEMISTRY FOR LABORATORY TECHNICIANS I, II
4 credits each

Subsequent. Prerequisites: 133.4 or 122. Intended primarily for preparing to become a laboratory or hospital technician. Theory and calculation of qualitative and quantitative analysis, laboratory methods, used in hospital laboratories.

401/501 BIOCHEMISTRY LECTURE
3 credits

Prerequisite: 264. Biochemistry of amino acids and proteins. Enzymes, role as biocatalysts, structure, biochemistry of nucleic acids, carbohydrates, lipids, energy storage, respiration, metabolism.

402/502 BIOCHEMISTRY LABORATORY
3 credits

Prerequisite: 401/501. Carbohydrate, lipid and amino acid metabolism, protein, nucleic acid and nucleic acid biosynthesis and gene function.

404/504 BIOCHEMISTRY LABORATORY I
1 credit


405/505 BIOCHEMISTRY LABORATORY II
1 credit

Prerequisite: 404/504. Corequisites: 404/504. Biological synthesis and degradation, role of enzymes, their characteristics and use of energy released during oxidation of biologically important compounds.

406/506 THE PROFESSIONAL CHEMIST IN INDUSTRY
2 credits

Prerequisite: senior year or degree in chemistry or chemical engineering. Business, legal, societal, economic and other nonchemical aspects of a chemist's profession.

411/511 PHYSICAL CHEMISTRY FOR BIOLOGY MAJORS
3 credits

Prerequisites: 264 and 3450.148 and permission. Glases, thermodynamics, electrochemistry, chemical kinetics, macrobioulevets and colloids. Special liquids in biochemistry, biophysics and molecular biology.

415/515 CHEMICAL INSTRUMENTATION
3 credits

Prerequisite: 411/511. Principles and applications of electrical and electronic devices and various transducers for chemical analysis. Laboratory.

416/516 INSTRUMENTAL METHODS OF ANALYSIS
3 credits

Prerequisite: 415/515. Principles and applications of analytical chemical techniques based on physical measurements. Laboratory.

421/521 QUALITATIVE ORGANIC ANALYSIS
1 credit

Prerequisite: 266. Identification and characterization of organic substances, separation and identification of components of organic mixtures. Laboratory.

423 QUANTITATIVE ANALYSIS
3 credits

Prerequisite: 134. Theoretical principles of quantitative analysis. Techniques and calculations. Quantitative analysis. Laboratory.

425 QUANTITATIVE ANALYSIS LABORATORY
2 credits

Corequisite: 423. Laboratory techniques employed in gravimetric, volumetric and instrumental analysis.

427 ANALYTICAL CHEMISTRY LECTURE
3 credits

Prerequisite: 304 or 314, 316 or permission. Instrumental analysis with emphasis on newer analytical tools and methods.

428 ANALYTICAL CHEMISTRY LABORATORY
2 credits

Corequisite: 427. Laboratory techniques employed in gravimetric, volumetric, instrumental analysis. Emphasizes instrumental analysis.

463/563 ADVANCED ORGANIC CHEMISTRY
3 credits

Prerequisite: 264, 304 or 314 or permission. Introduction to study of mechanisms of organic reactions.

472/572 ADVANCED INORGANIC CHEMISTRY
3 credits

Prerequisite: 304 or 314. Concepts of atomic structure integrated in systematic classification of elements. Periodic table. Chemistry of the representative elements. Transition elements including coordination compounds, organometallics and metal carbonyls.

480/590 WORKSHOP IN CHEMISTRY
1-3 credits

May be repeated for a total of eight credits. Prerequisite: junior or senior standing in Honor Program and permission of department honors preceptor. Independent research leading to completion of honors thesis under guidance of honors project advisor.

488 SPECIAL TOPICS: CHEMISTRY
1-3 credits

2 credits

(2 credits each)

499 RESEARCH PROBLEMS
2 credits

(2 credits each)

Graduate Courses

601.2 CHEMISTRY OF POLYMERS I, II
2 credits each

Sequential. Prerequisites: 264 and 266 or permission. History, classification and nomenclature, natural polymers, types and methods of polymerization; structure of natural and synthetic polypeptides, nuclear acids.

504.3 CHEMISTRY OF POLYMERS LABORATORY I, II
2 credits each

Sequential. Prerequisites: 264. Preparation, identification of polymers to illustrate polymerization methods in 601, 602, 649.

516 BASIC QUANTUM CHEMISTRY
2 credits

Prerequisite: 314. Quantum mechanics with applications to molecular systems. Includes angular momentum, molecular Hamiltonians, variation and perturbation methods and molecular orbit-theories.

611 CHEMICAL BONDING AND SPECTROSCOPY
2 credits

Prerequisite: 610. Application of quantum chemistry to elucidation of chemical bonding, structure and interpretation of molecular spectra.
613 SYNTHETIC METHODS OF ORGANIC CHEMISTRY 2 credits
Prerequisite: 264. Discussion of synthetic organic chemistry. Standard synthesis of organic compounds as well as newer techniques.

621 ADVANCED PREPARATIONS 2 credits
Prerequisite: permission. Methods for preparing and purifying organic and inorganic compounds. Laboratory.

629,30 THEORETICAL, INORGANIC CHEMISTRY I, II 2 credits each
Sequential. Prerequisites: 314, 412 or permission. Detailed treatment of chemistry of transition elements. Group theoretical applications, ligand field theory, kinetics and mechanisms.

635 THERMODYNAMICS, STATISTICAL THERMODYNAMICS AND KINETICS I 2 credits

636 THERMODYNAMICS, STATISTICAL THERMODYNAMICS AND KINETICS II 2 credits
Prerequisite: 635. Applications of statistical thermodynamics to chemical systems in equilibrium. Theories of rate processes. Fundamentals of chemical kinetics: methods of investigation and interpretation of data.

640 CHEMISTRY OF ELASTOMERS 2 credits
Prerequisites: 264, 266 or permission. Study of molecular structure and chemical reaction and properties of natural and synthetic rubbers; polymerization processes in formation of synthetic elastomers.

661 ENZYMATIC REACTIONS I 2 credits
Prerequisite: 401, 2 or instructor's permission. General aspects of enzyme catalysis: reactions, enzyme structure: methods of determining reaction mechanisms, kinetics and stoichiometry: transfer reactions of phosphorous. (May be repeated)

662 ENZYMATIC REACTIONS II 2 credits
Prerequisites: 401, 2 or permission of instructor. Specific bio-organic reactions continued: elimination, oxidation/reduction, rearrangement, etc.

666 BIOENERGETICS 2 credits
Prerequisites: 313, 314, 402 or permission. Energy production, utilization, and transport in living systems. Historical aspects. Thermodynamics, glycolysis, photosynthesis, cyclic acid cycle, respiratory chain, electron transport, metabolic control, active transport, and muscle contraction.

667 ADVANCED BIOCHEMISTRY TECHNIQUES 2 credits

671 THERMOCALORICAL TECHNIQUES 2 credits
Prerequisite: permission. Matrices of differential thermal analysis, thermopyrometry, and related techniques and methods of programming, recording, data treatment and effects of atmosphere and sample surfaces described with applications.

672 ADVANCED ANALYTICAL CHEMISTRY 2 credits
(One lecture: one laboratory period)
Prerequisite: 408 or equivalent. Advanced techniques for separation, determination and identification. Classical as well as recent techniques.

673 STEROCHMISTRY OF ORGANIC COMPOUNDS 2 credits
Prerequisite: 264. Stereochemistry and its application to reactions of organic chemistry.

674, 675 PHYSICAL CHEMISTRY OF POLYMERS I, II 2 credits each

685B EXPERIMENTAL PHYSICAL CHEMISTRY OF POLYMERS I, II 2-3 credits for 685B
Sequential. Prerequisite or corequisite: 674, 575, respectively. Laboratory to illustrate methods and principles discussed in 674 and 675.

692 ADVANCED INSTRUMENTATION 2 credits
Prerequisites: 316, 428. Theory and application of instrumental measurements. Interpretation of data.

699 MASTER'S RESEARCH CHEMISTRY 1-6 credits
For properly qualified candidates for master's degree. Supervised original research in analytical, inorganic, organic, physical or biochemistry.

710 SPECIAL TOPICS: ANALYTICAL CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Topics in advanced analytical chemistry. Electroanalysis, derivatization analysis, atomic absorption spectrometry, mass spectrometry, liquid-liquid and gas chromatography, ion exchange, thermodynamic methods. Separations, standards, sampling, remote developments.

711 SPECIAL TOPICS: INORGANIC CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Consideration of topics in modern inorganic chemistry such as coordination compounds, chemistry of the third row, representatives elements, nitrated oxides, organometallic compounds, homogeneous catalysis.

712 SPECIAL TOPICS: ORGANIC CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Topics in advanced organic chemistry such as natural products, heterocyclic compounds, photochemistry.

713 SPECIAL TOPICS: PHYSICAL CHEMISTRY 1-2 credits
(May be repeated)
Prerequisite: permission. Subjects from modern physical chemistry.

714 SPECIAL TOPICS: POLYMER 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.

715 SPECIAL TOPICS: BIOCHEMISTRY 1-2 credits
Prerequisite: permission. Consideration of topics in biochemistry such as isoenzymes and disease, genetic engineering, membrane structure and functions and recent developments in field.

753 PHYSICAL ORGANIC CHEMISTRY I, II 3 credits each
Sequential. Corequisites: 670 or permission. Consideration of physical-chemical problems that determine course of organic chemical reaction: discussion of reactive intermediates.

784 THEORETICAL ORGANIC CHEMISTRY 2 credits
Prerequisite: 784. Application of modern quantum chemistry and thermodynamics to problems of organic chemistry.

899 DOCTORAL RESEARCH CHEMISTRY 1-16 credits
Open to qualified student accepted as a candidate for degree of Doctor of Philosophy in chemistry. Supervision original research undertaken in organic, inorganic, physical, analytical or biochemistry.

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CLASSICS

3200:

189 MYTHOLOGY OF ANCIENT GREECE 3 credits
Theology, legend and Homeric origin of ancient Greek literature with detailed study of major myths. (May be repeated)

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. (May be repeated)

312 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.

313 ARCHAEOLOGY OF ROME 3 credits
The ruins and monuments of Rome—history reconstructed by examination of the material remains. No foreign language necessary. Required of majors.

361 THE LITERATURE OF GREECE 3 credits
Major writers of Ancient Greece and their influence on later European literature. No foreign language necessary. Required of majors.

362 THE LITERATURE OF ROME 3 credits
Major writers of Ancient Rome and their influence on later European literature. No foreign language necessary. Required of majors.

401/8201 EGYPTOLOGY 3 credits each
(May be repeated with change of subject)
Prerequisite: permission of instructor. Classical Egyptian literature and Egyptian civilization of ancient Egypt as far as Roman occupation.

404/504 ASYRIOLOGY 3 credits each
(May be repeated for credit with another cuneiform language)
Prerequisite: permission of instructor. The Akkadian language, history and antiquities of Mesopotamia.

407/8207 ANCIENT NEAR EASTERN ARCHAEOLOGY 3 credits each
(May be repeated for credit with change of subject)
Prerequisite: permission of instructor. The Phoenicians, the Egyptians, the Hittites, and the Achaemenid Persians. The Greek and Roman empires. Biblical archaeology.

450/550 SELECTED TOPICS IN ANCIENT CULTURES 3 credits each
(May be repeated with change of subject)
Selected topics in ancient cultures and civilizations.

467/8207 READING AND RESEARCH IN THE ANCIENT NEAR EAST 1-3 credits
(May be repeated for credit with change of subject)
Supervised research in literature and archaeology of the Ancient Near East.

498 HONORS PROJECT IN CLASSICS 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program and permission. Independent study leading to completion of a senior honors thesis under the supervision of a member of the Department of Classics.
Courses of Instruction 187

GREEK

3210:

121,2 ELEMENTARY GREEK
Sequential, standard language of Hellenistic times with some attention to modern Greek. 4 credits each

223,4 INTERMEDIATE GREEK
Prerequisites 121,2. A survey of readings of the less difficult authors such as Homer, classical dialogues of Plato, Herodotus, Xenophon. New Testament of the like. 3 credits each

303,4 ADVANCED GREEK
(May be repeated with a change of subject) (May be repeated for credit with a change of subject) Prerequisite 223,4. Tragedy, comedy, philosophy, history, lyric poetry, prose composition or epic poetry. 3 credits each

497,597,8 GREEK READING AND RESEARCH
(May be repeated for credit with a change of subject) Prerequisite: Permission of instructor. Homer, Sophocles, Plato or the like. 3 credits each

LATIN

3220:

121,2 ELEMENTARY LATIN
Sequential. Some attention to development of Romance languages, especially Italian. 4 credits each

223,4 INTERMEDIATE LATIN
Prerequisites 121,2. A survey of readings of the less difficult authors such as Pliny, Caesar, Plautus, Cato's Letters or equivalent material. 3 credits each

303,4 ADVANCED LATIN
(May be repeated for credit with a change of subject) Prerequisites 223,4 or equivalent. Sallust, orators, philosophical religious writers, lyric and elegiac poets, medieval writers. 3 credits each

497,597,8 LATIN READING AND RESEARCH
(May be repeated for credit with a change of subject) Prerequisite: Permission of instructor. Generally Latin epigraphy, prose composition of philosophy, numismatics or certain other archaeological topics may be offered. 3 credits each

ECONOMICS

3250:

100 INTRODUCTION TO ECONOMICS
May not be substituted for 201,2. 3 credits

201 PRINCIPLES OF MACROECONOMICS
Study of the economic factors which affect the price level, national income, employment, economic growth. No credit if 244 already taken. 3 credits

202 PRINCIPLES OF MICROECONOMICS
Analysis of decision-making on the part of the firm and household and the market processes affecting price, output and resource allocation. No credit if 244 already taken. 3 credits

244 INTRODUCTION TO ECONOMIC ANALYSIS
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. 3 credits

245 CONSUMER ECONOMICS
Spending habits of American consumers, influences affecting their spending decisions, personal finance, budget planning, saving programs, installment buying, insurance, investment, housing finance. 3 credits

300 LABOR PROBLEMS
Prerequisites: 201,2. Labor economics. Principles and public policy. Study of structure of labor market and labor-union relationships. 3 credits

330 LABOR ECONOMICS
Prerequisite: 202. Historical and theoretical concepts 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. 3 credits

360 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY
Prerequisites: 201,2. Role of industrial structure and firm conduct in performance of country and way in which antitrust policy is designed to provide remedies where performance is unsatisfactory. 3 credits

380 MONEY AND BANKING
Prerequisites: 202. Institutions of money, banking and credit, monetary expansion and contraction, public policies affecting the process, development of our money and banking systems. 3 credits

385 ECONOMICS OF NATURAL RESOURCES AND THE ENVIRONMENT
Prerequisites: 100, 202, 244 or permission. Introduction to economic analysis of use and conservation of natural resources and environmental economics. Problems of water and air pollution, natural resources, natural resource scarcity, conservation, economic growth. 3 credits

389 ECONOMICS OF ENERGY
Prerequisites: 201,2 or permission of the instructor. Framed of economic theory is applied to analysis of the energy sector. Theoretical issues relating energy with inflation, economic growth, and public policy will also be examined. 3 credits

400 MACROECONOMICS
Prerequisites: 201,2. Changes in national income, production, employment, price levels, long-term economic growth, short-term fluctuations of economic activity. 3 credits

405 PUBLIC FINANCE
Prerequisites: 201,2. Tax systems and other sources of revenue of federal, state and local governments; changes in pattern of public expenditures; fiscal policy and debt management; economic effects of public policy. 3 credits

406/506 STATE AND LOCAL PUBLIC FINANCE
Prerequisite: 410. Recommended 405. Examines economic rationale and problems for provision of goods and services by different governmental units. Consider alternative revenue sources and special topics. 3 credits

410 MICROECONOMICS
Prerequisites: 201,2. Advanced analysis of consumer demand, production costs, market structures, determinants of factor income. 3 credits

420 MATHEMATICAL ECONOMICS I
Prerequisites: 201,2. Mathematics modules or permission. Mathematical treatment of economic theory in framework of comparative statics. Emphasis on the theory of the firm, theory of consumer behavior, general equilibrium analysis and welfare analysis. 3 credits

421 MATHEMATICAL ECONOMICS II
Prerequisite: 420/520 or permission. Use of calculus and linear algebra to dynamic economic analysis; solution techniques; some important dynamic models from literature. 3 credits

426 ECONOMETRIC METHODS AND APPLICATIONS
Prerequisites: 450/550, 212 or the equivalent permission of the instructor. The study and use of regression and analysis of variance in analyzing economic data. Students will learn to specify and test economic hypotheses and make economic projections. Use of the computer will be extensive. 3 credits

430/530 HUMAN RESOURCE POLICY
Prerequisite: 310. Comprehensive overview of elements of human resource policy, issues in human resource development, allocation, maintenance and utilization. 3 credits

431513 LABOR AND THE GOVERNMENT
Prerequisites: 201,2, 330. Development of public policy for collective industrial relations from judicial controls of Nineteenth Century to social and administrative controls of World War II and postwar periods. 3 credits

432 THE ECONOMICS AND PRACTICE OF COLLECTIVE BARGAINING
Prerequisites: 201,2, 330. Principles and organization of collective bargaining, collective bargaining agreements, issues presented in labor disputes and settlements, union structues and security, wage scales, technological changes, production standards, etc. 3 credits

435/535 THE DEVELOPMENT OF AMERICAN CORPORATE STRUCTURE
Tracer evolution of American corporate structure from the late Nineteenth Century to present. Explores and analyses changing dimensions of corporate structure and response of government. Case studies analyzed. 3 credits

440/540 SPECIAL TOPICS, ECONOMICS
Prerequisite: permission. Opportunity to study special topics and current issues in economics. 3 credits

450 COMPARATIVE ECONOMIC SYSTEMS
Prerequisites: 201,2. Systems of economic organization, ranging from preindustrial extreme of unregulated private enterprise to that of planned communism. 3 credits

460/560 ECONOMIC DEVELOPMENT AND PLANNING FOR UNDERDEVELOPED COUNTRIES
Prerequisites: 201,2. Basic problems in economic development. Theory of development. Government planning for development. Trade and development of underdeveloped countries. No credit for graduate majors in economics. 3 credits

461 PRINCIPLES OF INTERNATIONAL ECONOMICS
Prerequisites: 201,2. International trade and foreign exchange, policies of free and controlled trade, international monetary problems. 3 credits

475/575 DEVELOPMENT OF ECONOMIC THINKING
Prerequisites: 201,2. Evolution of theory and method, recent ideas of economists to contemporary conditions. 3 credits

481/581 MONETARY AND BANKING POLICY
Prerequisites: 381, 400. Control over currency and credit; policies of control by central banks and governments. United States Treasury and Federal Reserve System. 3 credits

487 URBAN ECONOMICS: THEORY AND POLICY
Prerequisites: 410. Theoretical and empirical analysis of allocation, growth and structure of urban economy. Urban problems. Special attention given to resource allocation in urban public sector. 3 credits

490 INDEPENDENT STUDY IN ECONOMICS
(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. 3 credits
Graduate Courses

606 FOUNDATIONS OF ECONOMIC ANALYSIS
Prerequisite: graduate standing. Determination of national income, employment, and price level; aggregate consumption, investment and asset holding; decision problems faced by households and firms; Partial equilibrium analysis of competition and monopoly and general equilibrium analysis. May not be substituted for 402, 403, 611, or allowed toward the 30 graduate credits required for M.A. in economics. 3 credits

602 MACROECONOMIC ANALYSIS I
Construction of static macroeconomic models. Analysis preoccupation in terms of comparative statics with only relatively brief mention of dynamic models. 3 credits

603 MACROECONOMIC ANALYSIS II
Prerequisite: 602. Macroeconomic economics and stability analysis at closed and open Keynesian systems. Includes coverage of post-Keynesian theories of economic growth. 3 credits

606 PUBLIC FINANCE
Examination of public sector economics emphasizes public revenues, public expenditures. Development of objectives in taxation, welfare aspects of the public sector, theory of public goods. Considers specific taxes, cost-benefit analysis, expenditure analysis, fiscal federalism. 3 credits

610 FRAMEWORK OF ECONOMICS ANALYSIS
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. 3 credits

611 MICROECONOMIC THEORY I
Prerequisite: 611. Continuation of 611. Covers multi-market equilibrium, general equilibrium and welfare economic theory, and applications in public choice and applied welfare theory. 3 credits

612 MICROECONOMIC THEORY II
Modern theory of consumer behavior and of the firm. Determination of market prices, Optimization models, establishment of criteria for productive, allocative and distributive efficiency. 3 credits

615 INDUSTRIAL ORGANIZATION
Examines link between market structure in product and economic performance. Measurements and effects of monopoly power, industrial concentration and changes. 3 credits

616 ANTITRUST ECONOMICS
Prerequisite: 615 or permission of instructor. Economic rationale behind legislative and judicial decisions affecting mergers, vertical-horizontal restraints, monopolization, collusion, price discrimination. 3 credits

617 THE ECONOMICS OF REGULATION
Prerequisite: 615 or permission of instructor. Examines rationale, methods and success of government regulation of public utility, transportation and communications industries. 3 credits

620 APPLICATIONS OF MATHEMATICAL MODELS TO ECONOMICS
Prerequisite: courses in calculus, intermediate microeconomics, or permission of the instructor. Review of selected topics of differential and integral calculus and their application to economic analysis. Theory of optimization in production and consumption; static macroeconomic models. Analysis of growth and stability. 3 credits

621 APPLICATION OF LINEAR MODELS IN ECONOMIC ANALYSIS
Prerequisite: courses in intermediate microeconomics. Review of selected topics of linear algebra, application to economic theory. Static open and closed input-output tables, dynamic models. Consumption technology and theory of demand, linear programming, general equilibrium analysis. 3 credits

626 STATISTICS FOR ECONOMETRICIANS
Prerequisites: courses in elementary differential and integral calculus, 6500:321.2 or equivalent. A review of statistical theory and its application to research in economics. Emphasis is on estimation and hypothesis testing as a prelude to econometrics. 3 credits

627 ECONOMETRICS
Formulation of functional relations among economic variables suitable for statistical estimation from observational data and construction of multivariate econometric models and methods of estimation. 3 credits

628 SEMINAR IN RESEARCH METHODS
Prerequisite: permission of instructor. A seminar in the research methods of applied mathematical economics or econometrics. Emphasis is on individual development of a theoretical proposition or research statement, its empirical examination and policy implications. 3 credits

633 THEORY OF WAGES AND EMPLOYMENT
Prerequisite: 520 or equivalent. Discussion of wage and employment theories, effects of unions, collective bargaining theories, and effects of government regulation. 3 credits

634 COLLECTIVE BARGAINING
Economic issues and implications involve hours of work, employment and unemployment, and the impact of trade unions upon basic institutions of a free private enterprise economy. 3 credits

ENGLISH

3300:

275 INTRODUCTION TO LINGUISTICS
3 credits

279 SPECIALIZED WRITING
3 credits

279A READING IN ADVANCED ECONOMICS
1-4 credits

279B READING IN FICTION WRITING
3 credits

279E INTRODUCTION TO FICTION WRITING
3 credits

279G INTRODUCTION TO SCRIPT WRITING
3 credits

280 POETRY APPRECIATION
3 credits

281 FICTION APPRECIATION
3 credits

521 HISTORY OF LITERATURE
3 credits


282 DRAMA APPRECIATION 3 credits
(May be repeated for credit as a film appreciation course) Close reading and analysis of a variety of plays.

283 FILM APPRECIATION 3 credits
Introduction to dramatic criticism made by filmmakers in scripting, directing, editing and photographing narrative films, and qualities of radical films review.

301 ENGLISH LITERATURE I 4 credits
Studies in English literature from Old English to 1800, with emphasis upon specific representative works and upon the cultural and intellectual background which produced them. Literature to be read will include both major and minor poetry, prose and drama.

302 ENGLISH LITERATURE II 4 credits
Studies in English literature 1800 to present. Emphasis will be given to cultural and intellectual backgrounds and to the developments of various genres and authors.

315 SHAKESPEARE: THE EARLY PLAYS 3 credits
Introduction to early dramas of Shakespeare with close-reading of tragedies; histories and comedies; includes explanatory lectures of both the plays and their backgrounds.

316 SHAKESPEARE: THE MATURE PLAYS 3 credits
Study of Shakespeare's plays after 1598, beginning with mature comedies. Concentration on major tragedies and romances.

341 AMERICAN LITERATURE I 3 credits
Historical survey of major and minor American writers to 1865.

352 AMERICAN LITERATURE II 3 credits
Readings in major, minor American writers from 1865 to present.

356 BLACK AMERICAN LITERATURE 3 credits
Survey of representative black American writers from Nineteenth Century to present, with particular attention to historical and social backgrounds.

358 FICTION OF THE SOUTH 3 credits
A study of novels and short stories by major Southern authors such as Faulkner, O'Connor, andarton.

360 THE OLD TESTAMENT AS LITERATURE 3 credits
Study of Hebrews to 586 B.C. as revealed through epic, fiction, saga and poetry, viewed against background of the Oriental world.

361 THE NEW TESTAMENT AND APOCRYPHA AS LITERATURE 3 credits
These two bodies of literature rest on an emphasis on form of gospel and epistle and concept of apocalypse. Both are viewed against their historical and social backgrounds.

378 EUROPEAN BACKGROUNDS OF ENGLISH LITERATURE 3 credits
Representative Continental texts from Homer to Beowulf, selected both for their excellence and for their importance in English and American literature.

379 INTERMEDIATE LINGUISTICS 3 credits
Prerequisite 270 or permission. In-depth scientific look at language structure, especially the relation of sentences and their meanings. The variety of the English language's methods for constructing complex sentences from six prime ideas is investigated.

379 LEGAL WRITING 3 credits
Interactive practice in writing for law students through assignments based on actual legal materials and real cases. Particular attention to stating legal issues, writing persuasively, applying rules of law, and other topics that will help those preparing for law school and the profession.

379 ADVANCED POETRY WRITING 3 credits
Prerequisite 217 or permission. Advanced practice in writing poetry, emphasis on shaping publishable works. Survey of market. Class discussion of student poems; individual conference with instructor.

379 ADVANCED FICTION WRITING 3 credits
Prerequisite 278 or permission. Advanced practice in writing short stories, emphasis on shaping publishable works. Survey of market. Class discussion of student stories; individual conference with instructor.

380 FILM CRITICISM 3 credits
Application of literary critical theory to the study of film.

385 WOMEN IN MODERN NOVELS 3 credits
Students will read various major novels to increase their awareness of how these texts reflect feminism, but more often challenge traditional attitudes towards women, their places and circumstances.

389 SPECIAL TOPICS: LITERATURE AND LANGUAGE 3 credits
(May be repeated for credit as different topics are offered) Prerequisite: 1100. Traditional and nontraditional topics in English literature and language. Supplemented course listed in University Bulletin, generally constructed around theme, genre and language study.

390 PROFESSIONAL WRITING I 3 credits
Designed to help prepare student for a career as a professional technical writer. Covers principles and practices concerning existing company technical communications, such as specifications, annual reports, promotional brochure for technical products, services, scientific abstracts, proposals. Also treats problems of adapting materials to format, graphic display of technical information, appreciation of technical material to nontechnical reader.

391 THE GOTHIC IMAGINATION 3 credits
Closed to onlookers. But级 European authors in the Gothic tradition, the eighteenth century to the present. Emphasis will be paid to the literary and social consequences of Gothic fiction, to the "popular" nature of the literature, and to its major themes.

400/500 ANGLO SAXON 3 credits
Studies in Old English language and Old English prose and poetry, including Beowulf.

403/503 DEVELOPMENT OF THE ARTHURIAN LEGEND 3 credits
Traces evolution of Arthurian materials from 540 to 1500 and beyond, with emphasis on character, themes, events, and relationships.

406/501 CHAUCER 3 credits
Close study of Chaucer's major works — The Canterbury Tales and Troilus and Criseyde In Middle English.

407/507 MIDDLE ENGLISH LITERATURE 3 credits
Study of genres, topics, styles and writers of Middle English literary works from Twelfth to Fifteenth Century. Readings in Middle English.

412/512 SPENSER 3 credits
Close reading of major narrative and lyric poems and selections from the minor works. All studied in the context of Elizabethan aesthetic theory, writing and politics.

416/516 METAPHYSICAL POETS 3 credits
Selected, seventeenth-century English poets. Emphasis on John Donne. The course examines the particular styles and themes of these poets who wrote in the metaphysical mode. Particular emphasis is placed on Herbert, Crashaw, Vaughan, Traherne, Marvell, Cowley, Cleveland, Southwell and King.

418/518 MILTON 3 credits
Emphasis on Milton's major poems and prose works. Paradise Lost, Paradise Regained, Areopagitica, the divorce tracts, and poems of the 1645 edition. Student becomes acquainted with Milton the man and Milton the artist.

421/521 SWIFT AND POPE 3 credits
An intensive study of the major works of Swift and Pope. Concentration on the political strategies of each writer within the context of the shifting intellectual and cultural milieu at the end of the seventeenth and beginning of the eighteenth centuries.

424/524 EARLY ENGLISH FICTION 3 credits

425/525 STUDIES IN ROMANTICISM 3 credits
Literary, philosophical, psychological and sociological revolutions of romantic period as reflection of works of such major writers as Wordsworth, Byron and Keats.

430/530 VICTORIAN POETRY AND PROSE 3 credits
Poetry of latter Nineteenth Century, excluding fiction, with attention to Tennyson, Browning, Arnold, Carlyle, Ruskin and other major writers.

431/531 VICTORIAN FICTION 3 credits
Reading of at least five major novels or Victorian era, of varying lengths by Emily Bronte, Dickens, Eliot, Thackeray and Hardy. Attention to their life and work.

434/534 CHARLES DICKENS 3 credits
Growth of Dickens as a novelist, with attention to his social and political background of the novel's changes and their structure and treatment of character.

435/535 TWENTIETH CENTURY BRITISH POETRY 3 credits
Concentrated study of major poems of Yeats, Eliot, Auden, with attention also to Hardy, Housman, Spender, C. Day Lewis, Sylvia Thomas and others.

436/536 BRITISH FICTION: 1900-1925 3 credits
Study of Conrad, Joyce, D. H. Lawrence and Virginia Woolf, with attention to their innovations in narrative and style, their psychological realism and symbolism. Brief consideration of other major fiction writers of the period, including Wells, Bennett and Mansfield.

437/537 BRITISH FICTION SINCE 1925 3 credits
Study of important British novels since 1925, excluding Lawrence, Joyce and Woolf. Attention to development of British short story from 1950 to present.

439/539 MODERN BRITISH AND IRISH DRAMA 3 credits
Study of major British dramatists, principally those of post-World War II. Focus figures are Shaw, Galsworthy, O'Casey, Osborne, Alan and Finney.

443/543 MÉLVILLE 2 credits
A study of Herman Melville's life and works. Primary emphasis will be on Melville's major novel (e.g., Moby Dick, The Confidence-Man, Billy Budd), but some attention will also be given to his poetry and travel sketches.

446/546 AMERICAN AUTOBIOGRAPHY 3 credits
Close study of the nature of autobiographical writing, with particular attention to the biography of the "autobiographical self." Includes such authors as Henry Adams, Sherwood Anderson, Mark Twain, Gertrude Stein, Langston Hughes, William Carlos Williams, Loren Eiseley, and Maya Angelou.

448/548 AMERICAN ROMANTIC FICTION 3 credits
Examination of early American fiction, tracing its genries, romantic period and symmetrical movements toward realism. Writers discussed include Cooper, Poe, Hawthorne and Melville.
467/567 THE AMERICAN SHORT STORY
3 credits
A study of the development of the short story as a particularly American genre, from Washington Irving to the present.

465/555 Faulkner
3 credits
An in-depth study of William Faulkner's major novels and short stories, primarily those set in the imaginary Yoknapatawpha region.

465/555 MIDDLESEX
3 credits
Representative European writers from about 1800 to present, focusing on the origins of modern poetry, with special attention to the debate between formalism and romanticism.

465/555 American poetry to 1900
3 credits
Study of American poetry beginning with Edgar Allan Poe and ending with contemporary poets.

467/567 American poetry
3 credits
Survey of Twentieth-Century American poetry, with special attention to the varied poetic identities and their relationships to the critic and an examination of both of the major critical approaches to 20th-century poetry.

462 seminar in dickinson
3 credits
A seminar in the poetry of Emily Dickinson, with special attention to her varied poetic identities and their relationship to the reader.

665 literary criticism
3 credits
In-depth study of the theory of literary criticism, with special attention to its application to the works of American women poets.

670 Modern linguistics
3 credits
Introduction to the study of language from a historical and social perspective, with special attention to the role of language in society.

683 seminar in satire
3 credits
A study of the genre of satire from the Middle Ages through the late 19th century, including its uses in English and American literature.

665 seminar in English
2-3 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.

691 bibliography and literary research
2 credits
Choosing research topics, typical problems in literary research, and bibliographic sources and methods of literary research.

698 individual reading in English
1-3 credits
Individual study under guidance of instructor and with approval of department.

699 thesis
1-6 credits
Original work in the field of literature and language and completion of graduate student's required thesis.

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 writing relevant to theory and practice of drama.

427 keats and his contemporaries
3 credits
Writings of John Keats, studied against the background of Romantic poetic theory and poetry of his contemporaries.

659 theory and practice of modern poetry
3 credits
Study of modern poetry, critical theories of modern poetry, and relation between writer's theory and practice, with particular attention to Plato, Stevens, Yeats, and Eliot.

544/554 Twentieth-Century American drama
3 credits
Examination of major established playwrights (including O'Neill, Miller, and Williams) and sampling of new and rising ones.

545/555 the American short story
3 credits
A study of the development of the short story as a particularly American genre, from Washington Irving to the present.

547/557 history of English language
3 credits
Development of English language from its beginnings to the present, sources of its vocabulary, its sounds, its rules, its social uses, and historical changes in the language.

547/557 U.S. dialects: black and white
3 credits
Study of differences in pronunciation, vocabulary, and grammar among U.S. language varieties, with attention to the history of grammar.

475/575 theory of rhetoric
2 credits
An introduction to the theory and practice of rhetoric, including the study of its history and development.

482 senior honors project in English
1-3 credits
May be repeated for a total of 9 credits.

482/Fantasy and science fiction
3 credits
Selected and supervised readings of fantasy and science fiction from the 1880s to the present.

480/580 Seminar in English
2-3 credits
May be repeated with different topics.

490/Wrkshop in English
1-3 credits
May be repeated with different topics.

498 independent study
1-3 credits
Prerequisite: permission of instructor. Directed study in a special field of interest chosen by the student in consultation with the instructor.

445/545 American fiction: realism and Naturalism
2 credits
Examination of American novels of realism and naturalistic fiction (e.g., Howells, James, Crane, Dreiser), tracing developments in American fiction against the background of cultural and historical change.

450/550 Modern American fiction
3 credits
Survey of significant American fiction from World War I to the present.

452/552 American Poetry
3 credits
Survey of American poetry of the Twentieth, Eighteenth, and Nineteenth Centuries.

453/553 American Women Poets
3 credits
Survey of American women poets from the 16th century to the present, with an emphasis on the diversity of their work and the social and cultural contexts in which they wrote.

454/554 Twentieth-Century American Drama
3 credits
Examination of major established playwrights (including O'Neill, Miller, and Williams) and sampling of new and rising ones.

455/555 the American short story
3 credits
A study of the development of the short story as a particularly American genre, from Washington Irving to the present.

457/557 Modern European fiction
3 credits
An in-depth study of the short story as a particularly American genre, from Washington Irving to the present.

459/559 eros and love in early western literature
3 credits
An analysis of the role of love in the literature of the early centuries, with special attention to the works of Homer and Virgil.

470/570 history of English language
3 credits
Development of English language from its beginnings to the present, sources of its vocabulary, its sounds, its rules, and its social uses.

471/571 U.S. dialects: black and white
3 credits
Study of differences in pronunciation, vocabulary, and grammar among U.S. language varieties, with attention to the history of grammar.

472/572 Seminar in teaching ESL: theory and method
3 credits
Theoretical issues in language acquisition and language teaching, with attention to the application of second-language acquisition to teaching English as a second language.

472/572 theory of rhetoric
2 credits
An introduction to the theory and practice of rhetoric, including the study of its history and development.

475/575 theory of rhetoric
2 credits
An introduction to the theory and practice of rhetoric, including the study of its history and development.

482 Senior honors project in English
1-3 credits
May be repeated for a total of 9 credits.

482/582 fantasy and science fiction
3 credits
Selected and supervised readings of fantasy and science fiction from the 1880s to the present.

480/580 Seminar in English
2-3 credits
May be repeated with different topics.

490/590 Workshop in English
1-3 credits
May be repeated with different topics.

498 Independent study
1-3 credits
Prerequisite: permission of instructor. Directed study in a special field of interest chosen by the student in consultation with the instructor.

Graduate Courses

600 Teaching College Composition Practicum
1 credit
Preparation, teaching, and evaluation of student's own teaching assistantship. Credit may be repeated for a maximum of 6 credits.

615 Shakespearean Drama
3 credits
Concentrated study of several Shakespearean plays with emphasis on the historical context and dramatic development. Credit may be repeated for a maximum of 6 credits.

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 writing relevant to theory and practice of drama.

627 Keats and His Contemporaries
3 credits
Writings of John Keats, studied against the background of Romantic poetic theory and poetry of his contemporaries.

639 theory and practice of modern poetry
3 credits
Study of modern poetry, critical theories of modern poetry, and relation between writer's theory and practice, with particular attention to Plato, Stevens, Yeats, and Eliot.

642 Seminar in Dickinson
3 credits
An in-depth study of Dickinson's poetry, with special attention to the varied poetic identities and her relationship to the critic and an examination of both of the major critical approaches to Dickinson's poetry.

643 Seminar in James
3 credits
A study of the novels of James, his life and works. Emphasis will be on James's fiction, both long and short, as well as his critical essays and his influence on other writers.

665 Literary Criticism
3 credits
In-depth study of the theory and practice of literary criticism as represented in major treatments of ancient and modern critics.

670 Modern Linguistics
3 credits
Introduction to the study of language from a historical and social perspective, with special attention to the role of language in society.

688 Scholarly Writing
2 credits
Study of the process of writing and the writing of scholarly articles. Focus on research and writing instruction, with special attention to the role of language in society.

693 Seminar in Satire
3 credits
A study of satire from the Middle Ages through the late 19th century, with particular attention to the techniques of satire, modes of comedy and parody, and the role of satire in literature.

695 Seminar in English
2-3 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.

699 Thesis
1-6 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.

616 Bibliography and Literary Research
2 credits
Choosing research topics, typical problems in literary research, and bibliographic sources and methods of literary research.

698 Individual Reading in English
1-3 credits
Individual study under guidance of instructor and with approval of department.

699 Thesis
1-6 credits
Original work in the field of literature and language and completion of graduate student's required thesis.

Geography

3350:

100 Introduction to Geography
3 credits
Analysis of world patterns of population, economic activities, settlements, landforms, climate, and vegetation.

310 Physical and Environmental Geography
3 credits
Landforms, weather and climate, soils, vegetation, and natural hazards. Nature and distribution of these environmental elements and their significance to man.

314 Climatology
3 credits
Process of climate. Introduction to climatic classification, with emphasis on regional distribution. Basic techniques in handling climatic data.

220 Economic Geography
3 credits
Geographical basis for population, exchange, consumption, and production of goods. Effect of economic patterns on man's culture and politics.
326 ENERGY AND ECOLOGY 3 credits
Prerequisite: 320 or permission. Traditional fossil fuels and recently developed alternative sources of energy studied along with electricity production. Production and consumption patterns, effects of conservation and environmental damage and energy policy considered.

330 RURAL AND URBAN SETTLEMENT 3 credits
Origin, function and rationalized settlements. Includes analysis of rural settlement landscape as well as fundamentals of urban geography.

335 RECREATION RESOURCE PLANNING 3 credits
Prerequisite: 330 or permission. Special physical and economic-environmental recreation area patterns. Case studies of important recreational activities and areas in which tourism contributes significantly to the area economy.

340 CARTOGRAPHY 3 credits
Use of graphic cartographic principles and techniques as a means of presenting information.

141 MAPS AND MAP READING 3 credits
Interpretation and use of various map materials. Study of basic map elements, symbols and methods of creating maps. Historical aspects associated with these developments into considered. Laboratory.

350 ANGLO AMERICA 3 credits
Prerequisite: 150 or permission. Regional and topical study of United States and Canada with emphasis on environmental, economic and cultural patterns and their interrelationships.

351 OHIO: ENVIRONMENT AND SOCIETY 3 credits
Regional and topical analysis of cultural, economic and environmental patterns; also in comparison with other states.

353 LATIN AMERICA 3 credits
Prerequisite: 130 or permission. Analysis of relationship of cultural and economic patterns to physical environments in Mexico, Central America, the Caribbean and South America.

356 EUROPE 3 credits
Prerequisite: 100 or permission. Regional and topical analysis of cultural, economic and environmental patterns excluding U.S.S.R.

358 U.S.S.R. 3 credits
Prerequisite: 100 or permission. Regional and topical analysis of cultural, economic and environmental patterns, with comparison to other major world regions.

360 ASIA 3 credits
Prerequisite: 100 or permission. Environmental, cultural and economic geography of East, Southeast, South Asia and Middle East with emphasis on the contemporary.

363 AFRICA SOUTH OF THE SAHARA 3 credits
Prerequisite: 100 or permission. Environmental and human bases of regional contrasts. Emphasis on tropical environmental systems and changing patterns of resource utilization.

365 PLANNING SEMINAR 1 credit
Prerequisite: permission of instructor. Development of planning studies including completion of paper covering a planning topic in depth. Projects are presented by student and critically analyzed.

197 SPECIAL PROBLEMS 1-3 credits
(Each may be repeated for a maximum of six credits) Prerequisite: permission of instructor. Directed reading and research in special topics of interest.

405/505 GEOGRAPHIC INFORMATION SYSTEMS 3 credits
Prerequisite: six credits of advanced geography courses at the 300 level or above but not including regional course or permission. Requirements and techniques for using all types of Geographic Information Systems (GIS). For students wishing to become applied geographers, physical and social scientists, resource managers, planners, environmental analysts.

422/522 TRANSPORTATION SYSTEMS PLANNING 3 credits
Prerequisite: 320 or permission. Study and analysis of transportation systems from a geographic perspective. Emphasis on transportation problems and issues. Elements of transportation planning.

426/526 INDUSTRIAL AND COMMERCIAL SITE LOCATION 3 credits
Prerequisite: 320 or permission. Relationship between land, resources, population, transportation and industrial and commercial location process.

435/535 URBAN, REGIONAL AND RESOURCE PLANNING 3 credits
Prerequisite: 350 or permission. Role of geographic investigation in city, regional and resource planning.

436/536 URBAN LAND USE ANALYSIS 3 credits
Prerequisite: 320 or permission. Land use classification systems and their spatial variation in urban areas. Land use data are collected by student field work and analyzed to identify the associations and structure of subregions.

438/538 WORLD METROPOLITAN AREAS 3 credits
Prerequisite: 330 or permission. Comparative analysis of metropolitan regions. Urbanism, land use, housing, transportation, population and role of cities in economic development in different cultures.

442/542 THEMEATIC CARTOGRAPHY 3 credits
Prerequisite: 341 or permission. Principles and techniques used in thematic mapping. Stresses use of maps to indicate certain characteristics of classes of information both qualitative and quantitative.

444/544 MAP COMPOSITION AND REPRODUCTION 3 credits
Prerequisite: 341 or permission. Production of map and/or maps from existing maps; aerial photographs, surveys, new data and other sources. Includes special cartographic considerations for photography, lithography and printing.

447/547 INTRODUCTION TO REMOTE SENSING 3 credits
Prerequisite: 341 or permission. Study of aerial photography and non-photographic imagery acquired by radar, thermal, multispectral and satellite scanners. Emphasis on use in geographical, geological, biological and engineering research.

448/548 AUTOMATED COMPUTER MAPPING 3 credits
Prerequisite: 341 or permission. Study of computer-assisted map compilation and execution. Emphasis on integration of computer and cartographic skills and techniques. Problems adapted to special interests of students.

449/549 ADVANCED REMOTE SENSING 3 credits
Prerequisite: 447/547 or permission. Current research in remote sensing. Applications in study of man's cultural and biophysical environment. Projects in planning design, execution and interpretation of remote sensing studies.

461/581 GEOGRAPHIC RESEARCH METHODS 3 credits
Prerequisite: 2 credits in geographic techniques in geographic research. Library resources, techniques of professional writing.

467/583 SPATIAL ANALYSIS 3 credits
Prerequisite: 481/581 or permission. Analysis of map and spatial surfaces. Principles for use of maps as model for statistical evidence, prediction, hypothesis testing.

489/589 SPECIAL TOPICS IN GEOGRAPHY 1-2 credits
(Subject to be repeated) Selected topics of interest in geography.

490/590 WORKSHOP IN GEOGRAPHY 1-3 credits
(Subject to be repeated) For a total of six credits. Group studies of special topics in geography.

495/595 SOIL AND WATER FIELD STUDIES 3 credits
Prerequisite: 210 or permission. Properties, origins and uses of major soil and water regimes and relationships. Stresses relationships between soil and the hydrological cycle, urbanization, sanitation and agriculture. Field trips required.

496/596 FIELD RESEARCH METHODS 3 credits
Prerequisite: 481/581 or permission. Field work enabling student to become competent in collecting, organizing and evaluating data while carrying out field research projects.

498 HONORS RESEARCH IN GEOGRAPHY 3 credits
(Subject to be repeated) for a total of six credits. Prerequisite permission of departmental honors committee. Honors student only. Exploration of research topics and issues in contemporary geography. Selection of research topic and writing of research paper in proper scholarly form under direction of faculty member.

Graduate Courses

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 section of title.

688 ADVANCED SPATIAL ANALYSIS 3 credits
Prerequisite: 483/583 or permission. Advanced concepts and methodologies in geographic research. Emphasis on quantitative revolution in geographic analysis, including multiple regression analysis and advanced spatial modeling.

689 PLANNING: FIELD EXPERIENCE 2 credits
Prerequisite: permission. Individual experience in selected planning agencies for supervised performance in professional planning work.

687 HISTORY OF GEOGRAPHIC THOUGHT: 3 credits
Prerequisite: 481/581 or permission. Critical review of major developments in geographic concepts from ancient times to present.

698 INDIVIDUAL READING AND RESEARCH 1-3 credits
(Subject to be repeated) for a total of six credits. Prerequisite: permission of instructor. Intensive investigation of selected topics under guidance of faculty member.

699 THESIS RESEARCH 2 credits
(Subject to be repeated) for a total of six credits. Prerequisite: permission of department head. Supervised original research.

GEOLGY

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.
634 CLAY MINERALOGY 3 credits
Prerequisites: 432/532. Classification, identification, genesis of clay minerals, clay rocks, use, exploitation. Laboratory stresses methods of identification of clay minerals. Analytical petrographic interpretation of clay material in relation to problems from the rock record. Laboratory.

636 NUCLEAR GEOLOGY 2 credits
Prerequisites: minimum of seven credits in chemistry and eight credits in physics. Eight credits in calculus and eight credits in geology or permission. Discussions involve radioactive and stable isotopes, their applications in geology, radioactive minerals, radioactive background and disposal of radioactive wastes. Nuclear analytical techniques will also be discussed. Laboratory and field study.

643 EOCOGENETICS 3 credits
Prerequisites: 111, 3470/451/561 or an equivalent course in statistics. Application of statistical methods to geology and geophysics, including tests of hypotheses, trend surface analysis, analysis of variance, nonparametric statistics and time series analysis.

656 GLOBAL TECTONICS 3 credits
Prerequisites: 3356, 4431/541/544 or permission. Theoretical study of physical forces involved in formation and deformation of earth's crust with emphasis on plate tectonics and associated diastrophic features.

674 ADVANCED GROUNDWATER HYDROLOGY 3 credits
Prerequisite: 414/514. Study of water table and stream aquifers. Under steady and transient field conditions. Collection and evaluation of field data. Study of deep wells. Groundwater field and laboratory design. Laboratory and field work.

685 GEOCHEMICAL METHODS OF PROSPECTING 2 credits
Prerequisites: nine credits of chemistry, nine credits of mineralogy, and/or petrology recommended. 537 and 570. Application of geochemical methods of analysis and interpretation to search for ore deposits, emphasis on stability, mobility and applications of elements in geologic environments. Laboratory.

687 URBAN GEOLOGY 3 credits
Prerequisites: 210, 230 or permission. Problems of urbanization related to our limited resources and creation of waste. Geologic hazards. Case histories. Application of geologic data to urban development.

688 SEMINAR IN GEOLOGY 2 credits
May be repeated for a total of six credits. Selected topics with reference material from original sources.

689 SELECTED TOPICS IN GEOLOGY 1-3 credits
May be repeated for a total of eight credits. Prerequisite: Topics not regularly offered as formal courses. Generally of classic or current importance. Enlisted areas: readings, discussions and/or laboratory work

695 ADVANCED FIELD STUDIES 1 credit
May be repeated for a total of four credits. Prerequisite: permission. Field trip course emphasizing phases of geology not readily studied in Ohio. Includes physical preparation, field observations and data gathering, posttrip examination and/or written reports. Student will bear trip expenses.

696 GRADUATE RESEARCH PROBLEMS 1-3 credits
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 instructor.

699 THESS RESEARCH 1-6 credits
Independent and original investigation. Must be successfully completed, report written and defended before a committee.

207 EUROPE: RENAISSANCE THROUGH THE EIGHTEENTH CENTURY 4 credits
Survey from Renaissance, Reformation, development of nation states, religious war. Age of Louis XIV and Enlightenment.

208 EUROPE: NINETEENTH AND TWENTIETH CENTURIES 4 credits
Survey of European history from French Revolution and Napoleon: NINETEENTH CENTURY "RISMS." Formation of Germany and Italy. The two world wars, totalitarian dictatorship and postwar age.

211 THE ANCIENT NEAR EAST 3 credits
Mesopotamia, Egypt, Israel, and their neighbors in the Persian Empire.

235 GREECE 3 credits
Classical Greece to triumph of Macedonia.

237 THE WEST: 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.

233 AMERICAN IMMIGRATION 3 credits
Examination of European migrants to America and United States, their reasons for leaving Europe and coming to America, and their experience after arrival.

234 PEACE, WAR AND MANKIND 3 credits
Historical examination of theories of war and peace, including study of leaders, groups and ideas for peace.

235 SOVIET AND AMERICAN 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.

356 SELECTED TOPICS IN HISTORY 3 credits
Includes experimental offerings such as research papers on subject from a chronological time. Includes topics not listed in this Bulletin. See departmental office for current subject.

358 THE VIETNAM WAR 3 credits
An examination of the war on American, political, military, diplomatic, and economic, including its impact domestically and for national security.

361 INDIVIDUAL STUDY OR RESEARCH IN HISTORY 1-3 credits
May be repeated for a total of four credits. Prerequisite: permission. For individual study or research in history, including special projects, summer study tours or specialized training.

401 HONORS SEMINAR 3 credits
Prerequisite: permission of department head. Selected readings, writing of research paper. For student seeking to graduate with honors in history and for student in Honors Program.

402/102 SPECIAL STUDIES IN HISTORY 3 credits
Includes experimental and interdisciplinary studies, as well as those subjects that are not listed in this Bulletin. See departmental office for information on particular offerings.

403/503 UNITED STATES SOCIAL-CULTURAL HISTORY TO 1877 3 credits
Survey of American history from Age of Discovery through colonization and nation building to Civil War Era.

404/504 UNITED STATES SOCIAL-CULTURAL HISTORY SINCE 1877 3 credits
Survey of American history from Age of Discovery through colonization and nation building to Civil War Era.
447/547 AMERICAN FAMILY HISTORY
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.

3 credits

451/551 NINETEENTH CENTURY EUROPE, 1815-1914
Europe in the century of change, revolution, romanticism, industrialization, democratization, first wars of the industrial age.

3 credits

452/552 NINETEENTH CENTURY EUROPE, 1871-1914
Socialism, imperialism, nationalism, and the great war. The Belle Epoque and contemporary artistic and intellectual currents.

3 credits

454/554 TWENTIETH CENTURY EUROPE, 1914-1939
Europe between world wars, Russian revolution, fascism and national socialism, plight of democracies.

3 credits

455/555 TWENTIETH CENTURY EUROPE SINCE 1939
Europe in World War II, the cold war and attempts at unity.

3 credits

456/556 TWENTIETH CENTURY EUROPE SINCE 1939
Europe in World War II, the cold war and attempts at unity.

3 credits

460/560 WAR AND WESTERN CIVILIZATION
War and society in Europe: America and beyond from ancient world to present with special emphasis on period since 1740.

3 credits

470/576 ENGLAND TO 1688
Survey of English history from the Anglo-Saxon conquest to the Revolution of 1688.

3 credits

471/571 ENGLAND SINCE 1689
Survey of English history from 1688 to the present. The reform of English institutions and life, modernization of the economy, the welfare state, society and war.

3 credits

472/572 TUDOR AND STUART ENGLAND, 1485-1714
Focus on British society and culture, including literature, art and architecture.

3 credits

473/577 WESTERN SCIENCE TO 1800
Science in Greek, Roman, Islamic, European societies with special emphasis on the scientific revolution of the Sixteenth and Seventeenth centuries.

3 credits

478/578 WESTERN SCIENCE SINCE 1600
Continuing development of physical, medical, biological sciences in European and American societies. Atomic physics and weapons, evolution, genetics, modern medicine.
479/579 WESTERN TECHNOLOGY

480/580 TRADITIONAL CHINA

481/581 MODERN CHINA
Survey of China since Eighteenth Century with focus on process of modernization. Background of contemporary scene stressed.

495/585 JAPAN
Survey of Japan from antiquity to present. Emphasis on developments since 16th Century. Impact of the west and modernization process.

490/560 WORKSHOP IN HISTORY
1-3 credits (May be repeated)
Group study of special subjects pertaining to history may be used for elective credit only. May not be used to meet undergraduate or graduate major requirements in history.

497 HONORS PROJECT
1-3 credits (May be repeated for a total of six credits). Prerequisite: Senior standing in Honors Program. An individual research project relevant to history supervised by a member of the Department of History culminating in an honors-graduate thesis.

Graduate Courses

622 READING SEMINAR IN ANCIENT HISTORY
4 credits
Study of historical literature, sources of materials and major interpretations of ancient history, especially Greek and Roman periods.

623 WRITING SEMINAR IN ANCIENT HISTORY
4 credits
Prerequisite: 622. Research and writing in selected topics of ancient history, particularly Greek and Roman areas.

625 READING SEMINAR IN MEDIEVAL HISTORY
4 credits
Study of historical literature, sources of materials and major interpretations of medieval European history.

626 WRITING SEMINAR IN MEDIEVAL HISTORY
4 credits
Prerequisite: 625. Research and writing in selected topics of European medieval history from barbarian invasions through later Middle Ages.

631 READING SEMINAR IN MODERN EUROPEAN HISTORY TO 1815
4 credits
Study of historical literature, sources of materials and major interpretations of early modern European history to Napoleonic era.

632 READING SEMINAR IN MODERN EUROPEAN HISTORY TO 1815
4 credits
Prerequisite: 631. Research and writing in selected topics of early modern European history, occasionally including social, economic and intellectual subjects.

634 READING SEMINAR IN MODERN EUROPEAN HISTORY SINCE 1815
4 credits
Study of historical literature, sources of materials and major interpretations of modern European history since early Nineteenth Century.

635 READING SEMINAR IN MODERN EUROPEAN HISTORY SINCE 1815
4 credits
Prerequisite: 634. Research and writing in selected topics of modern European history, occasionally including social, economic and intellectual subjects.

640 READING SEMINAR IN HISTORY OF SCIENCE
4 credits
Study of historical literature, sources of materials and major interpretations in history of science.

641 WRITING SEMINAR IN HISTORY OF SCIENCE
4 credits
Research and writing in selected topics in history of science.

651 READING SEMINAR IN THE HISTORY OF ENGLAND AND THE EMPIRE
4 credits
Prerequisite: 651. Research and writing in selected topics of English and British imperial history.

652 WRITING SEMINAR IN THE HISTORY OF ENGLAND AND THE EMPIRE
4 credits
Prerequisite: 651. Research and writing in selected topics of English and British imperial history.

660 READING SEMINAR IN AMERICAN HISTORY TO 1865
4 credits
Study of historical literature, sources of materials and major interpretations of American colonial and United States history to Civil War.

667 FOCUS SEMINAR IN AMERICAN HISTORY TO 1865
4 credits
Prerequisite: 666. Research and writing in selected topics of American history from colonial period to Civil War.

669 READING SEMINAR IN AMERICAN HISTORY SINCE 1865
4 credits
Study of historical literature, sources of materials and major interpretations of United States history since Civil War.

670 WRITING SEMINAR IN AMERICAN HISTORY SINCE 1865
4 credits
Prerequisite: 669. Research and writing in selected topics of United States history since Civil War.

677 READING SEMINAR IN LATIN AMERICAN HISTORY
4 credits
Prerequisite: two courses in Latin American studies or permission of instructor. Study of historical literature, sources of materials and major interpretations of Latin American history.

678 WRITING SEMINAR IN LATIN AMERICAN HISTORY
4 credits
Prerequisite: 677. Research and writing in selected topics in social, cultural, diplomatic, intellectual and political history of Latin America.

680 HISTORIOGRAPHY
3 credits
Study of historical writings and interpretations through the arts. Required for master's degree if candidate has not had equivalent undergraduate or graduate course elsewhere.

690 HISTORY TEACHING PRACTICUM
3 credits
Prerequisite: graduate assistantship. Required of all graduate assistants each fall semester. Training and experience in college teaching of history under the supervision of an experienced faculty member. Credits may not be used to meet degree requirements.

699 THESIS READING
3 credits
Research for Master of Arts degree theses.

595H INDIVIDUAL READING FOR M.A. STUDENT
1-4 credits each
(May be repeated for a total of 12 credits) Directed reading in an individual student program. May be repeated but no more than six credits may count toward the M.A. degree in history. Written permission of the instructor required.

699 Thesis Writing
Prerequisite: 595H. Writing of dissertation for Master of Arts degree.

5974 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 in an individual student program. Written permission of the instructor required.

898 DISSERTATION RESEARCH
1-12 credits
Research for Doctor of Philosophy degree dissertation.

899 DISSERTATION WRITING
1-12 credits
Prerequisite: 898. Writing of Doctor of Philosophy degree dissertation.

MATHEMATICS

3450:

111-38 MODERN UNIVERSITY MATHEMATICS
1 credit each
A term of modules designed primarily for the non-physical science major to be taken after consultation with an advisor.

101 ELEMENTARY ALGEBRA
2 credits
(Only those 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 numbers, arithmetic operations, symbolism, word problems, linear equations and inequalities, quadratic equations, radicals, rational expressions and exponents.

111 ALGEBRA
1 credit
Prerequisite: one year of high school algebra or equivalent. Sets, signed numbers, algebraic expressions, factoring, exponents, radicals, binomial theorem.

112 ALGEBRAIC FUNCTIONS AND GRAPHING
1 credit
Prerequisite: 111. Linear and quadratic functions and equations, complex numbers, inequalities, absolute value, ratio and proportions, graphing functions and inequalities.

113 COMBINATORICS AND PROBABILITY
1 credit
Prerequisite: 112. Permutations, combinations, sample spaces, events, simple compound and conditional probability. Bernoulli trials, expectation, and odds.

114 MATRICES
1 credit
Prerequisite: 112. Matrices, determinants, solution of n linear equations in n variables using elementary row operations.

115 LINEAR PROGRAMMING
1 credit
Prerequisite: 114 or equivalent. Minimization and/or maximization of a linear function subject to a system of linear inequalities (geometric and simplex methods). Introduction to game theory.

117 INTRODUCTION TO TRIGONOMETRY
1 credit
Prerequisite: 112. Definitions of trigonometric functions, identities, solving right triangles. Applications.

118 TRIGONOMETRIC FUNCTIONS AND GRAPHING
1 credit
Prerequisite: 117. Trigonometry, identities, solving right triangles. Applications.

121 ANALYTIC GEOMETRY
1 credit
Prerequisite: 117. Cartesian coordinate system, rational, logarithmic, exponential functions, sequences, series, limits, definition of series.

122 DIFFERENTIAL CALCULUS
1 credit
Prerequisite: 121. Differentiation of algebraic, logarithmic, and exponential functions, higher derivatives, partial derivatives, applications.
123 INTEGRAL CALCULUS
Prerequisite: 122. Indefinite and definite integral differentials, change of variable, numerical integration improper integrals, double integral.

124 CALCULUS WITH TRIGONOMETRY
Prerequisites 118, 123. Differentiation and integration of trigonometric functions, trigonometric substitution, applications.

127 COMPUTER SCIENCE TOPICS I
Prerequisite: permission. Selected topics or subject areas of interest in computer science.

131 NUMBER SYSTEMS
Prerequisite: 112. Ancient number systems, number bases. Euclidean algorithm, modular arithmetic.

132 ELEMENTARY GEOMETRY
Prerequisite: 112. Definition and measure of line segments, angles and triangles in Euclidean plane geometry. Hiltbert's axioms.

136 SYSTEMS OF MEASUREMENT
Prerequisite: 112. English and metric systems of weights and measures. Troy, avoirdupois and apothecaries' systems.

148 ELEMENTARY FINANCE
Prerequisite: 112 or equivalent. Simple and compound interest; bank discount; ordinary annuities; annuity due; amortization; annuities; perpetuities.

149 ELEMENTARY FUNCTIONS I
Prerequisite: high school algebra and trigonometry. Real numbers, equalities, inequalities; radicals, absolute value, relations and functions, linear and quadratic functions, system of equations, matrices and determinants, complex numbers.

149A ELEMENTARY FUNCTIONS II
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, basic mathematical induction.

149B PRE-CALCULUS MATHEMATICS
Prerequisite: three years of high school mathematics. Sets, number systems, absolute value relations, functions, polynomial functions, determinants, systems of equations, inequalities, trigonometric functions, identities, exponential, logarithmic functions, complex numbers, infinite sequences, binomial theorem, mathematical induction.

211 CALCULUS FOR THE LIFE SCIENCES
Prerequisite: 112 or equivalent. A calculus course for students majoring in the biological and health sciences. Functions, differentiation, integration, exponential and logarithmic functions, applications of derivatives, exponential functions, integration, functions of several variables, differential and difference equations, vectors and matrices, probability.

215 CONCEPTS OF CALCULUS I
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, or any student who desires the Computer Science Certificate or a computer science minor.

216 CONCEPTS OF CALCULUS II

221 ANALYTIC GEOMETRY-CALCULUS I
Prerequisites: 148 or 149. Real numbers, analytic geometry, limits. Continuity, derivatives of algebraic functions, tangents and normal lines, extrema of functions. Rolle's theorem, mean value theorem, related rates. Inverse functions, definite integrals, areas, volumes, arc length.

222 ANALYTIC GEOMETRY-CALCULUS II
Prerequisite: 221. Derivatives of exponential, logarithmic trigonometric, inverse trigonometric, hyperbolic and inverse hyperbolic functions. methods of integration. moments. centroids. improper integrals, power series, convergence. Taylor polynomials, vector valued functions. curvature.

223 ANALYTIC GEOMETRY-CALCULUS III
Prerequisites: 222. Sequences, series, power series. Taylor and Maclaurin series. binomial series. functions of several variables, limit, continuity. partial derivatives. differentials. directional derivatives, maxima and minima. double and triple integrals. surface area.

235 DIFFERENTIAL EQUATIONS
Prerequisite: 223. Methods of solving some important types of differential equations. Analysis of models involving differential equations. first order and simple equations. second order.

283 SELECTED TOPICS IN MATHEMATICS
Prerequisite: permission. Selected topics of interest in mathematics.

301 HISTORY OF MATHEMATICS
Prerequisite: 222. Origin and development of mathematical ideas.

311 ABSTRACT ALGEBRA
Prerequisite: 222. Introduction to groups, rings, integral domains, axiomatic foundation: natural, integer, rational, real, complex number systems.

312 LINEAR ALGEBRA
Prerequisite: 222. Study of vector spaces, linear transformations, matrices, determinants, inner products, the eigenvalue problem, quadratic forms and canonical forms.

417/513 THEORY OF NUMBERS
Prerequisite: 222 or permission. Euclidean algorithm, unique factorization theorem, congruences, primitive roots, indices, quadratic residues, number-theoretic functions. Gaussian integers and continued fractions.

414/514 VECTOR AND TENSOR ANALYSIS
Prerequisite: Vector algebra calculus of scalar vector. vector scalar vector. vector. integral. theorems. coordinate transformations. cartesian. curvilinear. covariant. vectors, tensors, fundamental operations with tensors, differentiation of tensors, applications.

415/515 COMBINATORICS AND GRAPH THEORY
Prerequisite: 222 or permission. Introduction to basic ideas and techniques of combinatorial counting, properties of structure of systems.

421A/521A ADVANCED CALCULUS I
Prerequisites: 222 or 225. 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.

422A/522A COMPLEX VARIABLES
Prerequisite: 225. Complex variables, elementary functions, differentiation and analytic functions, integration and Cauchy's theorem, power series, Laurent series, residue theorem, applications such as conformal mappings. inversion integral transform.

427/527 INTRODUCTION TO NUMERICAL ANALYSIS
Prerequisite: 222 and 3400-2101 or 4400-2106. Mathematical analysis of numerical methods for solving equations, interpolating function values, approximating derivatives and integrals, approximating functions.

428/528 NUMERICAL LINEAR ALGEBRA
Prerequisite: 222 and 3400-2101 or 4400-2106. Mathematical analysis of numerical methods for solving systems of linear equations, eigenvalue problems, nonlinear systems, unconstrained minimization problems.

429/529 NUMERICAL METHODS IN DIFFERENTIAL EQUATIONS

431/513 SPECIAL FUNCTIONS AND OPERATIONAL CALCULUS

432/522 PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: 235. The classical initial and boundary value problems of mathematical physics developed and solved using Fourier series and integral transforms.

435/535 SYSTEMS OF ORDINARY DIFFERENTIAL EQUATIONS
Prerequisite: 235. Analysis, solution of systems of equations, linear nonlinear. Topics: stability theory, perturbation methods. asymptotic methods. applications from physical, social sciences.

436/536 MATHEMATICAL MODELS
Prerequisite: 235. Formulation and analysis of mathematical models in social and physical sciences. Analysis of deterministic and stochastic models. Topic may include stochastic processes, linear programming, graph theory, theory of measurement.

441/541 CONCEPTS IN GEOMETRY
Prerequisite: 222 or permission of instructor. Axiomatic treatment of both Euclidean and non-Euclidean geometries. Other concepts included are finite geometry, transformations, constructions and inversions.

442/542 PROJECTIVE GEOMETRY
Prerequisite: 222 or permission. Complex projective planes, duality, homogeneous coordinates, conics, harmonic ranges, conics, quadrilaterals, cross ratios, applications to Euclidean geometry, quadric surfaces.

445/545 INTRODUCTION TO TOPOLOGY
Prerequisite: 312 or permission. Introduction to topological spaces and topologies, mappings, continuity, homeomorphisms, connected spaces, metric spaces.

489/589 TOPICS IN MATHEMATICS
(May be repeated as long as there is study in mathematics) 1-3 credits

491/591 WORKSHOP IN MATHEMATICS
(May be repeated) 1-3 credits

497 INDIVIDUAL READING
Prerequisites: approval of instructor. Special study in some area of mathematics. May be used to replace credit only.

498 SENIOR HONORS PROJECT
Prerequisite: 489 (honors). Directed study for senior student in the Honors Program who has completed 689 honors. An introduction to research problems in mathematical sciences under the guidance of selected faculty.
Graduate Courses

601 INTRODUCTION TO ANALYSIS 4 credits
Prerequisites: permission. An introduction to analysis to include differentiation and integration, maxima and minima, Lagrange multipliers, transformations, infinite series, line and surface integrals, improper integrals. May not be used to meet degree requirements for mathematical sciences majors.

610 MATRIX ALGEBRA 3 credits
Prerequisites: 235. Study of matrix theory and techniques concerning inverses, linear systems of equations, vector spaces, transformations, quadratic forms, the eigenvalue problem and canonical forms.

611, 612 ALGEBRAIC THEORY I AND II 3 credits each
Sequential. Prerequisites: 311, 312 or 610. An introduction to the algebraic systems: monoids, rings, modules, vector spaces, and fields. Application in number theory, combinatorics, group theory, and algebraic geometry.

620, 621 FUNCTIONS OF A REAL VARIABLE I AND II 5 credits each
Sequential. Prerequisites: 422/522. Real number system, sets, limits, boundedness, continuity, differentiability, power series, complex integration, measure theory, singularities, analytic continuation, asymptotic evaluation.

624 ADVANCED NUMERICAL ANALYSIS I AND II 3 credits each

630 CALCULUS OF VARIATIONS 3 credits
Prerequisites: 235. Problems with fixed and movable endpoints, problems with constraints, generalization to several variables, extreme problems, fixed and movable endpoints, problems with constraints. May not be used to meet degree requirements for mathematics majors.

631 ADVANCED PARTIAL DIFFERENTIAL EQUATIONS 3 credits
Prerequisite: 430/530 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.

632 CONTINUOUS SYSTEMS I AND II 3 credits each
Sequential. Prerequisites: 422/522 or permission. Boundary value and initial 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.

635 OPTIMIZATION 3 credits
Prerequisites: 422/522 or permission. Unconstrained and constrained optimization theory and methods in applied problems.

636 ADVANCED COMBINATORICS AND GRAPH THEORY 3 credits
Prerequisite: 235. Theory and techniques of combinatorics as applied to network problems and graph theoretic problems.

640 DIFFERENTIAL GEOMETRY 3 credits
Prerequisite: 422/522. Analytic representation of space curves, surfaces, intrinsic geometry of surfaces, curvature of surfaces, and surfaces in larger.

645 TOPOLOGY 3 credits
Prerequisite: 422/522. Set theory, ordinal and cardinal numbers, topological spaces, filters and nets, separation criteria, compactness, metric spaces, homotopy, related topics.

699 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.

692 MATHEMATICS AND STATISTICS SEMINAR 2 credits
May be repeated for a total of four credits.
Subjects: discussions involving special problems, dealing with mathematics and statistics included. Supervised research project.

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.

197 INDIVIDUAL READING 1-2 credits
May be repeated for a total of four credits.
Prerequisite: graduate standing and permission. Directed studies in mathematics at graduate level under guidance of selected faculty member.

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.

COMPUTER SCIENCE

3460:

125 DESCRIPTIVE COMPUTER SCIENCE 1 credit
Prerequisites: 3450:111, 112, 114 or equivalent. Introduction to problem solving methods and algorithm development. Programming in a high-level language including how to design, code, debug, and document programs using techniques of good programming style.

126 INTRODUCTION TO BASIC PROGRAMMING 1 credit
Prerequisite: 3450:111, 112, 114 or equivalent. Introduction to basic concepts of computers and their capabilities. Special attention given to topics such as effects of computer on privacy, employment and equality: ethics in computer community: potential for computer crime. Designed for nonmajors.

201-5 INTRODUCTION TO PROGRAMMING LANGUAGES 3 credits each
Prerequisites: 3450:111, 112, 114 or equivalent. An introduction to the syntax and semantics of programming languages. Assignment statement and arithmetic, control statements and loops, input-output, subroutines.

201 INTRODUCTION TO FORTRAN PROGRAMMING 2 credits
Prerequisites: 3450:111, 112, 114 or equivalent.

202 INTRODUCTION TO COBOL PROGRAMMING 2 credits
Prerequisites: 3450:111, 112, 114 or equivalent.

203 INTRODUCTION TO APL PROGRAMMING 2 credits
Prerequisites: 3450:111, 112, 114 or equivalent.

204 INTRODUCTION TO PASCAL PROGRAMMING 2 credits
Prerequisites: 201 or 209, or 4450:206.

205 INTRODUCTION TO BASIC PROGRAMMING 2 credits
Prerequisites: 201 or 209, or 4450:206.

209 COMPUTER PROGRAMMING I 3 credits
Prerequisites: 3450:149 or equivalent. An introduction to problem solving methods and algorithm development. Programming in a high-level language including how to design, code, debug, and document programs using techniques of good programming style.

210 COMPUTER PROGRAMMING II 3 credits
Prerequisites: 209 and 3450:215 or 4450:206. Method of representation of information on a digital computer: character representation, fixed point floating point numbers, introduction to computer organization, algorithms and machine language programming, Boolean algebra, combinational circuits.

307 APPLIED SYSTEMS PROGRAMMING 3 credits
Prerequisite: 4450:306. Introduction to systems programming using OS/370, ISOB Control Language, loaders and compilers, utilities, stresses. Support systems programming.

316 INTRODUCTION TO DATA STRUCTURES 3 credits
Prerequisite: 201 or 3450:222 or 216 or permission. Standard data structures: stacks, queues, trees, graphs, vectors, arrays, lists, searching, sorting.

418-116 INTRODUCTION TO DISCRETE STRUCTURES 3 credits
Prerequisite: 210 or permission. Introduction to some concepts of discrete mathematics, which is the basic mathematical language of computer science. Topics include algorithms and flow chart language, graphs and digraphs, trees, lattices, codes.

420/520 STRUCTURED PROGRAMMING 3 credits
Prerequisite: 3450:306. An introduction to software engineering and programming, including: principles of abstraction, object-oriented programming, and design patterns.

425/525 INTRODUCTION TO SOFTWARE SYSTEMS 3 credits
Prerequisites: 210. Introduction to software systems, operating systems, input/output systems, languages and their processors, memory management, software engineering principles.

426/526 OPERATING SYSTEMS 3 credits
Prerequisites: 316 and 3450:407. Differences in various types of operating systems; batch processing systems, multi-processing systems and interacting processes. Storage management, process interaction, file processing using a particular operating system.

430/530 THEORY OF PROGRAMMING LANGUAGES 3 credits
Prerequisites: 316. More advanced concepts underlying programming language. Languages for computer and compilers, compiler design.

435/535 ANALYSIS OF ALGORITHMS 3 credits
Prerequisites: 316 and 418. Design and analysis of efficient algorithms for random access machines: derivation of time complexity functions.

440/540 COMPILER DESIGN 3 credits
Prerequisites: 307 or 4450:407. Techniques used in writing and modifying compilers including: translation, link, error diagnosis, code optimization. Construction of simple assemblers and linkers. Organization of a compiler for handling lexical scan, syntax scanner, object code generation, error diagnosis, and code optimization. Use of compiler writing languages and front-end equipments. The course requires a project involving compiler writing.

455/555 DATA COMMUNICATIONS 3 credits
Prerequisite: 210. Introduction to data communications: interpersonal networks, codes, modes of transmission, errors, protocols.
457/557 COMPUTER GRAPHICS
Prerequisite: 210. Topics in vector graphics, scan line graphics, representations and languages for graphics.

460/560 ARTIFICIAL INTELLIGENCE AND HEURISTIC PROGRAMMING
Prerequisite: 316. Study of various programs which have displayed some intelligent behavior. Evolution of level at which computers can display intelligence.

465/565 COMPUTER ORGANIZATION
Prerequisite: 4450.306. An introduction to the hardware organization of the computer at the register, processor and system levels. An in-depth study of the architecture of a particular computer system family.

470/570 AUTOMATA, COMPUTABILITY AND FORMAL LANGUAGES
Topics include: description of languages, regular context-free and context-sensitive grammars, finite, pushdown and linear-bounded automata; parsing machines; closure properties; computational complexity; stack automata and decidability.

475/575 DATA BASE MANAGEMENT
Prerequisite: 210. 316 Fundamentals of data base organization, manipulation and representation, data integrity, privacy.

489/599 TOPICS IN COMPUTER SCIENCE
May be repeated for a total of six credits. Prerequisite: permission of instructor. Selected topics in computer science at an advanced level.

491/591 WORKSHOP IN COMPUTER SCIENCE
Group studies of special topics in computer science. May not be used to meet undergraduate or graduate requirements in mathematics, statistics or computer science.

497/597 INDIVIDUAL READING IN COMPUTER SCIENCE
May be repeated for a total of four credits. Prerequisite: permission. Computer science major only. Directed studies designed as introduction to research problems under guidance of designated faculty member.

498 SENIOR HONORS PROJECT
Prerequisite: 489 (honors). Directed study for senior student in the Honors Program who has completed 3450.489 (honors). An introduction to research problems in the mathematical sciences under the guidance of selected faculty.

STATISTICS

3470:

251-7 INTRODUCTION TO STATISTICS
Introduction to fundamental ideas of statistics at precalculus level including topics from the following.

251 DESCRIPTIVE STATISTICS AND PROBABILITY
Prerequisite: one semester of college algebra or equivalent.

252 DISTRIBUTIONS
Prerequisite: 251.

253 HYPOTHESIS TESTING (PARAMETRIC)
Prerequisite: 252.

254 HYPOTHESIS TESTING (NONPARAMETRIC)
Prerequisite: 253.

255 REGRESSION AND CORRELATION
Prerequisite: 253.

256 EXPERIMENTAL DESIGN
Prerequisite: 253.

257 TIME SERIES AND INDEX NUMBERS
Prerequisite: 255.

258 STATISTICAL COMPUTATIONS ON THE MICROCOMPUTER
Prerequisites: 254,5.6 and 3450.125. The utilization and generation of computer programs in the BASIC language to implement algorithms for the solution of a variety of statistical problems.

259 EXPLORATORY DATA ANALYSIS
Prerequisites: 251,2,3,5. Topics include Stem and Leaf displays, letter-value displays, graphical description of data, resistant line-smoothing data, optional: two-way tables (optional).

450/550 PROBABILITY
Prerequisite: 3450.221. Introduction to probability random variables and probability distributions, expected value, sums of random variables, Markov processes.

461/561 THEORETICAL STATISTICS I AND II
3 credits each

464/564 APPLIED STATISTICS
Prerequisites: 3450.223. Applications of statistical theory to natural and physical sciences and engineering, including hypothesis tests, regression, correlation, analysis of variance, nonparametric statistics, sampling, quality control and other selected topics.

465/565 EXPERIMENTAL DESIGN I
Prerequisite: 461 or 465. Fundamental principles of analysis of variance, nested designs, multiple comparisons, power considerations, randomized block designs, applications.

466/566 EXPERIMENTAL DESIGN II
Prerequisites: 463/563. Principles of multivariable, Latin squares, randomization, analysis of covariance, split-plot designs, applications to problems in applied fields.

468/599 TOPICS IN STATISTICS
Prerequisites: 3450.223 and one semester course in statistics of permission. Translation of statistical computing into computer languages, software packages, generating data. Monte Carlo techniques, use of statistical packages.

471/591 WORKSHOP IN STATISTICS
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.

472/592 HYPOTHESIS TESTING (NONPARAMETRIC)
Prerequisite: 3450.223 and one semester course in statistics (by permission). Analysis of nonparametric data with emphasis on tests of hypotheses and confidence intervals. Theory and application of various nonparametric techniques.

473/593 REGRESSION AND CORRELATION
Prerequisites: 210,255. Regression and correlation in matrix formulation. General linear hypothesis, regression models, experimental design models, analysis of variance and covariance. Variance components.

474/594 THE HEALTH SCIENCES
Prerequisites: 255.256, or permission. Theoretical bases and relationships between various nonparametric techniques compared with parametric ones.

475/595 LINEAR MODELS
Prerequisites: 255,622 or permission. Description of the theoretical and practical aspects of generalized linear models.

Graduate Courses

650 ADVANCED PROBABILITY AND STOCHASTIC PROCESSES
Prerequisite: 551. Random walk, aggregations, limit theorems, laws of large numbers, central limit theorems, branching processes, Markov chains, time-dependent stochastic processes.

651,2 MATHEMATICAL STATISTICS I AND II
3 credits each

653 PRINCIPLES OF STATISTICS
3 credits

655 LINEAR MODELS
3 credits

656 NONPARAMETRIC STATISTICS-METHODOLOGY
3 credits

657 FACTOR ANALYSIS
2 credits

660 MULTIVARIATE STATISTICAL METHODS
3 credits

661 ADVANCED TOPICS IN STATISTICS
May be repeated for a total of four credits. Prerequisite: 551. Advanced inference, sequential analysis, stochastic processes, reliability theory, Bayesian statistics and regression.
MODERN LANGUAGES

3500:

PLACEMENT PROCEDURES FOR NEW STUDENT

Student who has taken one year or less of a foreign language in high school should enroll in 101. Those who have taken more than one year of a foreign language in high school should take the placement test (Counseling and Testing, Simmons Hall 161). For placement in third-year courses or higher, department permission is required.

101.2 BEGINNING MODERN LANGUAGE I AND II

4 credits each

Sequential. Reading, speaking, writing, and listening comprehension; intensive oral and pronunciation; short stories, outside reading and supplementary work in language laboratory. (May be repeated for a different language)

201.2 INTERMEDIATE MODERN LANGUAGE I AND II

3 credits each

Sequential. Prerequisite: 102 or equivalent. Grammar review, practice in reading, writing, speaking and listening comprehension; short stories, plays, novels on intermediate level. (May be repeated for a different language)

490/590 WORKSHOP

2 credits

(May be repeated). Group studies of special topics in modern languages.

498 SENIOR HONORS PROJECT IN MODERN LANGUAGES

1-3 credits

(May be repeated for a total of six credits). Prerequisites: senior standing in Honors Program and permission. Open only to language majors enrolled in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

FRENCH

3520:

101.2 BEGINNING FRENCH I AND II

4 credits each

Sequential. Thorough study of sound system and basic structural patterns of French language, including oral practice and reading of simple prose. A placement test is required.

201.2 INTERMEDIATE FRENCH I AND II

3 credits each

Sequential. Prerequisite: 102 or equivalent. Audio-oral sections. Practice in reading, writing, speaking and listening comprehension. Grammar review, short stories, plays, novels on intermediate level. A placement test is required.

207.8 INTERMEDIATE FRENCH I AND II READING OPTION

3 credits each

Sequential. Prerequisite: 102 or equivalent. Reading and translation of texts dealing with contrasting French and American customs, values and attitudes.

301.2 FRENCH COMPOSITION AND CONVERSATION

3 credits each

Prerequisite: 202 or equivalent. Free composition, special attention to vocabulary and idioms, development of oral expression and conversational ability.

305.6 INTRODUCTION TO FRENCH LITERATURE

3 credits each

Prerequisite: 202 or equivalent. Survey of French literature from its origins to present, with lectures, reading and class discussion of representative works.

309F 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.

312 INDIVIDUAL SUMMER STUDY ABROAD

2 credits

Prerequisites: 202 or equivalent and permission of instructor.

311 FRENCH CIVILIZATION AS SEEN IN THE MOVIES

3 credits each

Study and discussion of various aspects of French culture and civilization as characterized in movies.

251.2 TRANSLATION: FRENCH

3 credits each

401 FRENCH PHONETICS

3 credits each

Prerequisite: 202 or equivalent. Intensive drill in pronunciation with correction and improvement of student's accent, emphasis on articulation, intonation and rhythm.

403.4 ADVANCED FRENCH COMPOSITION AND CONVERSATION

3 credits each

Prerequisite: 302 or equivalent. Thorough analysis of syntax, morphology, phonetic principles and grammatical structure.

407/507 FRENCH LITERATURE OF THE MIDDLE AGES AND THE RENAISSANCE

4 credits each

Prerequisite: 302 or 306 or permission. Reading and discussion of selected medieval and Renaissance literary works. Conducted in French.

411/511 SEVENTEENTH CENTURY FRENCH LITERATURE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of selected works in poetry, drama and novels. Conducted in French.

415/515 EIGHTEENTH CENTURY FRENCH LITERATURE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of selected authors. Emphasis on the Philosophes. Conducted in French.

419/519 NINETEENTH CENTURY FRENCH LITERATURE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of selected works pertaining to romantic, realistic and naturalistic movements. Conducted in French.

427/527 TWENTIETH CENTURY FRENCH LITERATURE

4 credits

Prerequisite: 302 or 306 or permission. Reading and discussion of the most representative works of the period. Conducted in French.

450 EXPLICATION DE TEXTES

2 credits

Prerequisite: 302 or 306 or permission. Study of traditional French method of literary analysis based on presentations of representative authors from selected periods of French literary history.

471/571 FRENCH LANGUAGE READING PROFICIENCY

4 credits

Designed to develop proficiency in reading comprehension.

497,8 INDIVIDUAL READING IN FRENCH

1-3 credits each

Graduate Courses

601 ADVANCED FRENCH GRAMMAR

4 credits

Advanced study of normative French grammar with emphasis on syntax, morphology, grammatical structure and phonetic principles.

603.4 ROMANCE AND APPLIED LINGUISTICS

4 credits each

Survey of French language from 842 to present. Second semester deals with application of linguistic research to teaching of French.

607.8 SELECTED TOPICS IN THE MOVEMENT OF IDEAS IN FRENCH LITERATURE

4 credits each

Study of ideas instrumental in shaping French thought and culture.

619,20 FRENCH CULTURE EXPRESSED IN LITERATURE

4 credits each

Anthropological approach emphasizing social and civic institutions, education, music and art, value systems and national characteristics.

641 SEMINAR: FRANCOPHONE LITERATURE, CULTURE AND CIVILIZATION

2 credits

Study of various aspects of culture, civilization and literature of French expression outside of France.

642 SEMINAR: THE IMAGE OF THE WOMAN IN FRENCH LITERATURE

2 credits

Study of the woman as characterized in French literature from Middle Ages to present.

651 FRENCH TEACHING PRACTICUM

2 credits

Prerequisite: teaching assistantship or permission. Orientation and practice of particular aspects of teaching language and culture. Periodical review and evaluation. Credits may not be applied toward degree requirement.

657.8 INDIVIDUAL READING AND RESEARCH SEMINAR

1-4 credits each

Prerequisite: permission. Independent study and research in specific areas. Considerable reading and writing required.

699 THESIS WRITING

4 credits

GERMAN

3530:

101.2 BEGINNING GERMAN I AND II

4 credits each

Sequential. Reading, speaking, writing and listening comprehension; intensive oral and pronunciation; short stories, outside reading and supplementary work in language laboratory.

201.2 INTERMEDIATE GERMAN I AND II

3 credits each

Sequential. Prerequisite: 102 or equivalent. Grammar review, reading, writing, listening comprehension; short stories, plays, novels on intermediate level; outside reading and supplementary work in language laboratory.

207.8 INTERMEDIATE GERMAN I AND II READING OPTION

3 credits each

Sequential. Prerequisite: 102 or equivalent. Reading and translation of texts dealing with contrasting German and American customs, values and attitudes.

251 NINETEENTH CENTURY GERMAN LITERATURE IN TRANSLATION

2 credits

Reading and discussion of works of Mann, Rilke, Hebbel, Kafka, Benn, Brecht, Frisch, Duerrmatt, Schorch and Grays. May not be taken for credit toward the major in German.

250 TWENTIETH CENTURY GERMAN LITERATURE IN TRANSLATION

2 credits

Reading and discussion of works of Kleist, Heine, Hebbel, Kriller, Storm, Meyer and Hauptmann. May not be taken for credit toward the German major.
ITALIAN

3550:

101.2 BEGINNING ITALIAN I AND II 4 credits each
Sequential. Reading, speaking, writing and listening comprehension; intensive oral in pronunciation, short stories, outside reading and supplementary work in language laboratory.

201.2 INTERMEDIATE ITALIAN I AND II 3 credits each
Sequential. Prerequisite: 102 or equivalent, Grammar review, practice in reading, writing, speaking and listening comprehension; short stories, plays, novels on intermediate level; culture; outside reading and supplementary work in language laboratory.

207.8 INTERMEDIATE ITALIAN I AND II READING OPTION 3 credits each
Sequential. Prerequisite: 102 or equivalent. Readings cover various aspects of Italian culture through the centuries; with particular emphasis on history, literature, art and contemporary Italian way of life. American one.

250 GENUS OF ITALIAN LITERATURE IN TRANSITION 2 credits
Reading and discussion of works of Dante, Petrarch, Boccaccio, Ariosto, Machiavelli, Cervini, Tasso, Bovo and Principe di Filippo.

301.2 ITALIAN COMPOSITION AND CONVERSATION 3 credits each
Prerequisite: 202 or equivalent. Italian composition using Italian models; special attention to words and idiomatic development of oral expression and conversational ability.

SPANISH

3580:

101.2 BEGINNING SPANISH I AND II 4 credits each
Sequential. Reading, speaking, writing and listening comprehension; intensive oral in pronunciation, short stories, outside reading and supplementary work in language laboratory.

201.2 INTERMEDIATE SPANISH I AND II 3 credits each
Sequential. Prerequisite: 102 or equivalent. Grammar review; practice in reading, writing, speaking and listening comprehension; short stories, plays, novels; outside reading and supplementary work in language laboratory.

207.8 INTERMEDIATE SPANISH I AND II READING OPTION 3 credits each
Sequential. Prerequisite: 102 or equivalent. Reading of texts in Spanish dealing with culture of Spanish-speaking people. American one.

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.
305.6 INTRODUCTION TO HISPANIC LITERATURE 4 credits each
Prerequisite: 300 or equivalent. Reading and discussion of works written in Spanish with emphasis on the literature of contemporary authors. Conducted in Spanish.

311 SPANISH/SPANISH-AMERICAN CULTURAL EXPERIENCE 1-2 credits
Prerequisite: permission. A study of the history, development, and cultural trends of one of the countries where Spanish is spoken. Emphasis on the role of literature in the social and historical context of the country. Conducted in Spanish and may be repeated for a maximum of two credits.

390 CONTEMPORARY LATIN AMERICAN FICTION IN TRANSLATION 3 credits
(May not be taken for credit toward the Spanish major.) Reading and discussion of fiction by major Latin American authors. Open to students with instructor permission. Conducted in Spanish.

351.2 TRANSLATION: SPANISH 3 credits each
401.2 ADVANCED COMPOSITION AND CONVERSATION 3 credits each
402 ADVANCED GRAMMAR 3 credits
Prerequisite: 302 or equivalent. Through analysis of syntax, morphology, phonetic principles, and grammatical structure, this course examines the form and function of Spanish language.

407/107 MEDIEVAL AND RENAISSANCE SPANISH LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of representative works that mark the beginnings of Spanish literature in poetry, prose, and drama, with emphasis given to the major works of Cervantes, Lope de Vega, and Lope de Rueda. Conducted in Spanish.

408.10 LINGUISTICS 3 credits each
Prerequisite: 302 or permission. Introduction to linguistics, focusing on Spanish and related languages, with practical applications for Spanish majors.

411/511 SPANISH LITERATURE OF THE GOLDEN AGE 4 credits
Prerequisite: 302 or permission. Reading and discussion of representative novels and short stories written during the Renaissance and Baroque periods, with emphasis on works of Cervantes, Lope de Vega, and Calderon. Conducted in Spanish.

415/515 EIGHTEENTH AND NINETEENTH CENTURIES SPANISH LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of representative works of the Eighteenth and Nineteenth Centuries, with an emphasis on the works of Goldoni, Dumas, and Stendhal. Conducted in Spanish.

419/519 TWENTIETH CENTURY SPANISH LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of representative works of the Twentieth Century, with an emphasis on the works of Garcia Marquez, Vargas Llosa, and Pablo Neruda. Conducted in Spanish.

422/522 SPECIAL TOPICS IN HISPANIC CULTURE 1-4 credits
Course may be repeated. Reading and/or discussion of significant works in literature or culture in Spanish and Latin America not studied in other courses.

423/523 SPANISH-AMERICAN LITERATURE 4 credits
Prerequisite: 302 or 306 or permission. Reading and discussion of representative Spanish-American literature from the colonial period to the present, including Marquez, Vargas Llosa, and Rodriguez. Conducted in Spanish.

427/527, 8 SPANISH AND SPANISH-AMERICAN CULTURE AND CIVILIZATION 4 credits each
Prerequisite: 302 or 306 or permission. Emphasis on customs, traditions, literature, and social trends that constitute Spain and Spanish America's specific contribution to Western Civilization. Study of Spanish-speaking world. Conducted in Spanish.

471/571 SPANISH LANGUAGE READING PROFICIENCY 4 credits
Designed to develop proficiency in reading comprehension.

497 INDIVIDUAL READING IN SPANISH 1-3 credits
Prerequisite: permission.

601 SEMINAR ON MEDIEVAL SPANISH LITERATURE 4 credits
Reading and discussion of monumetal medieval literary works of Spain such as the Poema de Mio Cid, El Cuento de Pericholes, and El Canto de mio Buen Amor. Conducted in Spanish.

605.5 SEMINAR IN SPANISH LINGUISTICS 4 credits each
Advanced topics in comparative historical and descriptive Hispanic linguistics studied from contemporary theoretical perspectives; includes practical applications.

609, 10 SEMINAR ON SPANISH LITERATURE OF THE GOLDEN AGE SEMINAR ON EIGHTEENTH AND NINETEENTH CENTURIES SPANISH LITERATURE 4 credits each
Reading and discussion of representative authors from the Renaissance to the baroque period. Conducted in Spanish.

613 SEMINAR ON SPANISH-AMERICAN LITERATURE 4 credits
Studies of representative authors including the "Boom." Reading and discussion of various genres and authors representing significant literary developments. Conducted in Spanish.

617 SEMINAR ON TWENTIETH CENTURY SPANISH-AMERICAN LITERATURE 4 credits
Prerequisite: 302 or equivalent. Reading and discussion of contemporary writers with emphasis on theatre, novel, short stories, poetry, and nonfiction. Conducted in Spanish.

621 SEMINAR ON TWENTIETH CENTURY SPANISH LITERATURE 4 credits
Studies in representative precontemporary writers with emphasis on the works of novel, poetry, and nonfiction. Conducted in Spanish.

651 SPANISH TEACHING PRACTICUM 2 credits
Prerequisite: teaching, assistantship or permission. Observation and practice of particular aspects of teaching Spanish language and culture. Tutoring and teaching experiences are periodically reviewed and evaluated. These credits may not be applied toward degree requirements.

697.8 INDIVIDUAL READINGS IN SPANISH 1-4 credits each
Content of given individual reading program taken from course contents approved for graduate work in Spanish.

698 THESIS WRITING 4 credits

PHILOSOPHY 3600:

101 INTRODUCTION TO PHILOSOPHY 3 credits
Introduction to philosophic problems and attitudes through acquaintance with thoughts of some leading thinkers of Western tradition.

120 INTRODUCTION TO ETHICS 3 credits
Introduction to problems of moral conduct through readings from the tradition and class discussion of nature of "good," right, ought, and freedom.

170 INTRODUCTION TO LOGIC 3 credits
Introduction to logic and critical thinking. Includes such topics as meaning, entailment, fallacies, propositional logic, predicate and modal logic and notions of deduction.

211 HISTORY OF ANCIENT PHILOSOPHY 3 credits
Study of the development of ancient Greek philosophy from pre-Socratics to Aristotle. Readings of primary sources in translation.

218 AMERICAN PHILOSOPHY 3 credits
Prerequisite: one course in philosophy. Emphasis on movement of ideas in American from ancient to present.

223 PHILOSOPHY OF RELIGION 3 credits
Prerequisite: two philosophy courses. Discussion and analysis of problems of theology, nature of religious experience, God's nature, existence, immortality, un. faith, reason, belief, revelation, redemption.

280 SOPHOMORE 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 sophomoric level.

312 HISTORY OF MEDIEVAL PHILOSOPHY 3 credits
History of Western philosophy from the fall of Rome to the Renaissance. Major philosophers studied include Saint Augustine, St. Anselm, Peter Abelard, St. Thomas Aquinas, Ours Scott and W. D. Hook. Readings from primary sources.

313 HISTORY OF MODERN PHILOSOPHY 3 credits
Analysis of major philosophical issues in the Seventeenth and Eighteenth Centuries from Descartes through Kant. Readings of primary sources in translation.

514 NINETEENTH CENTURY PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. Inquiry into philosophically significant ideas of Hegel, Marx, Schopenhauer, Mill, Kierkegaard and Nietzsche.

323 ADVANCED TOPICS IN ETHICS 3 credits
Prerequisite: one course in philosophy or permission of instructor. An examination of selected logical issues in moral theory such as: Natural Law, Virtue, Character, Rights and Duties, Tendentious, Rights, Theories of Punishment, Virtue, Realism, Moral Skepticism. Specific topics will be announced in the course schedule.

324 SOCIAL AND POLITICAL PHILOSOPHY 3 credits
Prerequisite: one course in philosophy or permission of instructor. An examination of the normative justification of social, political institutions and practices. Analysis of broad social and political issues. Specific topics will be announced in the course schedule.

332 DIALECTICAL MATERIALISM 3 credits
Prerequisite: 224 or permission of instructor. Includes Hegelian and other works as well as development in writings of Marx, Engels, Lenin and contemporary writers. Focus on metaphysics, social philosophy, philosophy of history, nature of man, ethics, aesthetics.

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 artistic evaluation. Analysis of such concepts as representation, form, content, expression, innovation, convention, meaning truth as they apply in the context of the arts.
### Graduate Courses

**615 SEMINAR, HISTORY OF PHILOSOPHY**
3 credits
(May be repeated for a total of 12 credits)
Prerequisite: permission of instructor. Study in philosophical works of one major philosopher.

**626 ETHICAL THEORY**
3 credits
Examination of problems related to conduct and decision making in light of the Western tradition as well as contemporary insights of positivism, phenomenology, existentialism, logical analysis, and pragmatism.

**676 LOGICAL THEORY**
3 credits
Advanced topics in logic such as modal logic and axiomatics. Recommended for law student. Academic of normative systems is treated. It is suggested that a graduate student be familiar with material covered in a course such as 374 before taking this course.

**680 SEMINAR**
(May be repeated for a total of nine credits)
3 credits

**699 SEMINAR: THESIS SUPERVISION**
(May be repeated)
2 credits

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### PHYSICS 3650:

**130 DESCRIPTIVE ASTRONOMY**
3 credits
Qualitative and nonmathematical introduction to subjects of astronomy and astrophysics, intended primarily as a first science course for students not majoring in physical science.

**133 MUSIC, SOUNDS AND PHYSICS**
3 credits
Qualitative introduction to sound production and reproduction, with emphasis on music.

**137 LIGHT: COLORS, CAMERAS AND PERCEPTION**
3 credits
Introductory, qualitative course dealing with nature of light and interaction of light with material objects, project common visual defects.

**139 PROPERTIES OF LIGHT LABORATORY**
1 credit
Prerequisite: course 313 of permission. Introductory laboratory dealing quantitatively and qualitatively with properties of light and interaction of light with material objects.

**141 PHYSICS, ENERGY AND MAN**
3 credits
Introductory, qualitative course dealing with nature of energy including its availability, conservation and utilization by man. Energy resources; conversion efficiencies, environmental effects of energy production, new developments.

**160 PHYSICS IN SPORTS**
3 credits
An introduction to physics, particularly mechanics. Athletic activities utilized to illustrate principles.

**231 CONCEPTS OF PHYSICS**
4 credits
Prerequisites: high school algebra and trigonometry or 3450:149 as corequisite. General physics, emphasizing conceptually significant elements of physics such as conservation laws and symmetry principles, Newtonian mechanics, oscillations, wave mechanics, etc.

**232 CONCEPTS OF PHYSICS II**
4 credits
Prerequisite: 311. Electricity and magnetism, interference and diffraction of waves, nature of heat space and time in a theory of relativity, quantum mechanics of atomic phenomena, recent developments in study of elementary particles.

**261 PHYSICS FOR THE LIFE SCIENCES**
4 credits
Prerequisite: high school algebra, trigonometry or 3450:149 as corequisite. Introduction to professional work in biology and health professions and services. Emphasis on life science applications. Mechanics, laws of motion, force, torque, work, energy, power, temperature and properties of matter: gases, liquids, solids, fluid mechanics.

**262 PHYSICS FOR THE LIFE SCIENCES II**
4 credits
Prerequisite: 261. Laws of thermodynamics, kinetic theory. Waves: phenomena. Sound, light, optics, electricity, and magnetism; atomic and nuclear physics; radiactivity.

**267.8 LIFE SCIENCE PHYSICS COMPUTATIONS I AND II**
1 credit each
Corequisites: 261 (with 267A) and 262 (with 268B). Optional companion course to 267A2 provides additional computational experience in applications of physics to life sciences, emphasizing the use of algebra and trigonometry. Particularly recommended for students with modest mathematical preparation.

**291 ELEMENTARY CLASSICAL PHYSICS I**
4 credits
Corequisite: 3450:211. Introductory physics for students of science and engineering. Classical statistical, kinematics, and dynamics, as relates to contemporary physics. Oscillations, waves, fluid mechanics, vectors and some calculus introduced as needed.

**292 ELEMENTARY CLASSICAL PHYSICS II**
4 credits
Prerequisite: 291. Thermodynamics from atomic point of view, basic laws of electro-magnetism; mechanical, and electromagnetic waves, interference and diffraction, coherence, geometrical and physical optics.
293.4 PHYSICS COMPUTATIONS I AND II 1 credit each
Corequisites: 291 with 293 or 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.

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.

321 PHYSICS LABORATORY TECHNIQUES 2 credits
Prerequisite: permission of instructor. Design and fabrication of simple mechanical systems, photography in data collection, electronic chassis construction, printed circuit techniques, special measuring instruments.

331.1 ASTROPHYSICS I AND II 3 credits each
One-year comprehensive, qualitative course recommended for student mapping in physics or natural science, and for secondary school teachers and others wishing comprehensive survey of astronomy and astrophysics at intermediate level.

399 UNDERGRADUATE RESEARCH (May be repeated)
Prerequisite: permission of instructor. Participation in current research project in department under supervision of faculty member.

400/500 HISTORY OF PHYSICS 3 credits
Prerequisite: 232, 262 or 292. Study of origin and evolution of major principles and concepts characterizing contemporary physics.

404/504 ENERGY AND THE ENVIRONMENT 3 credits
Prerequisite: 232, 262 or 292. Physics of microscopie energy sources and techniques of their applications. Thermmodynamic efficiency. Storage, transport, size effects, prospective availability.

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 deflection waves examined.

407/507 QUANTUM PHYSICS 3 credits

410/510 ELECTRONICS 3 credits
Prerequisite: 232, 262 or 292. Electron tubes, semiconductors, their utilization in circuits introduction to mathematical analysis of same.

411.2/S11.2 INTERMEDIATE LABORATORY I AND II 2 credits each

420/520 OPTICS 3 credits
Prerequisite: 232, 262 or 292. Refraction, reflection, prisms, lenses, refractive index, waves and their propagation, interference and diffraction. Fringe gratings, polarization: emission of light, velocity of light, photometry, spectrometers.

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, electronic and electronic measurements. Teaching, design, calibration and resoring emphasized.

430/530 STATISTICAL PHYSICS 3 credits

431/531 MECHANICS 3 credits
Prerequisite: 292. Newtonian mechanics, conservation laws, planar static and dynamic motion, motion of a particle or rigid body, universal gravitation, planetary orbits, Kepler's laws, orbital perturbations, vibrational motions, moving frames of reference.

436/536 ELECTRICITY AND MAGNETISM 3 credits

438/538 METHODS OF APPLIED PHYSICS 3 credits
Prerequisite or corequisite: 421. Topics: design, performance, interpretation, reporting of physical measurements. Basic laboratory equipment, measurement techniques, an introduction to the principles of experimentation, measurement devices, data resolution and analysis, inference.

445/545 THEORETICAL MECHANICS 4 credits
Prerequisite: 431. Introduction to vector analysis, motion of a system of particles, mechanics of continuous media. Lagrange's equations, Hamilton's equations, inertia and stress tensors, rigid body rotation, Euler's equations, small vibration theory.

447/547 ELECTROMAGNETIC THEORY 4 credits
Prerequisite: 436. Electromagnetic theory at advanced level including electromagnetic fields, dielectrics, magnetic fields of steady currents, induction, magnetic energy, Maxwell's equations, electromagnetic waves, electromagnetic fields of moving charges, radiation.

451Z/S51Z ADVANCED LABORATORY I AND II 2 credits each
Prerequisite: 412 or permission of instructor. Applications of electronic, solid-state techniques to research-type projects in contemporary physics. Introduction to research techniques: nuclear magnetic resonance, electron spin resonance, nuclear quadrupole resonance, Scanning electron microscopy, Alpha- and beta-ray spectrophotometry.

458/558 LABORATORY DATA ANALYSIS 3 credits
Prerequisite: 411 or 421 and 4450. A selection of numerical methods for the processing of data collected in the physics laboratory. Use and develop computer programs to obtain correct inferences and maximum usefulness from laboratory data.

468/568 DIGITAL DATA ACQUISITION 2 credits
Prerequisites: 410 or 411, and 4450. Designed to introduce physics students to the use of digital techniques, microprocessors in making physical measurements.

470/570 INTRODUCTION TO SOLID-STATE PHYSICS 3 credits
Prerequisite: 407 or permission of instructor. An introduction to basic physical processes occurring in solids, with emphasis on fundamental relation between these processes and periodicity of crystaline lattice.

471/571 Z, NMR SPECTROSCOPY I AND II 2 credits each
Prerequisite: 292 or permission of instructor. Theoretical basis and experimental techniques of NMR spectroscopy. Classical concepts and quantum mechanical treatments of NMR. Bloch equation, spin-spin and spin-lattice relaxation times, steady state and transient phenomena. General features of NMR and high-resolution NMR spectra, NMR instrumentation and operating principles. Application of NMR spectra in various fields.

Graduate Courses

501 ATOMIC AND NUCLEAR PHYSICS I 3 credits
Prerequisites: 301 or 407 and 3450. An introduction to fundamental principles which give rise to observed complex behavior of matter. Introduction to quantum mechanics, waveparticle duality, and exchange symmetry. Atomic spectroscopy, quantum statistics, and the theory of gases. Temperature: thermodynamic systems, classical and quantum statistical mechanics, specific heat of solids.

502 ATOMIC AND NUCLEAR PHYSICS II 3 credits

505 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 Schrödinger's equations. Treatment and reduction of experimental data, plotting, simulation.

506 COMPUTER PHYSICS: NUMERICAL SOLUTIONS TO PHYSICS PROBLEMS II 3 credits
Prerequisite: 602 or permission. Data reduction, curve fitting, computer graphics. Numerical solutions to physics problems, including Newton's and Schrödinger's equations. Treatment and reduction of experimental data, plotting, simulation.

511 PHYSICAL PROPERTIES OF MATTER I 3 credits

512 PHYSICAL PROPERTIES OF MATTER II 3 credits
Prerequisite: 611 or permission. Measurement of and analysis of friction and adhesion of real materials, surface tension, surface forces, viscoelasticity, and mechanical properties of materials.
681 QUANTUM PHYSICS I
Prerequisite: 361 or permission. Elements of quantum theory. Wave function, operators, uncertainty principle, Schrödinger equation, matrix mechanics, quantum harmonic oscillator, quantum mechanics of one and many particles. 3 credits

682 QUANTUM PHYSICS II
Prerequisite: 681. Wave mechanics for systems of many particles; harmonic oscillator; angular momentum; spin; Pauli exclusion principle; scattering theory and perturbation theory; radiative and nuclear quantum processes; applications of quantum mechanics to atomic and nuclear problems. 3 credits

689 MASTER'S THESIS RESEARCH
Prerequisite: permission. With approval of department, one credit may be earned by candidate for M.S. degree upon satisfactory completion of a master's thesis. 1 credit

POLITICAL SCIENCE
3700:

100 GOVERNMENT AND POLITICS IN THE UNITED STATES
Examination of American political system with emphasis on fundamental principles, ideas, institutions and procedures of government and public policy. Lecture and discussion sections (day classes only). 4 credits

110 CIVIL LIBERTIES IN AMERICA
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. 2 credits

120 CURRENT POLICY ISSUES
Cannot be used for credit toward major in political science. Survey of major political issues and problems confronting nation; environment in which public policies are formed and executed. 2 credits

200 COMPARATIVE POLITICS
Introduction to comparative political analysis. Description of political systems of Great Britain, France, Germany and Soviet Union; contrast between democracy and totalitarianism. 4 credits

201 INTRODUCTION TO POLITICAL SCIENCE
Introduction to use of contemporary approaches and techniques employed in political analysis. Required of political science majors and recommended for others with good social science background. 3 credits

210 STATE AND LOCAL GOVERNMENT AND POLITICS
Examination of institutions, processes and intergovernmental relations at state and local levels. 3 credits

220 AMERICAN FOREIGN POLICY
Examination of American foreign policymaking process; public opinion and other limitations on policy; specific contemporary problems in selected areas. 3 credits

302 AMERICAN POLITICAL IDEAS
Examination of major thinkers and writers of American political thought. 3 credits

303 INTRODUCTION TO POLITICAL THOUGHT
Survey of major ideas and concepts of Western political theory from pre-Socrates through period of enlightenment. 3 credits

304 MODERN POLITICAL THOUGHT
Examination of central concepts of political thought from sixteenth Century to present: Modern liberalism, communism, fascism and totalitarianism emphasized. 3 credits

310 INTERNATIONAL POLITICS AND INSTITUTIONS
Relations among nations examined in political context. 4 credits

320 BRITAIN AND THE COMMONWEALTH
Description and analysis of government and politics of Great Britain and leading nations of the Commonwealth. 3 credits

321 WESTERN EUROPEAN POLITICS
Description and analysis of government and politics of France, Germany, Italy and Switzerland, with appropriate references to Scandinavia and Low Countries. 3 credits

322 SOVIET AND EAST EUROPEAN POLITICS
Theory and practice of government and politics in Soviet Union, comparison with selected communist systems of Eastern Europe. 3 credits

323 POLITICS OF CHINA AND JAPAN
Examination of governmental structures and political processes of China and Japan. 3 credits

325 COMPARATIVE PUBLIC POLICY
Consideration of formulation, implementation, impact of public policies in a comparative perspective. By examining public policies in a variety of countries the relationship of different economic and political systems to policy outcomes is observed. 3 credits

326 POLITICS OF DEVELOPING NATIONS
General introduction to concepts and theories of political development and political institutions, electoraritny and political processes of selected emerging nations. 3 credits

327 AFRICAN POLITICS
Examination of patterns of government and politics of nations south of Sahara. 3 credits

330 CANADIAN POLITICS
An examination of the instructions and processes of Canadian government, a survey of some of the pressing issues confronting public decision makers in Canada. 3 credits

340 AMERICAN POLITICAL PARTIES AND INTEREST GROUPS
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. 3 credits

341 THE AMERICAN CONGRESS
Examination of structure and function of Congress, with comparative materials on legislative process at all levels. (Presidential and congressional conflict examined.) 3 credits
Courses of Instruction

342 MINORITY GROUP POLITICS 3 credits
Examination of political behavior of racial, religious and ethnic minority groups in the United States.

350 THE AMERICAN PRESIDENCY 3 credits
The presidency as focal point of politics, policy and leadership in American political system.

360 THE JUDICIAL PROCESS 3 credits
Role of police, lawyers, courts and judges in context of American political process. Structure and process of judicial policymaking and the influences of judicial power.

370 THE AMERICAN BUREAUCRACY 4 credits
Examination of implementation of public policy. Administrative organization and principles stressed.

380 URBAN POLITICS AND POLICIES 4 credits
Examination of problems emerging from urban and regional complex in the United States. Structure and processes of policy making at this level analyzed.

381 STATE POLITICS 3 credits
Analysis of state political processes in terms of its capacity to deal with a wide range of socio-economic problems. Special emphasis on legislators, administrators, parties and interest groups.

382 INTERGOVERNMENTAL RELATIONS 3 credits
An examination of the history, theory, contemporary activities of intergovernmental relations in the United States. Interactions of local, state and federal units of government will be considered.

391 HONORS IN POLITICAL SCIENCE 3 credits
Prerequisites: at least 17 credits and a 3.25 average in political science and permission of adviser.

392 SELECTED TOPICS IN POLITICAL SCIENCE 1-3 credits
(Not 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.

395 INTERNSHIP IN GOVERNMENT AND POLITICS 2-3 credits
(May be repeated for a total of six credits. No more than four credits may be applied toward major in political science).
Prerequisites: two courses in political science or permission of instructor. Supervised individual placement with political officials, party groups, governmental agencies, interest groups.

397 INDEPENDENT STUDY 1-4 credits
May be repeated for a total of four credits.
Prerequisites: senior standing, 3.0 grade-point average and permission of adviser.

402 POLITICS AND THE MEDIA 3 credits
Examination of relationship between the press, the news media and political decision makers.

405/565 POLITICS IN THE MIDDLE EAST 3 credits
The role of the state system in the Middle East after World War II: an analysis of the socio-cultural, political forces influencing the political behavior of the people of the Middle East. In-depth study of selected political systems.

415/515 COMPARATIVE FOREIGN POLICY 3 credits
Prerequisite: 310 or 220 or permission. Study of foreign policies of selected nations, with special attention to processes and instruments of decision making of the major powers.

420/520 ISSUES AND APPROACHES IN COMPARATIVE POLITICS 3 credits
Prerequisite: 200 or permission of instructor. Detailed examination of approaches to the study of comparative politics, political parties, elites and various theories of revolution.

425/525 LATIN AMERICAN POLITICS 3 credits
Prerequisite: 200 or permission of instructor. Examination of patterns of government and politics in Latin American area.

440/540 PUBLIC OPINION AND POLITICAL BEHAVIOR 4 credits
Prerequisite: 100 or 120 or permission. Nature and role of public opinion in political process. Historical development, current methods of measurement. Political behavior of American electorate.

441/541 THE POLICY PROCESS 3 credits
Prerequisite: eight credits in political science. Intensive study of policy making process: emphasizing roles of participants in executive and legislative branches as well as private individuals and groups.

442/542 METHODS OF POLICY ANALYSIS 3 credits
Prerequisite: 201. Examines variety of methods available for analyzing public policies. Techniques of cost/benefit analysis, evaluation research, quasi-experimentation are covered as well as consideration of ethical questions in policy analysis. The practical problems facing policy analysts.

451/511 THE SUPREME COURT AND CONSTITUTIONAL LAW 4 credits
Prerequisite: 100 or 251 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 and criminal liberties.

480/580 POLICY PROBLEMS 3 credits
(May be repeated for a total of six credits.
Prerequisite: 360 or permission. Intensive study of selected problems in public policy.

490/590 WORKSHOP 1-3 credits
(May be repeated.
Group studies of special topics in political science. May not be used to meet undergraduate requirements in political science. Elective credit only.

497 SENIOR HONORS PROJECT IN POLITICAL SCIENCE 1-3 credits
(May be repeated for a total of six credits.
Prerequisites: senior standing in Honors Program and permission. Open only to a political science major in Honors Program. Independent study leading to completion of senior honors thesis or other original work.

Graduate Courses

600 SEMINAR IN POLITICAL THEORY 3 credits
Prerequisite: six credits in political science or permission. Selected topics in political theory investigated in depth.

610 SEMINAR IN INTERNATIONAL POLITICS 3 credits
Prerequisite: six credits in political science or permission. Analysis of current problems in theory and practice of politics and organization.

620 SEMINAR IN COMPARATIVE POLITICS 3 credits
Prerequisite: six credits in political science or permission. Research on selected topics in comparative politics. Comparative method.

625 SEMINAR IN POLITICS OF DEVELOPING NATIONS 3 credits
Prerequisite: six credits in political science or permission. Selected topics investigated. Emphasis on theories of political development.

630 SEMINAR IN NATIONAL POLITICS 3 credits
Prerequisite: six credits in political science or permission. Reading and research on formulation, development and implementation of national policy in one or more areas of contemporary significance.

640 SEMINAR IN POLITICAL BEHAVIOR 3 credits
Prerequisite: six credits in political science, including 440 or permission. Techniques of quantitative research in political science, utility and limitations of quantitative analysis.

641 SEMINAR IN INTERGOVERNMENTAL RELATIONS 3 credits
Prerequisite: six credits in 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.

650 SEMINAR IN CIVIL LIBERTIES AND THE JUDICIAL PROCESS 3 credits
Prerequisite: six credits in political science or permission. Research on judicial process viewed in political context. Readings and research on selected topics.

670 SEMINAR IN THE ADMINISTRATIVE PROCESS 3 credits
Prerequisite: six credits in political science or permission. Intensive examination of administrative implementation of public policies. Readings and research on selected topics.

680 SEMINAR IN URBAN AND REGIONAL POLITICS 3 credits
Prerequisite: six credits in political science or permission. Focus on processes of policy formulation and execution in modern metropolitan community. Emphasis on structural functional context.

685 SPECIAL TOPICS IN POLITICAL SCIENCE 1-3 credits
Prerequisite: six credits in political science or permission. Graduate-level examination of selected topics in American politics, comparative politics, international politics or political theory.

690 INTERNSHIP IN POLITICAL SCIENCE 3 credits
Prerequisite: permission of graduate advisor. Field experience: student is placed with officeholders, government agencies or political groups for research or practical experience of relevance to program.

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.

699 THESIS 2-6 credits

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.

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.

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.

130 DEVELOPMENTAL PSYCHOLOGY 4 credits
Prerequisite: 100. Determinants and nature of behavioral changes from conception to death.
140 INTRODUCTION TO INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY 4 credits
Prerequisite: 100. Survey of applications of psychology in industry, business, and government. Emphasis on understanding employers and evaluation of their behavior.

300 ADVANCED EXPERIMENTAL PSYCHOLOGY 4 credits
Prerequisite: 120. Scientific methods and design in experimental investigation of human behavior. Emphasis on exposure to and performance on all aspects of a single, in-depth research project in which student applies the lecture information.

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.

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.

330 MOTIVATION AND THE DYNAMICS OF BEHAVIOR 3 credits
Prerequisite: 100. Survey of behavioral, psychoanalytic, cognitive, and consistency theories to explain arousal, direction and persistency of behavior including empirical evidence for achievement, motivation, aggression and other behaviors.

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, group processes and nonverbal behavior.

350 THE PSYCHOLOGY OF SMALL-GROUP BEHAVIOR 3 credits
Prerequisite: 100. Intensive investigation of factors affecting behavior in groups. Covers joint effects of personality, social structures, task situations and situational variables in affecting group behavior.

360 CROSS-CULTURAL PSYCHOLOGY 3 credits
Prerequisite: 100. Influence of culture upon development of individual psychological processes including functioning, social motives, sex roles and values.

370 RESEARCH DESIGN AND ANALYSIS IN PSYCHOLOGY 3 credits
Prerequisites: 100 and 110 or 3470:251-7 as alternate prerequisite for 110. Review of research design and methodology for psychology covering basic concepts, empirical research design, internal and external validity and specific analytical techniques as applied to psychology.

400/500 PERSONALITY 3 credits
Prerequisite: Consideration of current conceptualizations of the normal personality with emphasis on methods of measurement experimental findings and research techniques.

410/510 PSYCHOLOGICAL TESTS AND MEASUREMENTS 4 credits
Prerequisites: 100, 110 or permission. Consideration of nature, construction and use of tests and measurements in industry, government and education. Includes attitude and achievement tests, rating scales, attitude and opinion analysis.

420/520 ABNORMAL PSYCHOLOGY 3 credits
Prerequisites: 100 and three credits in psychology. Survey of syndromes, etiology, diagnosis and treatment of major psychological conditions ranging from transient maladjustments to psychosis.

430/530 PSYCHOLOGICAL DISORDERS OF CHILDREN 4 credits
Prerequisites: 100 and 130 or permission. Survey of syndromes, etiologies and treatments of behavioral disorders in children from standpoint of developmental psychology. Behavioral data and treatment approaches emphasized.

440/540 INTRODUCTION TO CLINICAL METHOD 3 credits
Prerequisites: 100 and 420. Review of tests, interviews and personal data in human assignment.

450/550 LEARNING AND COGNITION 4 credits
Prerequisite: 120. Topics include basic conditioning and learning processes, verbal learning, memory and transfer of training, as well as review of higher-order mental processes such as human conceptual behavior, problem solving and thinking.

460/560 HISTORY OF PSYCHOLOGY 3 credits
Prerequisite: 100. Psychology in pre-scientific period and details of development of systematic viewpoints in Nineteenth and Twentieth Centuries.

470 ADVANCED INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY 4 credits
Prerequisite: 140 or permission. Application of psychology to organizational theory, leadership, management, personnel selection, engineering psychology, person-machine systems and consumer behavior.

475 PSYCHOLOGY OF ADOLESCENCE AND AGEING 4 credits
Prerequisite: 100. Psychological aspects of human development from adolescence to old age. A study including age related changes in socialization, personality, intelligence, sensation, perception, learning, memory and clinical application.

480 SPECIAL TOPICS IN PSYCHOLOGY 1-4 credits
May be repeated.
Prerequisite: 100 or permission. Comprehensive survey of contemporary status of specialized topics and issues in psychology. Emphasis on original source materials, critical analysis and synthesis of empirical and theoretical aspects.

483 HONORS PROJECT IN PSYCHOLOGY 4 credits each
Prerequisites: senior standing, psychology major and permission. 488 Selection of research topic, review of relevant literature, research design and data collection. 489 Analysis and write-up of research project in journal or thesis style.

490/590 WORKSHOP IN PSYCHOLOGY 1-3 credits
(May be repeated.) Group studies of special topics in psychology. May not be used to meet graduate or undergraduate major requirements in psychology.

497 INDEPENDENT READING AND/OR PRACTICUM IN PSYCHOLOGY 1-3 credits
(May be repeated.) Prerequisite: departmental permission. Independent reading and/or practicum in an area of psychology under supervision and evaluation of selected faculty member.

Graduate Courses

610 PSYCHOLOGY CORE I: ORGANIZATIONAL, SOCIAL AND APPLIED 4 credits
Prerequisites: graduate standing in psychology or the joint doctoral program in counseling psychology or permission based on a psychology undergraduate major or an appropriate background for the course as determined by the instructor. Survey of the social bases of behavior, group process, systems theory and motivation, application of industrial/organizational psychology to industry, business and government including organizational theory, differential psychology, personnel selection and training, consumer behavior and engineering psychology. Research methodology, applied psychometrics, professional and ethical issues.

620 PSYCHOLOGY CORE II: DEVELOPMENTAL, PERCEPTUAL AND COGNITIVE 4 credits
Prerequisites: graduate standing in psychology or the joint doctoral program in counseling psychology or permission based on a psychology undergraduate major or an appropriate background for the course as determined by the instructor. Survey of theoretical, methodological, and empirical aspects of human development, perception, learning and memory, cognition, and information processing including an historical perspective.

630 PSYCHOLOGY CORE III: COUNSELING, INDIVIDUAL AND GROUP 4 credits
Prerequisites: graduate standing in psychology or the joint doctoral program in counseling psychology or permission based on a psychology undergraduate major or an appropriate background for the course as determined by the instructor. Survey of techniques of an approach to the study, evaluation and modification of normal and abnormal behavior. Includes study of individual differences, personality theories, adaptive and maladaptive behaviors, counseling theories, research methods and professional issues within an historical perspective.

640 PSYCHOLOGY CORE IV: SENSORY, BIOPSYCHOLOGICAL AND EXPERIMENTAL 4 credits
Prerequisites: graduate standing in psychology or the joint doctoral program in counseling psychology or permission based on a psychology undergraduate major or an appropriate background for the course as determined by the instructor. Survey of the biological foundations of behavior including sensory processes, psychophysiology and scaling, perception (from a comparative and evolutionary perspective), animal learning and the evolution of intelligence, behavior genetics, neuropsychiatry and neurophysiology, psychophysiology and the physiological bases of psychological processes such as emotion, motivation, learning, personality differences, intelligence and consciousness. Topics are considered within an historical perspective.

671 PRE-PRACTICUM IN COUNSELING PSYCHOLOGY 2 credits
Prerequisite: 630. Graduate standing in psychology and permission of instructor. Introduction to and training in skills used in process of counseling and psychotherapy. This course is preparation for actual client contact in subsequent practica.

672 COUNSELING PRACTICUM 4 credits
Prerequisites: 630. 671. Graduate standing in psychology and permission of instructor. Extension and development of therapeutic skills and intervention techniques, with supervised training in counseling clients in the Psychology Department Counseling Clinic.

673 COUNSELING ASSESSMENT PRACTICUM 4 credits
Prerequisites: 630. 671. Graduate standing in psychology and permission of instructor. Supervised experience with the use of assessment devices as part of a counseling treatment program.

674 PERSONNEL PRACTICUM 1-4 credits
(May be repeated.) Prerequisite: 610. Graduate standing in psychology. 14 credits of graduate psychology departmental permission. Supervised field experience in industrial/organizational psychology in settings including business, government or social organizations. The field experience requires the application of industrial/organizational psychological theories and techniques.

675 DEVELOPMENTAL PRACTICUM 4 credits
(May be repeated.) Prerequisites: 610. Graduate standing in psychology. 14 credits of graduate psychology and departmental permission. Supervised field experience and developmental psychology to provide the student with the opportunity to apply skills and knowledge acquired in the academic setting to obtain knowledge about community programs and agencies which focus on developmental processes.

699 THESIS RESEARCH 1-4 credits
(May be repeated.) Prerequisite: departmental permission. Research analysis and development of thesis for master's degree.

700 SURVEY OF PROJECTIVE TECHNIQUES 2 credits
Prerequisites: 630 or instructor's permission. Introduction to rationale, assumptions underlying and research of projective testing. Elementary administration, scoring and interpretation of Rorschach and review of other important contemporary projective instruments.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>701</td>
<td>PSYCHODIAGNOSTICS</td>
<td>4 credits</td>
<td>Prequisites: 700. Application of psychological testing to problems in diagnosis and evaluation. Practical experience in administration, scoring and interpretation. Integration of projective data with other assessment techniques in various settings.</td>
</tr>
<tr>
<td>702</td>
<td>PRINCIPLES AND PRACTICE OF INDIVIDUAL INTELLIGENCE TESTING</td>
<td>4 credits</td>
<td>Prequisites: 630 or graduate standing in School Psychology, and instructor’s permission. History, principles and methodology of intelligence testing. Supervised practice in administration, scoring and interpretation of individual intelligence tests for children and adults.</td>
</tr>
<tr>
<td>703</td>
<td>THEORIES OF PSYCHOTHERAPY</td>
<td>4 credits</td>
<td>Prequisites: 630 or departmental permission. Theories of individual psychotherapy, including Freudian, Jungian, Adlerian, Rogerian, and other major models. Consideration given to ancillary therapeutic techniques. Consideration of psychoanalytic methods. Research and related clinical topics. Important research findings are reviewed and contemporary problems in evaluation are discussed. Ethics of psychotherapy is also covered.</td>
</tr>
<tr>
<td>705</td>
<td>VOCATIONAL BEHAVIOR</td>
<td>4 credits</td>
<td>Prequisites: 630 or departmental permission. Research and theory on vocational behavior and vocational counseling. Topics include major theories of vocational behavior, empirical research on these theories, applied work in vocational counseling, and research.</td>
</tr>
<tr>
<td>706</td>
<td>ADVANCED COUNSELING PSYCHOLOGY</td>
<td>4 credits</td>
<td>Prequisites: 630. Advanced study of the background, theoretical foundations, techniques, research, and applications of counseling psychology as a science and profession.</td>
</tr>
<tr>
<td>725</td>
<td>DEVELOPMENTAL PSYCHOLOGY: PREGNATAL, INFANTY AND EARLY EXPERIENCE</td>
<td>4 credits</td>
<td>Prequisites: 620 or permission. Survey of psychological aspects of prenatal period, infancy and early childhood. Emphasis on understanding how early experience structures adult behavior.</td>
</tr>
<tr>
<td>726</td>
<td>CHILD PSYCHOLOGY</td>
<td>4 credits</td>
<td>Prequisites: 620 or permission. Current research in child psychology covered with some emphasis on cognitive development. Topics include language, memory, intelligence, hyperactivity and selective aspects of social development.</td>
</tr>
<tr>
<td>727</td>
<td>PSYCHOLOGY OF ADULTHOOD AND AGING</td>
<td>4 credits</td>
<td>Prequisites: 620 or permission. Part II 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>730</td>
<td>THEORIES OF LEARNING</td>
<td>4 credits</td>
<td>Prequisites: 620 or departmental permission. Contemporary review of research and theory in language and memory. Process-oriented approach adopted with emphasis on developmentals issues.</td>
</tr>
<tr>
<td>731</td>
<td>COGNITIVE DEVELOPMENT</td>
<td>4 credits</td>
<td>Prequisites: 620. 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>732</td>
<td>DEVELOPMENTAL BIOPSYALOGY</td>
<td>4 credits</td>
<td>Prequisites: 620, 640 and graduate standing in psychology or permission of instructor. 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>736</td>
<td>THE PSYCHOLOGY OF MENTAL RETARDATION</td>
<td>4 credits</td>
<td>Prequisites: 620 or graduate standing in psychology or permission of instructor. Current knowledge about the cognitive and social development of retarded individuals is examined. The first half of the course is an overview emphasizing methodology and findings about the mentally retarded. The second half involves an in-depth exploration of selected applied and basic research topics such as reaction to failure, mainstreaming, sexuality, training and behavioral problems, knowledge and training.</td>
</tr>
<tr>
<td>737</td>
<td>THE PSYCHOLOGY OF LEARNING DISABILITIES</td>
<td>4 credits</td>
<td>Prequisites: 620 or graduate standing in psychology or permission of instructor. Examination of the theories and research regarding learning and reading disabilities. Emphasis is on a critical evaluation of the research which investigated hypothesized process differences between learning disabled and normal achieving children.</td>
</tr>
<tr>
<td>738</td>
<td>APPLIED DEVELOPMENTAL PSYCHOLOGY</td>
<td>4 credits</td>
<td>Prequisites: 620 and graduate standing in psychology or permission of instructor. Examination of methodologies and research utilized in applied developmental settings. Topics include test methodologies, evaluation, child abuse, early intervention, day care, rehabilitation, social networks, subcultural variations and hospice/dying.</td>
</tr>
<tr>
<td>740</td>
<td>INDUSTRIAL GERONTOLOGY</td>
<td>4 credits</td>
<td>Prequisites: 610 and 620, graduate standing in psychology or departmental permission to students who have completed 610 and 620. Study of age-related issues in work involving adult and older adult workers. Topics include personnel selection, training, motivation and appraisal, order employees, health and safety, job design, vocational guidance, and retirement.</td>
</tr>
<tr>
<td>750</td>
<td>ADVANCED PSYCHOLOGICAL TESTS AND MEASUREMENTS</td>
<td>4 credits</td>
<td>Prequisites: 610 and graduate standing in psychology or departmental permission to students who have completed 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>751</td>
<td>ORGANIZATIONAL PSYCHOLOGY</td>
<td>4 credits</td>
<td>Prequisites: 610 and graduate standing in psychology or departmental permission for other students who have completed 610. Applies the general systems theory framework to the study of the relationships between organizational characteristics and human behavior, the internal processes of organizations, and the relationships between organizations and their environment.</td>
</tr>
<tr>
<td>753</td>
<td>PERSONNEL SELECTION AND PERFORMANCE EVALUATION</td>
<td>4 credits</td>
<td>Prequisites: 610 and graduate standing in psychology or permission to students who have completed 610. Review of industrial training methods and techniques in terms of learning theory, with consideration of techniques to evaluate these training ad organizational development programs.</td>
</tr>
<tr>
<td>754</td>
<td>RESEARCH METHODS IN PSYCHOLOGY</td>
<td>2-4 credits</td>
<td>Prequisites: 610, 620 and graduate standing in psychology or permission to student. Scientific method and its specific application to psychology. Topics include data collection, validity, reliability, use of general linear models and factor analysis.</td>
</tr>
<tr>
<td>755</td>
<td>COMPUTER APPLICATIONS IN PSYCHOLOGICAL RESEARCH</td>
<td>4 credits</td>
<td>Prequisites: 610 and graduate standing in psychology or departmental permission to students who have completed 610. Practice 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>756</td>
<td>ROLE OF ATTITUDES AND VALUES IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY</td>
<td>4 credits</td>
<td>Prequisites: 610 and graduate standing in psychology or departmental permission to students who have completed 610. Consideration of the role of attitudes and values in the prediction of behavior, including consumer psychology, explaining attitude changes, measureme- ment of attitudes, and the use of survey methodology.</td>
</tr>
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<td>757</td>
<td>ORGANIZATIONAL MOTIVATION AND LEADERSHIP</td>
<td>4 credits</td>
<td>Prequisites: 610 and graduate standing in psychology or departmental permission to students who have completed 610. Survey of theories of motivation, including both the intrinsic and extrinsic determinants of worker motivation. The leadership process and its relation to motivation, group performance, and attributions is also analyzed.</td>
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<tr>
<td>758</td>
<td>ENGINEERING PSYCHOLOGY AND JOB DESIGN</td>
<td>4 credits</td>
<td>Prequisites: 610 and graduate standing in psychology or permission to students who have completed 610. Survey of field of engineering psychology. Covers such topics as job design, task analysis, man-machine systems analysis, working conditions and accidents.</td>
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<td>759</td>
<td>JOB EVALUATION AND EQUAL PAY</td>
<td>4 credits</td>
<td>Prequisites: 610. Major job evaluation systems will be reviewed and critiqued. Issues of job analysis, minimum qualifications for a job will be reviewed. Advantages and disadvantages of various job evaluation systems will be compared. Issues concerning federal regulation including the Equal Pay Act, comparable worth and other issues will be discussed. Regression approaches to job evaluation and applicable court cases will be reviewed.</td>
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<tr>
<td>760</td>
<td>GRADUATE SEMINAR IN PSYCHOLOGY</td>
<td>1-4 credits</td>
<td>May be repeated. Prequisite: Graduate standing in psychology and permission. Special topics in psychology.</td>
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<tr>
<td>776</td>
<td>ADVANCED COUNSELING PRACTICUM</td>
<td>4 credits</td>
<td>May be repeated. Prequisites: 708,2-3 credits of 995, 996 or permission. This course provides graduate student in counseling with actual client contacts under supervision.</td>
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<tr>
<td>797</td>
<td>INDEPENDENT READING AND/or RESEARCH</td>
<td>1-3 credits</td>
<td>May be repeated. Prequisite: Permission, individual readings and/or research on a topic under supervision of faculty member with whom specific arrangements have been made.</td>
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<tr>
<td>899</td>
<td>DISSERTATION RESEARCH</td>
<td>1-2 credits</td>
<td>Open to a properly qualified student. Required minimum 12 credits, made subject to departmental approval. Supervised research on topic deemed suitable by dissertation committee.</td>
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**SOCIOLoGY 3850:**

**100 INTRODUCTION TO SOCIOLOGY**

Basic terminology, concepts and approaches in sociology, including introduction to analysis of social groups and application of sociological concepts to the understanding of social systems. Required of majors. Lecture/Discussion 4 credits.
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603 SOCIOLOGICAL RESEARCH METHODS
3 credits
Advanced research methods including advanced statistical techniques. (Same as KSU 72211) Lecture/Laboratory.

604 SOCIAL RESEARCH DESIGN
3 credits
Intensive analysis of problems in a research design, i.e., those encountered in thesis preparation. (Same as KSU 72212) Seminar or dissertation.

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 72214) Seminar.

613 SOCIOLOGY OF PROGRAM EVALUATION AND PROGRAM IMPROVEMENT
3 credits
Prerequisite: permission. Program evaluation as a tool 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.

615 EPIDEMIOLOGICAL METHODS IN HEALTH RESEARCH
3 credits
Prerequisite: permission. Descriptive methods 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.

617 SOCIOLOGICAL THEORY
3 credits
Examination of major theoretical frameworks, concepts. Fall term the discussion of sociological thought. Emphasis on contemporary sociological theory, its step to classical works. (Same as KSU 72606) Seminar.

620 GENERAL SYSTEMS THEORY
3 credits
Prerequisite: 618. Analysis of general systems theory as a basis for model of society and as heuristic framework for theory and research. (Same as KSU 82107) Seminar.

631 SOCIAL PSYCHOLOGY
3 credits
Intensive examination of social psychological theory and research, both classic and contemporary. Provides student with background and working knowledge of social psychological aspects of social phenomena. (Same as KSU 72430) Seminar.

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 72435) Seminar.

634 PERSONALITY AND SOCIAL SYSTEMS
3 credits
Examination of contemporary theory and research on linkages between personality and society. Some applications in studies of modernization, social class and occupations and sex roles. (Same as KSU 72433) Seminar.

635 SOCIOLOGY OF COMMUNICATION
3 credits
Examination of communication models, content, audiences and impact within sociological context. (Same as KSU 70434) Seminar.

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 72876) Seminar.

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.

645 SOCIAL ORGANIZATION
3 credits
General survey of major theories, concepts and problems pertaining to creation, alteration and distribution of social organization at various levels of size and complexity. (Same as KSU 72546) Seminar.

646 SOCIAL STRATIFICATION
3 credits
Prerequisite: permission. Seminar dealing with social class and caste systems with special reference to American social structures. (Same as KSU 72461) Seminar.

648 COMPLEX ORGANIZATIONS
3 credits
Prerequisite: permission. Organizations as social systems: their effect on individuals. Problems of professionals in bureaucracies. (Same as KSU 72545) Seminar.

649 SOCIOLOGY OF WORK
3 credits
Examination of work as a behavioral phenomenon in human societies, contrasts with nonwork and leisure, significance of occupations, professions and work types in organization of work. (Same as KSU 72542) Seminar.

651 SEMINAR IN RACE 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 72670) Seminar.

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 72873) Seminar.

656 MEDICAL SOCIOLOGY
3 credits
Prerequisite: permission of instructor. A general survey of the field of medical sociology with special emphasis on application of sociological concepts and methods as tools to aid in the analysis of health and health care in the contemporary urban United States.

657 URBAN HEALTH CARE
3 credits
Prerequisite: permission. Relationships between urban social structures and processes and organization and functioning of health care delivery systems in urbanized nations. Seminar.

658 FIELD RESEARCH IN URBAN LIFESTYLES
3 credits
Prerequisite: permission. Exploration 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. Seminar.

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 72768) Seminar.

664 SOCIOLOGY OF CRIMINAL BEHAVIOR
3 credits
Analysis of relationship of crime and deviance to social structure and social processes. Response by criminal justice agencies. (Same as KSU 72769) Seminar.

665 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 72763) Seminar.

666 SOCIOLOGY OF CORRECTIONS
3 credits
Prerequisite: permission. Analysis of correctional institution as social system. Formal structure and internal dynamics. Analysis of present state of corrections research. (Same as KSU 72764) Seminar.

677 FAMILY ANALYSIS
3 credits
Analysis and evaluation of theoretical and empirical research on the family. Concentration on techniques of theory construction and research design in sociological study of the family. (Same as KSU 72543) Seminar.

679 SOCIAL GERONTOLOGY
3 credits
Prerequisite: permission. Impact of aging upon individuals and society. Reactions of individuals and society to aging. (Same as KSU 71877) Seminar.

687 POLITICAL SOCIOLOGY
3 credits
Description, analysis and interpretation of political behavior through application of sociological concepts. (Same as KSU 72544) Seminar.

689 SOCIOLOGY OF EDUCATION
3 credits
Prerequisite: permission. Selected problems in sociological analysis of educational systems. Emphasis on such social determinants of learning as class, race, family and peer subcultures. (Same as KSU 72547) Seminar.

691 CROSSt CULTURAL PERSPECTIVES IN AGING
3 credits
Prerequisite: permission. A comparison of aging in various cultures and societies around the world.

696 POPULATION
3 credits
Analysis of basic population theory and methods. Trends and demographic variables. Migration and selected socioeconomic variables also considered. (Same as KSU 77556) Seminar.

697 SOCIAL CHANGE
3 credits
Advanced seminar in theories of social change. (Same as KSU 72920) Seminar.

688 HUMAN ECOLOGY
3 credits
Prerequisite: permission. Selected problems in sociological analysis of human ecology. Emphasis on such social determinants of learning as class, race, family and peer subcultures. (Same as KSU 72556) Seminar.

698 URBAN ECOLOGY
3 credits
Seminar and measurement of social ecology of urban areas. Emphasis on trends and differentials in distribution of social and organizational behaviors in urban America. Seminar.

697 READINGS IN CONTEMPORARY SOCIOLOGICAL LITERATURE
1-3 credits
Prerequisites: seven credits of sociology and permission of advisor. Seminar. Graduate student only. Methodological and literary trends that are of current interest. Seminar.

699 DIRECTED RESEARCH
1-3 credits
(May be repeated) Prerequisite: Permission. Empirical research to be conducted by the student under graduate faculty supervision.

689 THESIS
2-6 credits
(May be repeated for a total of 9 credits) Prerequisite: permission. Supervised thesis writing.

700 COLLEGE TEACHING OF SOCIOLOGY
2 credits
Prerequisite: teaching assistant or permission. Training and experience in college teaching of sociology. Must be approved by the college toward a degree. Seminar.

705 THEORY AND MEASUREMENT OF SOCIAL ATTITUDES
3 credits
Prerequisites: 663, 664, or permission. Seminar in theories of social attitudes and techniques for their measurement. (Same as KSU 72723) Seminar.

708 MULTIVARIATE TECHNIQUES IN SOCIOLOGY
3 credits
Prerequisites: 663 and 664, or permission; sociology graduate student only. Methodological problems using advanced multivariate techniques in analysis of sociological data. Topics include nonexperimental causal analysis such as recursive and nonrecursive path analysis. (Same as KSU 82120) Seminar.

707 MEASUREMENT IN SOCIOLOGY
3 credits
Prerequisites: 106 or permission. Theory and methods of measurement reliability and validity in social research. Topics include estimating reliability and validity, scaling and item design, alternative measurement strategies, measurement models. Seminar.

Courses of instruction 209
709 ADVANCED TECHNIQUES IN RESEARCH 1-3 credits
Prerequisite: permission. Selected topics in advanced statistical analysis and design of research studies. (Same as KSU 6213) Seminar.

706 ANALYSIS OF SOCIOLOGICAL DATA 3 credits
Prerequisite: 706 or permission. Critical examination of data analysis techniques having particular relevance to research problems in sociology. (Same as KSU 6212) Seminar.

710 SOCIAL SAMPLING 3 credits
Prerequisite: 703 or permission. Theory and methods of sampling. Includes sample design, sampling efficiency, nonresponse, mortality in longitudinal designs, urban organizational, and survey sampling, stratified and cluster sampling. Seminar.

711 SURVEY RESEARCH METHODS 3 credits
Prerequisites: 603 or 604 or permission. Application of experimental and quasi-experimental methods in survey research with special attention given to appropriate designs, statistical analysis and empirical literature. Seminar.

714 QUALITATIVE METHODOLOGY 3 credits
Prerequisites: 601 or permission. Theory and methods of constructing scientific theory. Emphasis on writings of the major sociological thinkers. (Same as KSU 7210) Seminar.

717 SPECIAL TOPICS IN SOCIOLOGICAL THEORY 1-3 credits
Open course to cover content area not readily subsumable under other headings. Consent of course to be determined by instructor. (Same as KSU 6219) Seminar.

722 EARLY SOCIOLOGICAL THOUGHT 3 credits
Prerequisite: 617 or permission. Two to four major sociological thinkers prior to 1930 examined in depth. Specific philosophers considered will be chosen by instructor but will be announced well in advance of beginning of class. (Same as KSU 6210) Seminar.

723 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 6210) Seminar.

725 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.

737 CONTEMPORARY TRENDS IN SOCIAL PSYCHOLOGY 1-3 credits
Selected topics in significant contemporary issues, theories and methodological developments in social psychology. (Same as KSU 6433) Seminar.

3870: CULTURAL ANTHROPOLOGY

150 CULTURAL ANTHROPOLOGY 4 credits
Introduction to study of culture: cross-cultural view of human adaptation through technology, social organization, and ideology. Lecture.

151 EVOLUTION OF MAN AND CULTURE 3 credits
Biological and cultural evolution of Homo sapiens; comparative study of Primates; Old World archaelogy. Lecture.

270 CULTURES OF THE WORLD 2 credits
Prerequisite: 150 or permission of instructor. An examination of diversity in pre-industrial cultures; the ways in which cultures differ and the major processes which produce cultural differences.

355 INDIANS OF SOUTH AMERICA 3 credits
Prerequisite: 630 or 635.010 or permission. Survey of aboriginal peoples of South America, with emphasis on culture change and continuity of culture patterns. Lecture.

356 ARCHAEOLOGY OF THE AMERICAS 3 credits
Prerequisite: 630 or 635.010 or permission. Survey of prehistoric cultures of North, Middle and South America; beginning with peopling of Western Hemisphere and ending with European contact. Lecture.

357 MAGIC, MYTH AND RELIGION 3 credits
Prerequisites: 630 or 635.010. Analysis of the data concerning the origin, roots and functions of magic and religion in a broad range of human societies, with emphasis on the non-Western, pre-industrial societies. Examination of belief and ritual systems of such societies.

358 INDIANS OF NORTH AMERICA 3 credits
Prerequisite: 630 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.

359 ANTHROPOLOGICAL RESEARCH 1-3 credits
Prerequisite: permission. Individual study of problem areas of special interest to an individual student under guidance of a faculty member.

455 CULTURE AND PERSONALITY 3 credits
Prerequisite: 150 or permission. Examination of functional and causal relationships between culture and individual cognition and behavior. Lecture.

457 CULTURE AND MEDICINE 3 credits
Prerequisite: 150 or permission of instructor. Analyzes various aspects of Western and non-Western medical systems from an anthropological perspective. Compares traditional medical systems around the world.

461 LANGUAGE AND CULTURE 3 credits
Prerequisite: 150 or permission. Examination of language structure and interaction of language, cognition and culture. Lecture.

462 SOCIAL ANTHROPOLOGY 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 groups. Lecture.

472 SPECIAL TOPICS IN 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 school, laboratory research or advanced coursework not presently offered by department on regular basis.

494 WORKSHOP IN ANTHROPOLOGY 1-3 credits
(May be repeated) Group studies or 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

POLYMER SCIENCE

3940:

301 INTRODUCTION TO ELASTOMERS 3 credits
Prerequisite: 310 or permission. Elastomers - their science and technology. Introduction to elastomers and their properties, including natural rubber and synthetic elastomers. Laboratory experiments include cure studies, stress-strain studies, and analysis of rubber compounds.

302 INTRODUCTION TO PLASTICS 3 credits
Prerequisite: 301 or permission. Plastics industry and its manufacturing methods discussed. Plastics compounding for both thermoplastic and thermosetting polymers discussed with emphasis on processing and testing as illustrated by laboratory experiments.

303 SPECIAL PROJECTS IN POLYMER SCIENCE 1-2 credits
Prerequisite: 302. Research projects of 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 process involved or outlining projects, setting up equipment, collecting and recording research data in a scientific manner.

407 POLYMER SCIENCE 4 credits
Prerequisite: 310/314, 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.

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 as brought to bear on relationships between molecular structure and chemical composition of macromolecules and their physical properties.

412/512 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS II 2 credits
Prerequisite: 411/511 or permission. Mechanical characterization of polymer materials, the Boltzmann supereplex principle and fracture. Experimental techniques involving stress-strain behavior, stress relaxation, creep, stress and free vibrations discussed.

413/513 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS III 2 credits
Prerequisite: 412/512 or permission. Deformation of bounded rubber units, the correspondence principle, time-dependent failure, mechanical properties of polymeric foams and design considerations discussed.

414 SEMINAR IN POLYMER SCIENCE 1-2 credits
New and unusual problems of polymer science discussed from interdisciplinary view of materials sciences. A student prepares one or more formal technical communications related to chemical aspects of field.

415 MOLECULAR STRUCTURE AND PHYSICAL PROPERTIES OF POLYMERS LABORATORY 2 credits
Prerequisite: 413 or permission. Laboratory experiments involving the topics covered in the prerequisite course.

416 EXTRACTION AND MOLDING 3 credits
Prerequisite: 302 or permission. Introduction of extraction and molding processes for plastics. Theory of extraction and molding processes and their application to the types of materials used, variants in equipment and the processing characteristics involved. Lecture and laboratory.

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 related to molecular structure. Specific materials, applications and testing procedures will be discussed and practical experience gained by experimentation in the laboratory.

418 COMPOSITES, CELLULAR STRUCTURES AND TIRE TECHNOLOGY 4 credits
Prerequisite: 302. The importance and science of composite structures will be taught and the technology of tire Technology and the manufacture Laboratory experiments will be used to illustrate the principles involved.

490-590 WORKSHOP IN POLYMER SCIENCE 1-3 credits
(May be repeated with permission)
Group studies on selected topics involving polymers. May be used to meet undergraduate or graduate major requirements in polymer science. May be used for elective credit only.

Graduate Courses

604 SPECIAL PROJECTS IN POLYMER SCIENCE 1-2 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.

607A POLYMER SCIENCE SEMINAR I AND II 1 credit each
Prerequisite: limited to first and second year graduate students. Participants are to present a 25-minute lecture on some aspect of polymer science and to participate in discussions of lectures presented by other seminar participants.

610 INORGANIC POLYMERS 2 credits
Prerequisite: 3150:472/572 or permission. Survey course designed to broaden outlook of typical graduate student beyond chemistry and physics of carbon chains.

613 POLYMER SCIENCE LABORATORY 2 credits
Prerequisite or corequisite: 301, 3150:601 or permission of instructor. Laboratory experiments in synthesis, characterization, physical properties and processing of polymers.

680 POLYMER PROCESSING 2 credits
Prerequisite: Permission. Study of process engineering in polymer conversion industry, emphasizing analytical treatments of elastic behavior and mechanisms of failure of resilient mountings, springs, seals, bearings and tires.

681 DESIGN OF RUBBER COMPONENTS 2 credits
Prerequisite: 335 or equivalent. Principles of design of elastomeric products, emphasizing analytical treatments of elastic behavior and mechanisms of failure of resilient mountings, springs, seals, bearings and tires.

699 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.

701 POLYMER TECHNOLOGY I 2 credits
Prerequisite: 301 or permission of instructor. The importance and science of composite structures and testing procedures involved. Lecture/Laboratory.

703 POLYMER TECHNOLOGY II 2 credits
Prerequisite: 301 or permission of instructor. Rubber industry, rubber compounding and processing, vulcanization methods, physical testing, plastics preparation and compounding, manufacturing processes. Lecture/Laboratory.

704 CONDENSATION POLYMERIZATION 2 credits
Prerequisite: 3150:463/563 or permission of instructor. Survey of the theory and practice of condensation polymerization. Numerous commercial examples are presented with special emphasis being placed on the properties and applications of polymers prepared by this technique. Structure-property relationships are highlighted for each major polymer class.

705 FREE RADICAL REACTIONS IN POLYMER SCIENCE 2 credits
Prerequisite: 3150:462/562 or permission of instructor. Covers the kinetics and mechanism of free-radical initiated reactions encountered in polymer science, including polymerization methods, detailed considerations of the initiation, propagation and termination steps in liquid polymerizations and copolymerization, preparation of block and graft copolymers by free radical initiated reactions, and the mechanisms of free radical induced polymer degradation reactions.

706 IONIC AND MONOMER INSERTION REACTIONS 2 credits
Prerequisite: 3150:462/562 or permission of instructor. Covers the scope, kinetics and mechanism of polymerizations initiated by anions, cations and organic ions as well as polynmercations induced by coordination catalysts. Living polymers, molecular weights, molecular weight distributions, stereo-chemistry, solvent effects, counter-ion effects, temperature effects, Ziegler-Natta catalysts, vinyl halides, functionalization of polymers, graft and block copolymer synthesis.

708 MACROMOLECULAR CHAIN STRUCTURE 3 credits
Prerequisite: either 3150:314, 3650:301, or 4200:305 or permission. Chain-like structure of large molecules, fundamental theories of chemical constitution and statistical mechanics developed to degree that their applications to polymer-problems can be discussed.

709 MACROMOLECULAR CHAIN STRUCTURE 3 credits
Prerequisite: 708 or permission. Continuation of topics in 708. Including experimental techniques used in elucidation of chain structure.

711 SPECIAL TOPICS: POLYMER SCIENCE 2 credits
Prerequisite: permission. Study of topical subjects of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular substances and related laboratory work where applicable.

712 SPECIAL TOPICS: POLYMER SCIENCE 2 credits
Prerequisite: permission. Topics of current interest in polymer science, encompassing chemistry, physics or engineering aspects of macromolecular science.

713 CHAIN STRUCTURE LABORATORY 2 credits
Prerequisite or corequisite: 708 or permission of instructor. Designed to apply principles discussed in 708 to laboratory determination of polymer structure.

899 DOCTORAL RESEARCH IN POLYMER SCIENCE 2-16 credits
Open to properly qualified student accepted as candidate for degree of Doctor of Philosophy in polymer science, depending upon availability of staff and facilities.
641 URBAN ECONOMIC GROWTH AND DEVELOPMENT 4 credits
Prerequisite: permission. Examination of urban economic unit and its susceptibility to social, economic, political and physical change.

642 MUNICIPAL BUDGETING 3 credits
Prerequisite: permission. Theories, premises, assumptions, methodologies upon which municipal budgeting is based.

643 URBAN POLICY ANALYSIS 3 credits
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 decision-making process. Analysis of policy impact; the problems and processes of public implementation.

650 COMPARATIVE URBAN SYSTEMS 3 credits
Prerequisite: permission. Conceptual schemes and methodology for comparative urban analysis among a number of major cities selected from each continent.

670 PLANNING RESEARCH 3 credits
Prerequisites: Statistics methods and completion of eight credits of core curriculum or permission. Emphasis on advanced work in problems of definition, conceptual logic or urban research, sampling, questionnaire design, planning report development and writing and advanced quantitative procedure.

671 PROGRAM EVALUATION IN URBAN STUDIES 3 credits
Prerequisite: 660 or equivalent. Major considerations appropriate for conducting evaluations of a wide variety of human service programs and policies affecting urban and metropolitan areas.

690 SELECTED TOPICS IN URBAN STUDIES 1-2 credits each
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 690.)

690 URBAN STUDIES SEMINAR 3 credits
Prerequisite: 16 credits of urban studies core plus quantitative methods. Urban research methods applied to specific urban reallife area. Comprehensive paper required.

695 INTERNSHIP 1-3 credits
(May be repeated for a total of three credits)
Prerequisite: permission. Faculty-supervised work experience in which student participates in policy planning administrative operations in relevant urban, state and federal governmental and urban agencies.

697 INDIVIDUAL STUDIES 1-3 credits
(May be repeated for a total of four credits)
Directed individual readings or research on specific area or topic.

700 ADVANCED RESEARCH METHODS 3 credits
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.

701 URBAN THOUGHT 3 credits
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.

702 BUREAUCRACY AND THE PUBLIC INTEREST 3 credits
Prerequisite: permission. Seminar designed to analyze public bureaucracy and public interest as central phenomena of contemporary public administration in urban America.

703 PROGRAM EVALUATION 3 credits
Prerequisite: permission. Provides concepts for students in evaluation of programs, both external and internal, to work settings.

704 IMPLEMENTATION OF PUBLIC POLICY 3 credits
Analysis of administrative process within public organizations, federal, state and local, in United States; emphasis on urban community.

705 PLANNING STRATEGIES AND EVALUATION OF PLANS 3 credits
Prerequisite: permission. Analysis of urban planning policy issues and strategies for implementation in public policy formulation. Emphasis on use of planning process as integrative mechanism.

708 URBAN TUTORIAL 3 credits
Prerequisite: permission. Intensive study of a particular tested topical area of urban studies with a tutor. Student enrollees in a total of 12 hours of tuition credit and more than 12 hours of total work. Student enrollees in a total of 3 credits per term.

893 DISSERTATION RESEARCH 3-15 credits
(May be repeated)
Open to properly qualified student accepted as candidate for Doctor of Philosophy degree. Student must register for at least nine credits each semester until dissertation is accepted. Minimum of 15 credits required.
300 COOPERATIVE EDUCATION WORK PERIOD 3 credits
Preprerequisites: 322 or permission. Practice in industry and comprehensive written reports of this experience. Offered fall semester of third year.

301 COOPERATIVE EDUCATION WORK PERIOD 3 credits
Preprerequisites: 330 or permission. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year.

302 COOPERATIVE EDUCATION WORK PERIOD 3 credits
Preprerequisites: 330 or permission. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year.

302 COOPERATIVE EDUCATION WORK PERIOD 3 credits
Preprerequisites: 322 or permission. Practice in industry and comprehensive written reports of this experience. Offered fall semester of fourth year.

CHEMICAL ENGINEERING 4200:

10 ENGINEERING FUNDAMENTALS 1 credit
Introduction to problem solving and format, computational exercise, dimensions, units physical measurements.

20 MATERIAL AND ENERGY BALANCES 4 credits
Preprerequisites: 126, 4450:206, 450:221, and 3150:134. Introduction to material energy balance calculations applied to solution of chemical problems.

225 EQUILIBRIUM THERMODYNAMICS 4 credits
Preprerequisites: 300 and 4350:222. Second law of thermodynamics, entropy, applications, comprehensive treatment of pure and mixed fluids. Phase and chemical equilibria, flow problems, power production and refrigeration processes.

305 MATERIALS SCIENCE 2 credits
Preprerequisites: 3150:133 and 3650:252 and junior, standing. Structure, processing and properties of materials, ceramics and polymers. Special topics, such as composite, corrosion and wear.

321 TRANSPORT PHENOMENA I 3 credits
Preprerequisites: 322 and 3450:222. Constitutive equations for momentum and energy transfer developments of microscopic and macroscopic momentum and energy equations, analogy and dimensions, correlations. Problems and applications in unit operations of chemical engineering.

322 TRANSPORT PHENOMENA II 3 credits
Preprerequisites: 321. Consecutive equations for mass transfer. Development of microscopic and macroscopic momentum and energy transfer equations for binary systems. Problems and applications in unit operations of chemical engineering.

330 CHEMICAL REACTION ENGINEERING 3 credits
Preprerequisites: 225. Norequilibrium processes including chemical reaction mechanisms, rate equations and ideal reactor design applied to homogeneous number and heterogeneous systems.

351 FLUID AND THERMAL OPERATIONS 3 credits
Preprerequisites: 321. Applications of fluid mechanics including piping, pumping, compression, metering, agitation and separation. Applications of heat transfer by conduction, convection and radiation to design of process equipment.

352 TRANSFER LABORATORY 2 credits

353 MASS TRANSFER OPERATIONS 3 credits
Preprerequisites: 325, 351 and 322. Theory and design of staged operations including distillation, absorption, extraction and design of continuous mass transfer devices.

408 POLYMER ENGINEERING 3 credits

435 PROCESS ANALYSIS AND CONTROL 3 credits
Preprerequisites: 330, 353. Response of simple and complex processes and design of appropriate control systems.

441 PROCESS ECONOMICS AND DESIGN 4 credits
Preprerequisites: 330, 361:3. Economic evaluation of chemical plants including justification, profitability, capital investment and operating costs. Design of chemical process equipment.

442 PLANT DESIGN 4 credits
Preprerequisite: 441. Integration of process equipment design for a total plant including justification, site selection and plant layout. Culminates with a case study or A.E. Ch.E. Student Contest Problem.

454 OPERATIONS LABORATORY 1 credit
Preprerequisites: 345:2. Comprehensive experiments and analysis in combined heat and mass transfer, thermodynamics, and reaction kinetics. Comprehensive reports.

461/462 SOLIDS PROCESSING 3 credits
Preprerequisites: 321 and 335 or permission. Comprehensive problems in sedimentation, fluidization, drying and other operations involving mechanics of particulate solids in liquid and gas continua.

463/464 POLLUTION CONTROL 3 credits

465/466 DIGITIZED DATA AND SIMULATION 3 credits
Preprerequisite permission. Data acquisition and analysis by digital devices, digital control applications and design.

470/471 ELECTROCHEMICAL ENGINEERING 3 credits
Preprerequisites: 322, 330. Chemical engineering principles as applied to the study of electrode processes and to the design of electrochemical reactors. Topics include electrochemical thermodynamics, cell polarization, Faraday's Laws, electrode kinetics, transport processes in electrochemical systems, current distributions, reactor design, experimental methods, commercial processes, and batteries and fuel cells.

480 TOPICS IN CHEMICAL ENGINEERING 1-3 credits
Preprerequisite permission. Topics selected from new and developing areas of chemical engineering, such as electrochemical engineering, coal and synthetic fuels processing, biotechnology, simultaneous heat and mass transfer phenomena and new separation techniques.

487 HONORS PROJECT 1-3 credits
Preprerequisite: permission. Individual creative project pertinent to chemical engineering culminating in undergraduate thesis, supervised by faculty member of the department.

489 RESEARCH PROJECT 1-3 credits
Preprerequisite permission. Individual research project pertinent to chemical engineering under faculty supervision. Report required.

Graduate Courses

610 TRANSPORT PHENOMENA 3 credits
Preprerequisite: 322 or permission. Systematic presentation of conservation of momentum, energy and mass at microscopic and macroscopic levels in conjunction with illustrative examples and analogies.

615 CHEMICAL REACTION ENGINEERING 3 credits
Preprerequisite: 345:3 or permission. Kinetics of homogeneous and heterogeneous systems, Reactor design for ideal and nonideal flow systems.

619 CLASSICAL THERMODYNAMICS 3 credits
Preprerequisite: 325. Disgration of laws of thermodynamics and their application, prediction and correlation of thermodynamic data. Phase and reaction equilibria.

630 CHEMICAL PROCESS DYNAMICS 3 credits
Preprerequisite: 600. Development and solution of mathematical models for chemical processes including models based on transport phenomena principles, population balance methods and systems analysis.

631 CHEMICAL ENGINEERING ANALYSIS 3 credits
Preprerequisites: 322, 225, 330. Mathematical analysis of problems in transport processes, chemical kinetics and control systems. Solution techniques for these problems and their practical significances are studied. Huristic porits will be given for necessary theory developments.

635 ADVANCED POLYMER ENGINEERING 3 credits
Preprerequisites: 322 or 600 or permission. Reactors for polymerization, polymer characterization, polymer processing, polymer technology.
CIVIL ENGINEERING

4300:

130 INTRODUCTION TO ENGINEERING 1 credit
Introduction to civil engineering for freshmen engineering student. Tasks and opportunities of civil engineer. Introduction to engineering problem-solving techniques. Required of all civil engineering freshmen.

201 STATICS 3 credits
Prerequisites: 3450:222 and 3650:299. Forces, resultants, couples, equilibrium of force systems, distributed forces, centers of gravity, analysis of simple structures, moments of inertia, kinetics.

202 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 stress; compound stresses; indeterminate beams; columns.

229 SURVEYING 4 credits

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.

313 SOIL MECHANICS 3 credits
Prerequisite: 202 or permission. Physical properties of soils. Soil water and groundwater flow. Stress states, displacements, volume changes, consolidation within a soil mass. Soil strength. Compaction.

341 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 and behavior.

323 WATER SUPPLY AND WASTEWATER DISPOSAL 3 credits

341 HYDRAULIC ENGINEERING 2 credits
Prerequisite: 4650:310. Flow in open channels and open channels. Design of pipe networks, pumping stations and simple weirs.

361 TRANSPORTATION ENGINEERING 3 credits
Prerequisite: Junior standing. Introductory survey of transportation topics including transportation planning requirements and techniques, introduction to design of highways, airports and railroads, and introduction to traffic engineering.

380 ENGINEERING MATERIALS LABORATORY 1 credit
Prerequisite: 202. Study of laboratory instrumentation and standard techniques in testing of engineering materials. Data analysis.

401 STEEL DESIGN 3 credits
Prerequisite: 306. Tension, compression members; open web joints; beams, bearing plates; beam-columns, bolted, welded connections.

403 REINFORCED CONCRETE DESIGN 3 credit
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.

454 ADVANCED STRUCTURAL DESIGN 3 credits
Prerequisites: 401, 3. Composite design; plate girders; plastic design; cantilever retaining walls; torsion in H/C members; deflection of H/C members; continuous girder bridge design.

407 ADVANCED MECHANICS OF SOLIDS 3 credits
Prerequisite: 202. Elasticity analysis twisting of non-circular for and hollow members; bending of anisotropic sections; inelastic beam bending; beams of two materials; curved beams; shear center, strain transformation, yield criteria. New bending; Castigliano’s theorem; conjugate beam.

414 DESIGN OF EARTH STRUCTURES 3 credits

418/518 SOIL AND ROCK EXPLORATION 3 credits
Prerequisites: 314 or permission. Site exploration criteria and planning. Conventional boring, sampling and in situ testing methods. Theory and application of geophysical and geological methods including seismic, electrical resistivity, gravity, magnetic and radiographic measurements. Air photo interpretation.

432/532 WATER POLLUTION PRINCIPLES 4 credits
Prerequisite: 432. Principles of aquatic chemistry and microbiology, chemical reaction engineering fundamentals presented with emphasis on applying them to water, wastewater treatment.

424 WATER-WASTEWATER LABORATORY 1 credit
Prerequisite: 323 or permission. Analysis of water and wastewater.
450 URBAN PLANNING
Prerequisite: 361. Step-by-step study of modern highway design techniques and construction practices.
3 credits

451/561 MATRIX ANALYSIS OF STRUCTURES
Pre-requisite: 306 or equivalent. Review of matrix algebra, structural analysis concepts, stiffness formulation of bars, beams, frames, solutions of linear algebraic equations, computer program implementation, applications.
3 credits

452 STRUCTURAL VIBRATIONS AND EARTHQUAKES
Prerequisite: 306. Vibration and dynamic analysis of structural systems with one, two, or more degrees of freedom; beams, frames, buildings, and bridges. Numerical methods of analysis.
3 credits

453/563 TRANSPORTATION PLANNING
Prerequisite: 361. Theory and techniques for development, analysis, and evaluation of transportation systems planning. Emphasis on understanding and using tools and professional methods available to solve transportation planning problems, especially in urban areas.
3 credits

464 HIGHWAY DESIGN
Prerequisite: 361. Design of modern highway design techniques and construction practices.
3 credits

465/565 PAVEMENT ENGINEERING
Prerequisite: 361. Theories of elasticity, of viscoelasticity, and of layered systems as applied to pavement design. Pavement materials characterization, pavement design, pavement restoration for rigid and flexible pavements.
3 credits

466/566 TRAFFIC ENGINEERING
Prerequisite: 361. Vehicle and urban traffic characteristics, traffic flow theory, traffic studies, accidents and safety, traffic signs and marking, traffic signal control and transportation administration.
3 credits

471 CONSTRUCTION ADMINISTRATION
Prerequisite: senior standing or permission. Organization for construction, construction contracts, estimating, bonding, claims, and insurance. Construction financial management and supervision of construction, scheduling using critical path method.
3 credits

472 CONSTRUCTION ENGINEERING
Prerequisite: senior standing or permission. Construction equipment selection and management. Techniques of various engineering construction operations including blasting, tunneling, concrete framework and waterproofing.
3 credits

473 CONSTRUCTION MATERIALS
Prerequisites: 380, 420/405. Composition, structure and mechanical behavior of structural materials such as concrete, wood, masonry, plastic, and composite materials. Discussion of applications and principles of evaluating material properties.
3 credits

474/574 UNDERGROUND CONSTRUCTION
Prerequisite: 314. Description of practices and techniques of underground construction. Selection of proper method for individual job. Design of underground openings, support systems, and shafts.
2 credits

481 CIVIL ENGINEERING SYSTEMS
Prerequisite: senior standing. Systems approach to civil engineering problems. Mathematical programming, project planning, scheduling, and cost analysis, basic operations research methods, decision analysis, management of engineering design of complex civil engineering projects.
2 credits

482 SPECIAL PROJECTS
Prerequisite: senior standing. Directed individual or group research or study in student's field of interest. Topic subject to approval by advisor.
1-3 credits

490 HONORS PROJECT
May be repeated for a total of six credits
Prerequisite: senior standing. Honors Program. Individual creative project or design relevant to civil engineering, supervised by faculty member of the department.
1-3 credits

Graduate Courses

601 ADVANCED MECHANICS OF MATERIALS
3 credits

604 DYNAMICS OF STRUCTURES
3 credits

605 STRUCTURAL STABILITY
3 credits

606 ENERGY METHODS AND ELASTICITY
3 credits

607 PRESTRESSED CONCRETE
Prerequisite: 404. Basic concepts. Design of double-tie girder, shear, development length, column, piers, design of highway bridge girder, pretensioned, posttensioned, continuous girders, cables, variable volume-force connections.
3 credits

608 MULTISTORY BUILDING DESIGN
Prerequisite: 401. Four-story structures, staggered-wall system, braced frame design, unbored frame design, soil indices, monosquare (tube and partial tube) systems, earthquake design, fire protection. Analysis by STRUDL.
3 credits

609 FINITE ELEMENT ANALYSIS I
Prerequisite: 602. Introduction to finite element methods as applied to various problems of continuum mechanics. Such as plates, arches, symmetric and 3-D stress analysis, design, modulus, and geometric and material nonlinearity.
3 credits

610 INTRODUCTION TO COMPOSITE MECHANICS
Prerequisite: 601 or equivalent. Fundamental concepts of composites, composite micro-mechanics, inter-mechanics and laminate theory are discussed from geometric relationships to laminate analysis (stiffness and strength). The geometric, mechanical, hydral and thermal behavior of composites will be described. Coursed will be based on the physics of composite behavior, analysis and analysis of those composite laminates subjected to mechanical and environmental loading conditions.
3 credits

611 FUNDAMENTALS OF SOIL BEHAVIOR
Prerequisite: 314. In-depth examination of the engineering properties of soils viewed as particulate matter.
3 credits

612 ADVANCED SOIL MECHANICS
Prerequisite: 314. Study of mechanics of behavior of soil as continuum. Principles of stress, strain, deformation, shear strength and pore water pressure as applied to mechanical behavior of soil masses.
3 credits

613 ADVANCED GEOTECHNICAL TESTING
Prerequisite: 582, 612. Theory and practice of static and dynamic in situ and laboratory soil testing. Testing procedures, material conditions, geotechnical evaluation of geotechnical parameters for routine and special site conditions. One lecture, two laboratory periods per week.
3 credits

614 FOUNDATION ENGINEERING I
Prerequisite: 311 or permission. Foundation bearing capacity and settlement analysis. Design of shallow and deep foundations systems. Field testing and void test procedures and analysis. Theory and design of earth-retaining structures including retaining walls, backfill, and box culverts. Study of stability analysis.
3 credits

615 FOUNDATION ENGINEERING II
Prerequisite: 614 or permission. Soil-structure interaction theory and applications to underground structures including tunnels, basements and shafts. Advanced foundation construction methods and problems including dewatering, soil stabilization, undergrounding and cofferdams. Slope stability analysis.
3 credits

618 ROCK MECHANICS
Prerequisite: 602 or permission. Mechanics of rock, linear elasticity, and application to rock problems, static behavior of rocks, time dependence and effects of pore pressure, experimental characterization of rock properties, failure theory and crack propagation.
3 credits

620 SANITARY ENGINEERING PROBLEMS
Prerequisite: 323. Application of laboratory methods and theory to solution of sanitary engineering problems including water pollution, stream regeneration, separation, industrial wastes, desegregation. 2 credits

622 WATER TREATMENT PLANT DESIGN
Prerequisite: permission. Design of water treatment plants for potable, industrial and commercial uses. Development of water sources, treatment methods and financing, and the design of the practical methods in terms of cost-benefit.
3 credits

623 WASTEWATER TREATMENT PLANT DESIGN
Prerequisite: permission. Application of theory and fundamentals to design of wastewater treatment plants. System design methods, installation design and the chemical aspects of wastewater to meet water quality criteria. Economic analyses made to determine best practical designs to be utilized.
3 credits

624 ENGINEERING MANAGEMENT OF WATER UTILITIES
Prerequisite: permission. Comprehensive study of various water utility and engineering management operations pertaining to property and public process. Fundamentals of responsibility and duties applicable to water utility systems.
2 credits

625 WATER AND WASTEWATER PROCESSES I
Prerequisite: 423. Theory, current research associated with physical chemical process.
682 WATER AND WASTEWATER PROCESSES II
Prerequisite: 422. Theory, current research associated with biological processes, relates physical/chemical processes, the impact on design-activated sewage treatment processes, gas transfer, sludge stabilization, sludge dewatering processes emphasized.

684 ADVANCED FLUID MECHANICS

685 APPLIED HYDROLOGY

686 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.

687 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. Fatigue theories and fracture phenomena in brittle and ductile materials. Crack propagation and life prediction of engineering materials.

688 ELASTICITY
3 credits

690 PLASTICITY AND VISCOELASTICITY
3 credits

689 ADVANCED REINFORCED CONCRETE DESIGN
3 credits

690 ADVANCED STEEL DESIGN
3 credits

698 EXPERIMENTAL METHODS IN STRUCTURAL MECHANICS
3 credits

699 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 advisor.

700 SPECIAL PROBLEMS
1-2 credits
Prerequisites: 697 and permission. Continuation of 697. Individual research should lead to final report of publishable quality.

701 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.

702 EARTHQUAKE ENGINEERING
3 credits

704 PLATES AND SHELLS
3 credits

706 APPLICATION IN PLASTICITY AND VISCOELASTICITY
3 credits
Prerequisite: 602. Formulation of boundary value problem. 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.

708 FINITE ELEMENT ANALYSIS
3 credits
Prerequisites: 609 and 702 or permission. Curved plate, shell brick elements. Geometrically nonlinear elements. Quadratic formula. Studying for static and dynamic analyses. Solution algorithms for linear and nonlinear static and dynamic analyses, structural mechanics. Computer program formulation, review of large-scale production programs.

710 ADVANCED COMPOSITE MECHANICS
3 credits

712 DYNAMIC PLASTICITY
3 credits
Prerequisites: 683 or 703. Impulsive and transient loading of structures and structural elements (beams, plates, shells, etc.) in which plastic deformation occurs. Topics include longitudinal and transverse plastic wave propagation in thin rods, propagation of plastic hinges, rate-dependent viscoelastic waves, transverse impact on beams and plates, high-rate forming, blast loading, plate perforation, shock waves in solids.

713 SOIL DYNAMICS
3 credits
Prerequisite: 614 or permission. Vibration and wave propagation theory relating to soil-structure foundations. Dynamic behavior of soils. Design of foundations for dynamic loading impact, pulsating arc blast loads.

745 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.

764 ADVANCED SEMINAR IN CIVIL ENGINEERING
1-3 credits
(Starter may be repeated for a total of nine credits) Prerequisite: permission of department head. Advanced projects, reading and other studies in various areas of civil engineering. Intended for graduate student seeking Ph.D. in engineering degree.

899 PREREQUISITE RESEARCH
1-15 credits
Prerequisite: approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation subject.

899 DOCTORAL DISSERTATION
1-15 credits
Prerequisite: completion of preliminary examination and approval of Advisory Committee. Original research by Ph.D. candidate.

ELECTRICAL ENGINEERING
4400:

101 ENGINEERING DESIGN
1 credit

231 CIRCUITS I
5 credits
Prerequisite: 3450:291. Introduction to the basics of circuit analysis including nodal and mesh methods, phasor techniques, resonance, polyphase circuits, and magnetic coupling in circuits.

232 CIRCUITS II
3 credits

239 BASIC ELECTRICAL ENGINEERING
4 credits

333 CIRCUITS III
3 credits

334 CIRCUITS IV
2 credits

344 INSTRUMENTATION
3 credits
Prerequisites: 333, 342. Analysis and characteristics of transducers, indicating instruments and recorders used in electrical measurements.

353 ELECTROMAGNETIC FIELDS I
4 credits
Prerequisites: 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.

359 TRANSMISSION LINES AND NETWORKS
3 credits
Prerequisites: 333, 362. Study of distributed parameter circuits, Low and high frequency applications. Networks for demodulation.

363 ELECTRONIC CIRCUITS
4 credits
Prerequisites: 333, 363. Analytical theory of electronic devices. Time and frequency domain analysis. Rectification, voltage and power amplification, feedback, oscillators, linear ICs.

365 SWITCHING AND LOGIC
4 credits
Prerequisites: 333, 362. Analysis of computer circuits. Introduction to use of Boolean algebra and mapping techniques in analyzing switching circuits. Sequential circuits.
371 CONTROL SYSTEMS I 3 credits
Prerequisite: 333. Introduction to servomechanisms and feedback. Modeling and response of feedback control systems. Stability of linear systems. Experiments include an analog simulation and basic servomechanism.

380 ILLUMINATION 2 credits
Fundamentals of illumination and principles underlying specification and design for adequate electrical lighting.

381 ENERGY CONVERSION I 3 credits
Prerequisites: 231, 235. Sources of energy, principles of energy conversion, thermodynamic limitations. Electric energy from fossil fuel, nuclear, hydro, wind, and geothermal energy. Transformers.

382 ENERGY CONVERSION II 4 credits

383 APPLICATION OF MOTORS 3 credits
Prerequisite: 382. Apparatus and circuits for control of electric motors. Calculation of accelerating and deaccelerating time and duty cycles. Selection of motors for various applications.

387 ADVANCED MACHINERY III 3 credits

391 PRINCIPLES (May be taken more than once) 1-3 credits
Prerequisite: permission of department head. Select comprehensive problems, supervised discussions and computation periods.

412/512 ENGINEERING ECONOMY 2-3 credits
Prerequisites: 3250, 244 and senior standing in engineering. Presents engineering economics as distinguished from classical economic theory.

445 COMMUNICATION SYSTEMS 3 credits
Prerequisites: 333, 353, 362. Communications systems; equipment; noise; modulation; antennas; propagation; electronic communication circuits; frequency, standards; generation; communication satellites.

448 ELECTRONIC SYSTEMS 3 credits
Prerequisites: 446. Study of specific state-of-the-art electronic systems: primary and secondary radar, telemetry, satellite systems, video systems, data communications, navigational systems.

447 RANDOM SIGNALS 3 credits
Prerequisite: 333. Applications of set theory, discrete and continuous sample spaces, probability, random variables, distribution functions, density functions, stochastic processes, random signals, system function, power spectrum and correlation functions.

448 COMMUNICATION THEORY 3 credits
Prerequisite: 447. Signal analysis and Fourier transforms; random variables and processes; amplitude, frequency and pulse modulation; representations of noise in modulation; three-phase, in frequency modulation, data transmission; communication system and noise calculations.

542 INTRODUCTION TO LASERS 3 credits
Prerequisites: 333, 353. Introduction to basic concepts of laser/pumped (laser) action; emission processes and their rates in laser action; types of lasers; presentation of generalized operating criteria.

544 ELECTROMAGNETIC FIELDS II 2 credits
Prerequisite: 303 or permission. Advanced field theory including boundary value problems and nonlinear fields. Applications of Maxwell's equations. Antennas.

555/555 MICROWAVES 4 credits
Prerequisites: 353, 359. Dynamic fields, Maxwell's equations and wave equations. Field analysis of wave guides, microwave components, techniques and systems.

561 PHYSICS OF ELECTRONIC DEVICES 3 credits

464 PULSE ELECTRONICS 4 credits
Prerequisites: 333, 362. Wave shaping circuits, non-pulsed waveforms and relaxation circuits. Pulse transformer's application of pulse and switching circuits.

465/565 COMPUTER CIRCUITS 4 credits
Prerequisite: 363. Electronic circuit considerations in logic circuits; methods of sequential threshold logic analysis; synthesis; development of computer arithmetic elements: memory, storage devices.

467/567 SOLID-STATE DEVICES 2 credits
Prerequisite: 362. Static and dynamic behavior of p-n junction and transistor circuits. Theory of avalanche and Zener breakdown in a FET pinch diode and Gunn effect oscillators.

499 INDUSTRIAL ELECTRONICS 3 credits
Prerequisite: 362. Application of electronic devices at power levels, intended for those specializing in power area of electrical engineering rather than electronic areas.

472/572 CONTROL SYSTEMS II 4 credits
Prerequisite: 371. State variable analysis, design of control systems. Discrete systems, analysis, digital computer control. Experiments include hybrid, AC control system, digital computer control.

480/580 SYMMETRICAL COMPONENTS 2 credits
Prerequisite: 382. Per unit method as applied to power system calculations. Fundamentals of symmetrical components as applied to analysis of electrical circuits and machines.

491 ELECTRICAL POWER SYSTEMS I 2 credits
Prerequisite: 382. Introduction to electric utility load flow, fault analysis, stability, surge protection and relaying.

492 ELECTRICAL POWER SYSTEMS II 3 credits
Prerequisite: 382. Introduction to Architectural power systems. Local generation, power factor correction, conductor selection, code requirements, coordination of protective devices.

497 HONORS PROJECT (May be repeated a total of six credits)
Prerequisite: senior standing in Honors Program and individual creative project or design relevant to electrical engineering, supervised by faculty member of the department.

499/599 TOPICS IN ELECTRICAL ENGINEERING (May be taken more than once)
Prerequisite: permission of department head. Special topics in electrical engineering.

Graduate Courses

631 CIRCUIT ANALYSIS 3 credits
Prerequisite: graduate standing. Operational methods, time domain analysis, state variable methods and matrix techniques applied in circuit analysis. Realizability and synthesis of discrete point, impedance and transfer functions.

641 RANDOM SIGNAL ANALYSIS 3 credits
Prerequisite: 447. Analysis and interpretation of engineering data through application of statistical and probability methods.

651 STATISTICAL COMMUNICATIONS 3 credits
Prerequisites: 448 or 541. Detection and estimation of signals in communication systems; linear and nonlinear systems with random inputs; narrow-band systems. Mean-squared error, modulation, and information theory.

651 ELECTROMAGNETIC FIELDS 3 credits
Prerequisite: graduate standing in electrical engineering. Introduction to advanced electromagnetic concepts at graduate level.

652 ADVANCED ELECTROMAGNETICS 3 credits

651 DESIGN OF DIGITAL SYSTEMS 3 credits
Prerequisites: 465. Applications of logic circuits in modern digital electronic computer and digital communication systems. Computer organization and control, input-output devices and interface standards, advanced topics in computers.

652 TOPICS IN ELECTRONICS 3 credits
Prerequisite: permission of department head. Discussions of recent advances in electronics.

653 DISCRETE CONTROL SYSTEMS 3 credits

674 CONTROL SYSTEM THEORY 3 credits
Prerequisite: 472, 572. Advanced modern control theory for linear, nonlinear systems. Controllability, observability, state variable feedback, estimation, control nonlinear system analysis, stability problems.

678 RANDOM PROCESS ANALYSIS 3 credits
Prerequisite: 674. Analysis and design of control systems with stochastically defined inputs. Introduction to estimation filters.

681 POWER SYSTEM ANALYSIS 3 credits
Prerequisite: 491. Short circuit and load flow analysis of power systems with emphasis on computer solution. Transient machine analysis.

682 POWER SYSTEM STABILITY 3 credits
Prerequisite: 681. Steady state and transient stability of power systems with emphasis on computer solution.

683 ECONOMICS OF POWER SYSTEMS 3 credits
Prerequisite: 691. Analysis and operation of power system for economic dispatching using a computer.

684 PROTECTIVE RELAYING 3 credits
Prerequisites: 480. Principles and application of relays as applied to protection of power systems.

685 SURGE PROTECTION 3 credits
Prerequisite: 460. Phenomena of lightning and switching surges on electrical systems. Protection of systems and apparatus by line design, application of protective devices and insulation coordination.

693 SPECIAL PROBLEMS (May be taken more than once)
Prerequisite: permission of department head. For a qualified graduate student. Supervised research or investigation in major field of training or experience. Credit dependent upon nature and extent of project.

695 MASTER'S THESIS 1-6 credits
Prerequisite: permission of department head. Research and thesis on some suitable topic in electrical engineering.
753 TOPICS IN ELECTROMAGNETICS 3 credits
Prerequisite: 681. Introduction to advanced techniques in fields. Topics include application of Green's functions, techniques and related boundary value problems.

776 OPTIMAL CONTROL I 3 credits
Prerequisite: 674. Formulation of optimization problem, application of variational calculus, maximum principle and Hamiltonian principle to control problems. Computational techniques in optimization.

777 OPTIMAL CONTROL II 3 credits
Prerequisite: 776. Sensitivity problem in optimal control, system identification, implementation and application of adaptive control.

779 ADVANCED TOPICS IN CONTROL 3 credits
Prerequisite: 776. Discussions of recent advances in control systems.

794 ADVANCED SEMINAR 1-3 credits
(May be taken more than once)
Prerequisite: permission of department head. Advanced level coverage of selected topics for student seeking Ph.D. in engineering.

890 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.

899 DOCTORAL DISSERTATION 1-15 credits
(May be repealed)
Prerequisite: completion of Candidacy Examination and approval of Student Advisory Committee. Original research by a Ph.D. candidate.

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**ENGINEERING COMPUTER SCIENCE**

**4450:**

206 FORTRAN (SCI/ENGR) 2 credits
Prerequisite: 2020J or 3450.221. Introduction to use of digital computers in scientific and engineering applications. For student majoring in engineering or physical sciences. No credit for person having completed 3450.201.

207 USER LANGUAGES 2 credits
Prerequisite: 206 or equivalent. Comparative study of features of high-level computer languages from standpoint of user.

306 ASSEMBLER PROGRAMMING 3 credits
Prerequisite: 206 or equivalent. Introduction to computer organization and programming at machine language level. Assembler syntax, subroutine linkage conventions, macro-language.

407 SYSTEMS PROGRAMMING 3 credits
Prerequisite: 306. Introduction to operating systems. Data structures and algorithms in assemblers, micro-operations, loaders and compilers. Process and memory management, procedure and data sharing.

410 COMPUTER METHODS 3 credits
Prerequisites: 206 or equivalent in Fortran, and 3450.235. Numerical methods and techniques in use of central computer facilities to solve problems in science and engineering. Plotting and other Fortran library routines. Job Control Language. Interactive computing.

432 SYSTEM SIMULATION 3 credits
Prerequisite: 410. Principles of modeling and simulation of discrete and continuous systems models. Using Fortran and SIMSCRIPT.

497/197 SPECIAL TOPICS: COMPUTER SCIENCE 1-2 credits
(May be taken more than once)
Prerequisite: permission of department head. Special topics in computer engineering.

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**Graduate Courses**

606 COMPUTER ARCHITECTURE 3 credits
Prerequisites: 306 and 4400.363 or equivalent. Historical development of computer architecture. Design methodologies, processor organization and design of instruction sets. Parallel processing. Control section implementations, memory organization, system configurations.

610 COMPUTER ALGORITHMS I 3 credits
Prerequisites: 206 and 3450.235. Organization of scientific and engineering problems for computer solutions. Analysis of error and convergence properties of algorithms.

611 COMPUTER ALGORITHMS II 3 credits
Prerequisite: 610 or permission. Data structures and algorithms for minimum execution time and memory requirements.

692 SPECIAL PROBLEMS 1-3 credits
(May be taken more than once)
Prerequisite: permission of department head. For a qualified graduate student. Supervised research or investigation in student's major field. Credit depends upon nature and extent of project.

94 ADVANCED SEMINAR 1-3 credits
(May be taken more than once)
Prerequisite: permission of department head. Advanced level coverage of various topics. Intended for student seeking Ph.D. in engineering.

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**MECHANICAL ENGINEERING**

**4600:**

125 ENGINEERING GRAPHICS 3 credits
Freehand sketching techniques. Orthographic projection and pictorial representation of typical machine elements.

160 ENGINEERING DESIGN: MECHANICAL ENGINEERING 1 credit
Introduction to engineering profession. Engineering curriculum and programs of study. Introduction to the use of the digital computer.

203 DYNAMICS 3 credits
Prerequisite: 4500.201. Kinematics and kinetics of particles and rigid bodies. Principles of work, energy, momentum and impulse.

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.

301 THERMODYNAMICS II 3 credits

305 THERMAL SCIENCE 2 credits
Prerequisites: 3450.222 and 3650.291. Credit not allowed for both 300 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.

310 FLUID MECHANICS 3 credits

315 HEAT TRANSFER 3 credits
Prerequisites: 160, 300, 310, or 4450.206. Fundamentals of heat transfer by conduction, convection and radiation.

321 KINEMATICS OF MACHINES 3 credits
Prerequisites: 125, 203. Displacements, velocities, accelerations and introduction to forces in planar motion mechanisms. Introduction to design of gears, gear trains and cams.

334 ANALYSIS OF MECHANICAL COMPONENTS 7 credits
Prerequisites: 160, 4300.202, or 4450.206. Analysis of stresses and strain at a point. Mohr's circles, shear centers, elastic instability. Stresses in thick and thin cylinders. Fatigue analysis.

337 DESIGN OF MECHANICAL COMPONENTS 3 credits
Prerequisite: 336. Application of stress analysis to design of fasteners, welds, springs, ball bearings and gears. Introduction to journal bearings and lubrication. Component design projects.

361 ENGINEERING ANALYSIS 3 credits
Prerequisite: 3450.225, or 4450.295. Analytical and numerical methods of solution of mechanical engineering problems.

380 MECHANICAL METALLURGY 2 credits
Prerequisite: 336. Structures of common metallic materials, and study of their macroscopic mechanical behavior. Phase changes and heat treatment. Theories of failure.

393 INTERNAL COMBUSTION ENGINES LABORATORY 1 credit
Prerequisite: 300. Study of application and performance in reciprocating and rotary engines.

396 COMPUTER METHODS LABORATORY 1 credit
Prerequisites: 160, 3450.235, or 4450.206. Application of digital computer to solution of typical problems in heat transfer, fluid dynamics, machine design, kinematics, strength of materials, elasticity and vibrations and dynamics.

400/500 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.

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.

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.

411/511 COMPRESSIBLE FLUID MECHANICS 3 credits
Prerequisites: 301, 310. Subsonic and supersonic flow in nozzle, diffusors and ducts. One-dimensional reactive gas dynamics. Prandtl-Meyer Theory. Applications to design and analysis of compressors, turbines and propulsion devices.
Graduate Courses

600 GAS DYNAMICS

608 THERMODYNAMICS
Prerequisite: 301 or equivalent. Expansion 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.

609 FINITE ELEMENT ANALYSIS I
Prerequisite: 622. Introductory development of finite element method as applied to various topics in continuum mechanics. Areas covered include plane, axisymmetric, 3D stress analysis; conduction, fluid mechanics; transient problems and geometry and material nonlinearity.

610 DYNAMICS OF VISCOUS FLOW I
Prerequisites: 301, 315 or equivalent. Deviation and solution of equations governing laminar viscous flow. Applications include unsteady flow, slow viscous flow, parallel flow, lubrication theory and laminar boundary layers.

615 CONDUCTION HEAT TRANSFER
Prerequisite: 315 or equivalent. Study of one-, two- and three-dimensional heat conduction. Development of analytical techniques for analysis and design.

616 CONVECTION HEAT TRANSFER
Prerequisite: 315 or equivalent. Heat transfer from laminar turbulent external, internal flows. Convective heat transfer at high velocities. Heat transfer to liquid metal, high Prandtl number fluids.

617 RADIATION HEAT TRANSFER
Prerequisite: 315 or equivalent. Study of governing radiation laws. Black and real systems, geometric factors, gray enclosures, non-gray systems. Gaseous radiation, radiation equipment.

618 BOILING HEAT TRANSFER AND TWO-PHASE FLOW
Prerequisites: 301, 315 or equivalent. Current techniques to determine heat transfer and pressure drop in components such as boilers, heat exchangers, and steam generators. With boiling mechanism, slip ratio, critical heat flux and instabilities in boiling flow systems.

620 EXPERIMENTAL STRESS ANALYSIS II
2 credits
Prerequisites: 622/522. Dynamic strain gage methods, transducer design, Moire fringe techniques and topics in photoelasticity.

621 INTRODUCTION TO TIRE MECHANICS
2 credits
Prerequisite: permission. Topics include tire as vehicle component, tire traction and wear, annulated structures, tire stress and strains and advanced tire models.

622 CONTINUUM MECHANICS
3 credits
Prerequisite: 336 or equivalent. Analysis of stresses and deformation of a joint. Derivation of fundamental field equations of fluid and solid mechanics by applying basic laws of dynamics, conservation of mass and energy. Development of constitutive laws.

623 APPLIED STRESS ANALYSIS I
3 credits
Prerequisite: 622. Continuation of 622 with specific application to solid mechanics. Development of energy theorems due to Reissner, Washizu and generalized Hamilton's principles. Solutions to static and dynamic problems.

625 ANALYSIS OF MECHANICAL COMPONENTS
3 credits
Prerequisite: 337 or equivalent. Theories of failure and plastic flow. Fatigue, creep analysis and introduction to fracture mechanics.

629 NONLINEAR ENGINEERING PROBLEMS
3 credits

630 MECHANICAL VIBRATIONS II
3 credits
Prerequisite: 431/531 or equivalent. Study of vibrations of multidegree of freedom systems including free and forced vibrations, damped and undamped response, normal mode vibrations and matrix iteration techniques. Application to seismic design and shock design.

631 KINEMATIC DESIGN
3 credits

632 RELIABILITY IN DESIGN
3 credits
Prerequisites: 337 or equivalent and 3470 461/561. The reliability determination of mechanical components and systems and its use in design. Distribution, reliability determination, normal and log-normal theories. Weibull theory. Life spectrum analysis, renewal theory and confidence limits.

633 MODEL ANALYSIS IN VIBRATION
3 credits
Prerequisite: 630 or equivalent. Modal analysis: theory and measurement techniques, digital signal processing concepts, structural dynamics theory, modal parameter estimation with "hands on" experience in the application of modal measurement methods in vibration analysis.

635 STRESS WAVES IN SOLIDS AND FLUIDS
3 credits

642 SYSTEM ANALYSIS AND CONTROL DESIGN
3 credits
Prerequisite: 440 or equivalent. Uniform methods of modeling and response analysis, controllability and observability, stability theory and analysis of linear and nonlinear engineering processes Design of feedback controls for optimum performance for multivariable real-time control application.

650 TRIBOLOGY
3 credits
Fundamentals of friction, lubrication and wear; created, includes basic theory, advanced topics, applications to bearings, seals, gears, chains. Specific topics include adhesive and abrasive
POLYMER ENGINEERING
4700:

450 MECHANICAL ENGINEERING PROPERTIES AND PROCESSING OF POLYMERS

601 POLYMER ENGINEERING SEMINAR
Prerequisites: Graduate standing and instructor permission. Presentations of recent research on topics in polymer engineering by internal and external speakers.

611 STRUCTURAL CHARACTERIZATION OF POLYMERS WITH ELECTROMAGNETIC RADIATION
Prerequisite: Electromagnetic radiation or equivalent. Characterization of orientation, morphology, and structure of polymers using x-ray, light scattering, infrared, Raman, and neutron scattering.

621 RHEOLOGY AND POLYMER PROCESSING
Prerequisite: Electromagnetic radiation or equivalent. Analysis of polymer processing equipment. Rheological behavior of polymers and solutions. Time-temperature superposition and viscoelastic fluid theory. Application to extrusion, injection molding, and fiber spinning.

622 ANALYSIS AND DESIGN OF POLYMER PROCESSING OPERATIONS
Prerequisite: Electromagnetic radiation or equivalent. Analysis of polymer processing equipment. Rheological behavior of polymers and solutions. Time-temperature superposition and viscoelastic fluid theory. Application to extrusion, injection molding, and fiber spinning.

631 ENGINEERING PROPERTIES OF SOLID POLYMERS
Prerequisites: 601, 4300:602. Combinations of solid polymer properties, viscoelastic behavior of elastomers and plastics, large strain behavior, and experimental methods.

651 POLYMER ENGINEERING LABORATORY
Prerequisite: Electromagnetic radiation or equivalent. Fundamental characterization of polymer melts and processing of polymer products. Syntactic investigation of polymer properties.

661 POLYMERIZATION REACTOR ENGINEERING
Prerequisite: Electromagnetic radiation or equivalent. Polymerization kinetics, reactor design, and reactor operation. Comprehension of reactor operation and reactor design.

711 ADVANCED ELECTROMAGNETIC AND OPTICAL PROPERTIES AND INVESTIGATIONS OF POLYMERS
Prerequisite: Electromagnetic radiation or equivalent. Applications of electromagnetic and optical properties of polymers in engineering and materials science. Applications of electromagnetic and optical properties of polymers in engineering and materials science.

712 RHEO-OPTICS OF POLYMERS

713 RADIATION SCATTERING AND DIFFRACTION BY POLYMER MATERIALS
Prerequisite: Electromagnetic radiation or equivalent. Applications of scattering and diffraction theory as applied to polymer crystalline and amorphous materials. Analysis and determination of crystal structures, mathematical description of orientation distribution of polymer and determination of orientation factors by WAXD and other methods.

716 NON-NEWTONIAN FLOW
Prerequisite: Electromagnetic radiation or equivalent. Non-Newtonian fluids. Development of fluid constitutive equations, viscoelastic methods.

721 RHEOLOGY AND PROCESSING TWO-PHASE POLYMER SYSTEMS
Prerequisite: Electromagnetic radiation or equivalent. Rheological behavior of two-phase polymer systems. Principles of scattering and diffusion theory as applied to polymer crystalline and amorphous materials. Analysis and determination of crystal structures, mathematical description of orientation distribution of polymer and determination of orientation factors by WAXD and other methods.

767 ADVANCED TOPICS IN POLYMER ENGINEERING
Prerequisite: Electromagnetic radiation or equivalent. Advanced special topics in polymer engineering.

898 PRELIMINARY RESEARCH

899 DOCTORAL DISSERTATION
Prerequisite: Electromagnetic radiation or equivalent. Research for Ph.D. dissertation.
CONSTRUCTION TECHNOLOGY

4980:

351 CONSTRUCTION QUALITY CONTROL
   Prerequisites: 2980: 231, 232 or permission. Design for owners, contractors or consultants.
   2 credits

352 FIELD MANAGEMENT
   Prerequisites: 2980: 133, 222, 245 or permission. Planning, scheduling and controlling of field
   work within time and cost constraints.
   2 credits

354 FOUNDATION CONSTRUCTION METHODS
   Prerequisite: 2980: 204. Soil mechanics and soils exploration as related to construction.
   3 credits

355 COMPUTER APPLICATIONS IN CONSTRUCTION
   Prerequisite: admission into the BCT program or permission of instructor. Focuses on
   computer applications in the CTE program on systems and interfaces.
   3 credits

358 SAFETY IN CONSTRUCTION
   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.
   2 credits

361 CONSTRUCTION FORMWORK
   Prerequisite: 2980: 204 or permission. Introduction to design and construction of formwork.
   3 credits

453 LEGAL ASPECTS OF CONSTRUCTION
   2 credits

462 MECHANICAL SERVICE SYSTEMS
   3 credits

463 ELECTRICAL SERVICE SYSTEMS
   3 credits

485 HEAVY CONSTRUCTION METHODS
   3 credits

486 HYDRAULICS
   3 credits

BIOMEDICAL INSTRUMENTATION I

530 BIOMEDICAL INSTRUMENTATION I
   4 credits
   Prerequisites: 3100: 562, 4 and 4300: 232 or 320. Clinical instrumentation to measure and
   display physiologic and anatomic parameters. Basic concepts of instrumentation including
   design criteria and operational analyses. Practical experience gained through the use of
   programmed minicomputer models.

613 BIOMATERIALS AND LABORATORY
   4 credits
   Corequisite: Biomaterials Laboratory. Material uses in biological applications. Effects of
   physiological environment and sterilization on materials. Control and uncontrolled
   degradation. Effect of material on soft tissue, hard tissue and blood. Laboratory experiments
   using materials designed for biomedical use and demonstrations of biological/materials
   interactions.

623 MECHANICS IN PHYSIOLOGY AND MEDICINE
   3 credits
   Prerequisites: 4600: 010 and 4300: 210 or equivalent. Blood rheology, mechanics of micro-
   circulation, tissue deformation theory, soft tissue mechanics, mechanics of blood and lymph
   circulation, kinematics and kinesiology of orthopedic joints. Clinical applications.

633 BIOLOGICAL SIGNAL AND IMAGE PROCESSING
   3 credits
   Concepts for the analysis of continuous signals, point processes and biomedical images,
   including sampling, filtering, time-frequency domain analyses, data displays, quantization,
   enhancement, restoration.

643 BIOMEDICAL COMPUTING
   3 credits
   Prerequisite: 4450: 206 or equivalent. Computer Applications in health care, clinical labora-
   tories, AMHT, medical records, direct order entry, A-D, D-A conversion, patient monitoring,
   peripherals and interfaces, diagnostic algorithms, automated EEG, ECG systems.

653 TRANSPORT PHENOMENA IN BIOLOGY AND MEDICINE
   3 credits
   Prerequisites: 4200: 101 or 4600: 310, 315 or equivalent. Basic definitions, cardiovascular
   flow and momentum transport, compartment modeling, mass transfer in physiological
   systems and artificial kidney and lung devices. Design, optimization. Analysis of human
   thermal systems.

697 SPECIAL TOPICS
   1-4 credits
   (May be repeated)
   Prerequisite: permission of instructor. Current topics or supervised study in the area of
   Biomedical Engineering. Credit hours depend upon the nature and extent of the course or
   the project.

699 MASTER'S THESIS
   1-6 credits
   Prerequisite: permission of advisor. Supervised research in the specific area of Biomedical
   Engineering.

566 PRELIMINARY RESEARCH
   (May be repeated)
   Prerequisite: approval of Advisory Committee. Preliminary investigation of Ph.D. dissertation
   subject.

699 DOCTORAL DISSERTATION
   1-15 credits
   Prerequisites: approval of Advisory Committee. Original research by a Ph.D. candidate.
## Cooperative Education

**5000:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>Cooperative Education</td>
<td>0</td>
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<tr>
<td>(May be repeated)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Cooperative Education students only. Work experience in business, industry, or governmental agency. Comprehensive performance evaluation and written report required.</td>
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</tbody>
</table>

## Educational Foundations

**5100:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>Introduction to Professional Education</td>
<td>3 (4 clinical hours, 12 field hours)</td>
</tr>
<tr>
<td>Nature and purpose of education in United States. Emphasis on social, historical and philosophical foundations of public education and on roles of professional educator.</td>
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</tr>
<tr>
<td>250</td>
<td>Human Development and Learning</td>
<td>3 (4 clinical hours)</td>
</tr>
<tr>
<td>Prerequisite: sophomore standing. Study of principles underlying intellectual, emotional, social and physical growth and development of human organism, and of learning processes with implications for instructional procedures.</td>
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</tr>
<tr>
<td>258</td>
<td>Small Group Instruction</td>
<td>1-3</td>
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<tr>
<td>(May be repeated for a total of three times)</td>
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<tr>
<td>Prerequisites: 250 and 3750:100 or equivalent and permission of instructor. Study of student-centered 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.</td>
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<tr>
<td>310</td>
<td>Educational Media and Technology</td>
<td>3</td>
</tr>
<tr>
<td>Examines media technology including videos, motion pictures, still pictures, audio materials and computers in instructional settings with emphasis on selection/evaluation, utilization and preparation.</td>
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<tr>
<td>320</td>
<td>Learning and Individualized Instruction</td>
<td>2</td>
</tr>
<tr>
<td>Prerequisite: 250. Behavioral approach to learning and the management of students. Emphasizes design of instructional sequences using behavioral analysis of objectives in both cognitive and psychomotor domains.</td>
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<tr>
<td>340</td>
<td>Educational Measurement and Evaluation</td>
<td>2 (8 clinical hours)</td>
</tr>
<tr>
<td>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.</td>
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</tr>
<tr>
<td>412/512</td>
<td>Design and Production of Instructional Materials</td>
<td>3</td>
</tr>
<tr>
<td>Covers design, adaptation and production of media materials. Student produces media materials involving overhead projection transparencies, audio recordings, film sequences and opaque materials. The student is offered project choices.</td>
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</tr>
<tr>
<td>414/514</td>
<td>Organizing and Supervising Educational Media Programs</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 310 or permission of instructor. Procedures for planning, organizing and evaluating educational media programs including media facilities and services.</td>
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<tr>
<td>420/520</td>
<td>Introduction to Computer Based Education</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisites: graduate or senior standing. Techniques for developing, implementing and evaluating computer based education. Participants will work with instructional programming and instructional computing languages. Both the hardware and software considerations associated with current education examined.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>430</td>
<td>Senior Honors Project: Foundations</td>
<td>1-6</td>
</tr>
<tr>
<td>Prerequisite: senior standing in Honors Program and permission of student's preceptor. Carefully defined individual study demonstrating originality and sustained inquiry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>Problems in Education</td>
<td>2 (12 field hours)</td>
</tr>
<tr>
<td>Prerequisite: senior status. Involves student in analytical and critical approach to problems of education as social undertaking in light of history and philosophy of education.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>480</td>
<td>Special Topics: Educational Foundations</td>
<td>1-4</td>
</tr>
<tr>
<td>(May be repeated with a change in topic)</td>
<td></td>
<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>
</tbody>
</table>

## Graduate Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>490,1,2/598,1,2</td>
<td>Workshop</td>
<td>1-3</td>
</tr>
<tr>
<td>Individual work under field guidance on curriculum problems, utilization of community resources, planning of curriculum units.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>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>
<td></td>
<td></td>
</tr>
<tr>
<td>497</td>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>(May be repeated for a total of six credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prerequisite: permission of department head and instructor. Specific area of study determined in accordance with program and professional goals.</td>
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<td></td>
</tr>
</tbody>
</table>

## Philosophies of Education

**600:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philosophies of Education</td>
<td>3</td>
</tr>
<tr>
<td>Examination of basic philosophical problems underlying broad educational questions that confront society. Provides foundation for understanding of questions of modern society and education.</td>
<td></td>
</tr>
</tbody>
</table>

## Comparative and International Education

**602:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative and International Education</td>
<td>3</td>
</tr>
<tr>
<td>Comparative study of selected national school systems with reference to forces that shape their characteristics. Different theoretical approaches used in study of comparative educational systems also investigated.</td>
<td></td>
</tr>
</tbody>
</table>

## Topical Seminar in the Cultural Foundations of Education

**604:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topical Seminar in the Cultural Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>(May be repeated for a total of six credits)</td>
<td></td>
</tr>
<tr>
<td>Issues and subjects related to study of educational institutions, theories and/or ideas. Different topics will be offered from section to section.</td>
<td></td>
</tr>
</tbody>
</table>

## Adult Education

**916:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Education</td>
<td>2</td>
</tr>
<tr>
<td>Survey course for teachers and administrators. Historical background including influences and their role in developments in the field. Emphasis on background and social value of current programs.</td>
<td></td>
</tr>
</tbody>
</table>

## Behavioral Bases of Education

**620:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Bases of Education</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 250 or equivalent. Introduction to scientific study of learning and development. Student exposed to current ideas and theories in learning and motivation, instruction.</td>
<td></td>
</tr>
</tbody>
</table>

## Seminar: Educational Psychology

**674:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Seminar: Educational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>(May be repeated for a total of six credits)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: 250 or equivalent. In-depth study of selected areas of learning, motivation and instruction.</td>
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</tbody>
</table>

## Topical Seminar in Computer Based Education

**675:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topical Seminar in Computer Based Education</td>
<td>3</td>
</tr>
<tr>
<td>(May be repeated for a total of six credits)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: 420/420. Advanced topics related to development, implementation, research and evaluation in C.B.E. Student involvement emphasized. Knowledge of programming language also required.</td>
<td></td>
</tr>
</tbody>
</table>

## Seminar: Educational Technology

**680:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Seminar: Educational Technology</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisites and trends in educational communications and technology including centers, training stations, programmed learning, educational television and computer-assisted instruction.</td>
<td></td>
</tr>
</tbody>
</table>

## Techniques of Research

**690:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Techniques of Research</td>
<td>3</td>
</tr>
<tr>
<td>Research methods and techniques currently used in education and behavioral sciences. Preparation of research reports, including library, historical, survey and experimental research and data analysis.</td>
<td></td>
</tr>
</tbody>
</table>

## Topical Seminar in Measurement and Evaluation

**694:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topical Seminar in Measurement and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>(May be repeated for a total of six credits)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: 350 or 3750:410/510. Topics of current interest and need will be emphasized. Students will develop extended competence with contemporary measurement and evaluation techniques.</td>
<td></td>
</tr>
</tbody>
</table>

## Field Experience: Master's

**696:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Experience: Master's</td>
<td>1-3</td>
</tr>
<tr>
<td>Prerequisite: permission of department head and instructor. Area determined in accordance with student's program and professional goals.</td>
<td></td>
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</tbody>
</table>

## Independent Study

**677:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>(May be repeated for a total of six credits)</td>
<td></td>
</tr>
<tr>
<td>Prerequisite: permission of department head and instructor. Specific area of study determined in accordance with student's program and professional goals.</td>
<td></td>
</tr>
</tbody>
</table>

## Master's Problem

**986:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's Problem</td>
<td>2-4</td>
</tr>
<tr>
<td>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 problems in educational foundations.</td>
<td></td>
</tr>
</tbody>
</table>

## Thesis Research

**699:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Research</td>
<td>4-6</td>
</tr>
<tr>
<td>Prerequisite: permission of department head and instructor. Specific area of study determined in accordance with student's program and professional goals.</td>
<td></td>
</tr>
</tbody>
</table>

## History of Education in American Society

**701:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of Education in American Society</td>
<td>3</td>
</tr>
<tr>
<td>Historical development of education in American social order, with special emphasis on social, political and economic setting.</td>
<td></td>
</tr>
</tbody>
</table>

## Seminar: History and Philosophy of Higher Education

**703:**

<table>
<thead>
<tr>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar: History and Philosophy of Higher Education</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite: 600 or equivalent. 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 the United States.</td>
<td></td>
</tr>
</tbody>
</table>
COURSES OF INSTRUCTION 223

705 Seminar: Social-Philosophical Foundations of Education 3 credits
(May be repeated for a total of six credits)
Prerequisite: 600 or equivalent, inquiry into selected ideological, social, economic, and philosophical factors affecting educational development in the United States and other countries.

721 Learning Processes 3 credits
Study of principles underlying classroom learning processes with particular emphasis on teaching as means of modifying pupil behavior, cognitive, motor, social, and affective.

723 Teacher Behavior and Instruction 3 credits
Prerequisite: 410. Intensive survey of theoretical and empirical literature involving teacher concepts and principles of instruction. A student reports on theory, empirical research and applications in areas of individual interest.

741 Statistics in Education 3 credits
Statistical methods and techniques used in the field of measurement and research work in education.

743 Advanced Educational Statistics 3 credits
Prerequisite: 410. A second course on quantification in behavioral sciences. Includes testing of statistical hypotheses, experimental design, analysis of variance and nonparametric factor analysis and introduction to a computer program.

798 Research Project in Special Areas 1-3 credits
Prerequisite: permission of department head and instructor. Critical and in-depth study of specific problem in educational psychology.

801 Research Seminar 3 credits
(May be repeated for a total of six credits)
Prerequisites: 640 and 741; permission of department head and instructor. Intensive study of research methods and applications to education. Emphasis on developing a dissertation proposal.

897 Independent Study 1-4 credits
(May be repeated for a total of eight credits)
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 advisor.

ELEMENTARY EDUCATION 5200:

100 Student Participation-Observation 1 credit (30 field hours) (credit/no-credit)
Planned field experience emphasizing tutorial settings in reading and other curricular areas.

141 Handicrafts in the Elementary School 2 credits (15 clinical hours)
Prerequisite: 710:191. Breadth of experiences through manipulation of various craft mediums which enriches curriculum.

200 Student Participation 1 credit (30 field hours) (credit/no-credit)
Prerequisite: 160. Planned field experience emphasizing tutorial settings where student works with small groups in classroom.

286 Children's Literature 3 credits (15 clinical hours)
Survey of materials for children in prose, poetry, and illustrations, from early historical periods to modern types; criteria for selection and methods of presentation critically examined.

300 Student Participation 1 credit (30 field hours) (credit/no-credit)
Prerequisite: 200. Planned field experience where student works in both small and large group settings in elementary school.

310 Introduction to Early Childhood Education 2 credits
Prerequisite: 7400:210. Core course for early childhood education. Provides background information, relevant research, and tools for teachers of children in the early childhood education.

311 Curriculum for Preschool Learning Centers 2 credits
Prerequisite: 310. Curricular and instructional techniques in mathematics, science, language arts, social studies, and music examined with emphasis on early education as foundation for later growth.

312 Introduction to Early Childhood Education-Laboratory 1 credit
Corequisite: 310. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

313 Curriculum for Preschool Learning Centers-Laboratory 1 credit
Corequisite: 311. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

321 Art for the Grades 2 credits (15 clinical hours)
Prerequisite: 141. Art requirements in elementary grades: laboratory work to give teachers knowledge of materials and mediums and skills in handling them.

345 Early Elementary Education I 3 credits
Prerequisite: 5100:250. First of two courses designed to involve student specifically in primary-grade child and his learning style.

331 Early Elementary Education II 3 credits
Prerequisite: 330. Curriculum needs of primary-aged child.

332 Science for the Elementary Grades 3 credits
Prerequisite: 5100:250. For a prospective elementary school science teacher. Development of a point-of-view toward science teaching and study of methods of presenting science material.

334 Teaching Art in the Elementary School 2 credits

335 Teaching the Language Arts 5 credits (15 clinical hours)
Prerequisites: 286 and 5100:250. Course for elementary teacher stressing methods and materials for skills development in various language arts.

338 Teaching of Elementary School Mathematics 2 credits
Prerequisite: 5100:250. Trends in instruction in elementary schools. Procedures for developing mathematical concepts and skills.

339 Teaching of Reading 3 credits
Prerequisite: 338. Nature of reading problems in classroom setting. Methods and materials employed in corrective reading program by classroom teacher.

340 Early Elementary Education I—Laboratory 1 credit
Corequisite: 310. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

341 Early Elementary Education II—Laboratory 1 credit
Corequisite: 311. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

343 Science for the Elementary Grades—Laboratory 1 credit (30 clinical hours)
Corequisite: 332. 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.

344 Teaching Art in the Elementary School—Laboratory 1 credit (30 clinical hours)
Corequisite: 345. Provides a laboratory for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

346 Teaching Elementary School Mathematics—Laboratory 1 credit (30 clinical 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.

347 Teaching of Reading—Laboratory 1 credit (30 clinical hours)
Corequisite: 335. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

348 Teaching of Social Studies—Laboratory 1 credit (30 clinical hours)
Corequisite: 334. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

349 Principles of Diagnostic Teaching of Reading—Laboratory 1 credit (30 clinical hours)
Corequisites: 337 and 347. Corequisite: 339. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

350 Multicultural Education: Concepts, Programs and Practices 3 credits (15 clinical hours)
Designed to provide teacher education student with knowledge, skills, and attitudes which will enable them to model behavior and implement curricular programs consistent with the concept of cultural pluralism.

351 Music Education—Laboratory 3 credits
Prerequisite: 7400:210. Concentrated study and experience in nursery school programing under direction of supervising teachers.

352 Music Education—Laboratory 3 credits (25 clinical hours)
Corequisites: 337 and 347. Corequisite: 339. Provides an opportunity for teacher education student to implement techniques described in accompanying methods course with learner in the field. Learner on campus or to develop materials for use by learner.

353 Comprehensive Musicianship for the Elementary Classroom Teacher 3 credits
Designed to afford a prospective classroom teacher the opportunity to develop individual musical skills in creativity, performance and instruction as means of enhancing teaching through use of music.

356 Field Experience 1-10 credits
Prerequisite: permission of advisor and department head. Independent field work in an area selected by student’s advisor, based on student’s needs.
Graduate Courses

60 LITERATURE FOR YOUNG CHILDREN 2 credits

650 ELEMENTARY SCHOOL CURRICULUM AND INSTRUCTION 2 credits

651 ELEMENTARY SCHOOL CURRICULUM AND INSTRUCTION 2 credits

652 DEVELOPMENTAL READING IN THE CONTENT AREAS—ELEMENTARY 2 credits

653 DEVELOPMENTAL READING IN THE CONTENT AREAS—ELEMENTARY 2 credits

654 DEVELOPMENTAL READING IN THE CONTENT AREAS—ELEMENTARY 2 credits

655 DEVELOPMENTAL READING IN THE CONTENT AREAS—ELEMENTARY 2 credits
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.

442/442 TEACHING READING TO CULTURALLY DIFFERENT LEARNERS
Prerequisite: 5200:337 or permission of the instructor. The course is designed to provide a student with knowledge of skills and attitudes which will enable employment of effective methods of teaching reading to culturally different learners. Some or all the group language patterns are non-standard.

480 SPECIAL TOPICS ELEMENTARY READING INSTRUCTION
(May be repeated with change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical contemporary concern in professional education.

Graduate Courses

610 TRENDS IN READING INSTRUCTION
2 credits
Prerequisite: 5200:235 or 5200:242. Survey course designed to update reading background of student who has not had a recent course in reading.

611 DIAGNOSIS AND CORRECTION OF READING PROBLEMS
5 credits
Prerequisite: 610. A study of factors affecting reading and the relationship of these factors to the teaching-learning process. Techniques of teaching and learning are reviewed. Problems are identified and solutions are developed for teaching remedial reading.

612 CLINICAL PRACTICES IN READING
5 credits
Prerequisite: 611. Observation of reading services at the local level. Serves as a research and development consultant to the school system.

633 READING DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS AND SUPPORT PERSONNEL
3 credits
Prerequisite: 612. Familiarization with reading disorders which may be detected by psychologists and support personnel.

92 ADVANCED STUDY AND RESEARCH IN READING INSTRUCTION
3 credits
Survey of research design, methodology, and development of projects in reading through individual study.

933 SUPERVISION AND CURRICULUM DEVELOPMENT IN READING INSTRUCTION
2 credits
Relative to total curriculum, procedures for developing reading programs in all curriculum areas, examination of children's literature and related instructional reading supervisions.

SECONDARY EDUCATION

5300:

210 PRINCIPLES OF TEACHING IN THE SECONDARY SCHOOL
3 credits (30 clinical hours)
Prerequisite: 5100:235 or 275. Designed to familiarize the pre-service teacher with the nature of secondary education and teaching in secondary schools. Microteaching laboratory participation is required.

225 ORIENTATION TO SECONDARY EDUCATION**
1 credit (40 clinical hours)
Corequisite: 276. An orientation to the goals and objectives of the secondary school teacher. Student will gain a clear understanding of the purpose and nature of training in secondary post-secondary education.

235 EXPLORATORY EXPERIENCES IN SECONDARY EDUCATION (BYPHOREM)”
1 credit (6 clinical hours, 30 field hours)
Corequisite: Fall, 276, Spring, 210. Field work with secondary school pupils, teachers, and other professional personnel.

176 EXPLORATORY EXPERIENCE IN SECONDARY SCHOOLS/MAINTRENT
1-2 credits
Field work for the special education major.

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.

311 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 of various secondary teaching fields.

316 METHODS IN TEACHING ART
2 credits
Prerequisite: completion of required course for art teachers and grade point average of 2.0 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.

221 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 credit education, parents and pupils.

225 CONTENT READING IN SECONDARY SCHOOLS
3 credits (30 clinical hours)
Corequisite: 375. Instructional principles and practices for helping secondary school youth and adults learn subject matter through application of reading and study skills.

330 TEACHING OF ADOLESCENT LITERATURE
3 credits
Prerequisite: permission of advisor. Student develops skills for selection of literature that is well suited for secondary school student. Student develops, uses and experiences methods for teaching adolescent literature in secondary schools.

345 HUMAN RELATIONS IN SECONDARY EDUCATION
1 credit (3 clinical hours, 7 field hours)
Corequisite: 310. Develops competencies essential to effective teaching in a culturally pluralistic society. Includes selection of effective instructional activities, and handling multicultural differences and socioeconomic differences in the classroom.

355 MANAGING CLASSROOM BEHAVIOR AT THE SECONDARY LEVEL
1 credit (3 clinical hours, 7 field hours)
Prerequisite: 310. Identifies prospective teacher role. Helps variety of student behaviors that may encounter in various educational settings.

374 PRINCIPLES OF SHORTHAND INSTRUCTION
2 credits
Prerequisite: 2560.173 and grade point average of 2.0 in the field. Methods of presentation in shorthand and transcription. Demonstration and observations required. "Theory test in the field must be passed before entering the course.

375 EXPLORATORY EXPERIENCE IN SECONDARY EDUCATION
1 credit (6 clinical hours, 30 field hours)

395 FIELD EXPERIENCE
1-3 credits
Prerequisite: upper college standing. Supervised work with youngsters, individually and in groups in school and/or community settings.

403 STUDENT TEACHING SEMINAR
1-4 credits
Corequisite: 495.

411 INSTRUCTIONAL TECHNIQUES IN SECONDARY EDUCATION**
4 credits (30 clinical hours, 20 field hours)
Corequisites: 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 of various secondary teaching fields.

425/428 ADVANCED MICROCOMPUTERS APPLICATION IN THE SECONDARY SCHOOLS
3 credits (30 clinical hours)
Prerequisite: knowledge of microcomputer programming is required. Advanced programming techniques are reviewed, applied in program development appropriate for the secondary school. Hardware, software, computer literacy and applications in microcomputer education in secondary schools.

460 CAREER OPTIONS IN IN SECONDARY EDUCATION
1-6 credits
Corequisites: 310 and senior status. Helps prospective teacher prepare for teaching in secondary schools.

470 VACATIONAL COOPERATIVE OFFICE EDUCATION
2 credits
Principles of program construction, organization, implementation, evaluation, improvement and development of program guides in cooperative office education.

475/477 INTENSIVE VOCATIONAL OFFICE EDUCATION
2 credits
Principles of program construction, organization, implementation, evaluation and development of program guides in cooperative office education.

480 SPECIAL TOPICS: SECONDARY EDUCATION
1-4 credits
Corequisites: 5100:350. Study of special topics of critical contemporary concern in professional education.

485 CLASSROOM DYNAMICS
2 credits (10 clinical, diagnostic, 15 field hours)
Corequisite: 495. Study of issues and behavioral patterns pertinent to successful teaching and classroom management techniques.

*Offered beginning Spring semester 1985.
**Not offered after Fall semester 1984.
Graduate Courses

615 SECONDARY SCHOOL CURRICULUM AND INSTRUCTION 2 credits
Application of findings of recent research to curriculum building and procedures in teaching.

465 READING PROGRAMS IN SECONDARY SCHOOLS 3 credits
For all subject teachers both with and without previous study in the teaching of reading. Materials, class organization and procedures for developing reading improvement programs for all secondary school and college students.

630 ADVANCED INSTRUCTIONAL TECHNIQUES IN BOOKKEEPING—ACCOUNTING AND BASIC BUSINESS SUBJECTS 3 credits
Emphasizes types of teaching-learning strategies for improvement of instruction. Emphasis on teacher coordination of methods, preplanned objectives and evaluation to insure maximum student competency in subject knowledge and skill.

633 ADVANCED INSTRUCTIONAL TECHNIQUES IN TYPWRITING AND TYPING-RELATED SUBJECTS 3 credits
Emphasizes types of teaching-learning strategies for improvement of instruction. Emphasis on teacher coordination of methods, preplanned objectives and evaluation to insure maximum student competency in subject knowledge and skill.

695 FIELD EXPERIENCE: MASTERS’ (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.

697 INDEPENDENT STUDY 1-3 credits
Prerequisite: permission of adviser and supervisor of independent study. Area of study determined by student’s needs.

698 MASTER’S 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 secondary education.

699 THESIS RESEARCH 4-6 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.

701 SUPERVISION OF INSTRUCTION IN THE SECONDARY SCHOOL 2 credits
Definition of supervisory leadership roles in improving instruction at secondary school level and development of practical theory of secondary school supervision.

780 SEMINAR IN SECONDARY EDUCATION 2 credits
(May be repeated) Intensive examination of a particular area of secondary education.

781 RESIDENCY SEMINAR 1 credit
(Must be repeated) One-hour weekly meeting for secondary education doctoral student in residence.

782 RESIDENCY SEMINAR 1 credit
(Must be repeated) One-hour weekly meeting for secondary education doctoral student in residence.

895 FIELD EXPERIENCE: DOCTORAL 1-6 credits
(May be repeated for a total of six credits) Prerequisite: permission of advisor and director of field experience. Intensive job-related experience pertinent to student’s needs. Student must be able to demonstrate skills and leadership abilities in an on-the-job situation.

897 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of six credits) Prerequisite: permission of adviser and director of independent study. Area of study determined by student’s needs.

900 RESEARCH PROJECT IN SPECIAL AREAS 1-2 credits
Prerequisite: permission of adviser. Specific research project that requires student to apply research skills and techniques pertinent to problem being studied.

999 DISSERTATION 1-20 credits
Prerequisite: permission of adviser. Specific research problem that requires student to apply research skills and techniques pertinent to problem being studied.

Technical and Vocational Education

5400:

301 OCCUPATIONAL EMPLOYMENT EXPERIENCE AND SEMINAR 1-4 credits
Provides student with knowledge of current industrial or business practice at level mutually commensurate with that associated with employment expectations of graduates of technical programs.

351 CONSUMER homemaking METHODS 4 credits
Prerequisite: senior standing or permission of instructor. Concept development in vocational homemaking programs and workshops for older people.

365 FIELD EXPERIENCE 1-3 credits
Prerequisite: upper college standing. Supervision work with young adults, individually and in groups, in educational institutions, training and/or community settings.

403 TECHNICAL EDUCATION PRACTICUM SEMINAR 2 credits
Corequisite: 495.

405/505 VOCATIONAL EDUCATION FOR YOUTH AND ADULTS 3 credits
History and operations of current vocational education for youth and adults. Includes study of social, economic and political influences that stimulate growth and expansion of vocational education.

410/510 THE TWO-YEAR COLLEGE 3 credits
Designed to introduce student to nature, purpose and philosophy of the two-year college. Includes examination of types of institutions offering two-year programs.

415/515 VOCATIONAL AND TECHNICAL TRAINING IN BUSINESS AND INDUSTRY 3 credits
Examines the role and mission of the training function in the modern industrial setting. Provides a foundation for the student planning to become an industrial trainer or training supervisor of technicians and other occupational skill development levels.

421/521 INSTRUCTIONAL TECHNIQUES IN TECHNICAL EDUCATION 4 credits
Selected topics in instructional techniques appropriate to post-secondary technical education. Emphasis on instructional methods, techniques in classroom, laboratory including tests, measurements.

430/530 COURSE CONSTRUCTION IN TECHNICAL EDUCATION 2 credits
Procedure of breaking down an occupation to determine curriculum for laboratory and classroom development into an organized sequence of instructional units.

440 LIFE-SPAN AND COMMUNITY EDUCATION 2 credits
Designed for a person engaged in providing educational services in the community. Includes examination of community education concepts and roles of various personnel and agencies.

441/541 EDUCATIONAL GERONTOLOGY SEMINAR 3 credits
Designed for person practicing in field of gerontology. Preparing for a specialization in educational gerontology, including person responsible for development and implementation of courses, seminars, occupational training programs and workshops for older people.

451/551 HOME ECONOMICS JOB TRAINING 3 credits
Prerequisite: permission of instructor. Concept development in vocational home economics. Job training, program development, operational procedures, skill and knowledge identification, training profiles, job description analysis, individualized study guides in school and on-the-job situations.

460 SPECIAL TOPICS: VOCATIONAL EDUCATION (May be repeated with a change in topic) 1-4 credits
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

481 SPECIAL TOPICS: TECHNICAL EDUCATION (May be repeated with a change in topic) 1-4 credits
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

490/1,2,3/590,1,2,3 WORKSHOP 1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

494/594 EDUCATIONAL INSTITUTES 1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

496 TECHNICAL EDUCATION PRACTICUM 1-4 credits
Prerequisite: senior standing or permission of adviser. Corequisite: 493. Directed teaching under supervision of directing teacher and University supervisor.

497 INDEPENDENT STUDY 1-3 credits
Prerequisite: permission of adviser and supervisor of independent study. Area of study determined by student’s needs.

Graduate Courses

610 COMMUNICATION WITH BUSINESS AND INDUSTRY 2 credits
Techniques of establishing better communications between education and business.
industry. Emphasis on the advisory committee, coordination functions and working with local professional associations in the community.

66 CURRENT ISSUES IN HIGHER EDUCATION 2 credits
(May be repeated with change in topic)
Examination of many current problems and issues in institutions of higher education. Adult education, technical institutes, community colleges, proprietary schools, graduate and professional education.

69 INTERNSHIP: TEACHING VOCATIONAL EDUCATION

69'1 INTERNSHIP: TEACHING TECHNICAL EDUCATION

692 INTERNSHIP: POST-SECONDARY EDUCATION 2 credits each
Teaching under supervision from the University and the educational institution. Includes a seminar each week.

695 FIELD EXPERIENCE: MASTERS 1-6 credits
Prerequisites: permission of adviser and supervisor of field experience. On-the-job experience related to student's program of studies.

697 INDEPENDENT STUDY 1-3 credits
(May be repeated for a total of six credits) Prerequisites: permission of adviser and supervisor of field experience. On-the-job experience related to student's program of studies.

698 MASTER'S PROBLEM 2-4 credits
Prerequisite: permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in technical and vocational education.

699 THESIS RESEARCH 4-6 credits
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 vocational education.

PHYSICAL EDUCATION

5550:

101 FUNDAMENTALS OF ARCHERY/SOLOLING 1 credit
Acquisition of performance skills, knowledge of rules and strategy and appreciation of archery and bowling as a means of physical activity in our culture. Two class periods per week.

102 FUNDAMENTALS OF BADMINTON/VOLLEYBALL 1 credit
Acquisition of performance skills, knowledge of rules and appreciation of badminton and volleyball as a means of physical activity in our culture. Two class periods per week.

103 FUNDAMENTALS OF SOCCER/FIELD HOCKEY 1 credit
Acquisition of performance skills, knowledge of rules and strategy and appreciation of soccer and field hockey as a means of physical activity. Two class periods per week.

104 FUNDAMENTALS OF TRACK AND FIELD 1 credit
Acquisition of performance skills, knowledge of rules and strategy and appreciation of track and field as a means of physical activity in our culture. Two class periods per week.

105 RECREATIONAL ACTIVITIES 1 credit
Acquisition of skills and knowledge of rules for participation in, and organization of, indoor and outdoor recreational activities. For the physical education and recreation education student.

106 RECREATIONAL ACTIVITIES FOR THE HANDICAPPED 1 credit
Acquisition of skills and knowledge of rules for participation in, and organization of, recreational activities for handicapped. Includes ways of adapting common activities for participation by handicapped.

115 FUNDAMENTALS OF WRESTLING/RUGBY 1 credit
Acquisition of performance skills, knowledge of rules and strategy and appreciation of wrestling and rugby as a means of physical activity. Two class periods per week. (For men only.)

120 FUNDAMENTALS OF BASKETBALL 1 credit
Acquisition of performance skills, knowledge of rules and strategy and appreciation of basketball as a means of physical activity. Two class periods per week. Suggested for women only.

130 PHYSICAL EDUCATION ACTIVITIES FOR ELEMENTARY SCHOOL CHILDREN 2 credits
For Physical education major only. Participation in play activities commonly used in elementary physical education programs. One lecture and two laboratory periods per week.

144 PHYSICAL EDUCATION ACTIVITIES I 3 credits
Acquisition of performance skills and knowledge of techniques of gymnastics and tumbling, team sports and conditioning activities. Six class periods per week.

141 PHYSICAL EDUCATION ACTIVITIES II 3 credits
Acquisition of performance skills and knowledge of techniques and development of dance activities, swimming and individual team sports. Six class periods per week.

155 ORGANIZATION AND ADMINISTRATION OF RECREATION 2 credits
General administrative procedures common, analysis, discussion and evaluation of various types of recreational programs.

163 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.

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 seminars and one laboratory per week.

201 KINESIOLOGY 2 credits
Prerequisites: 3100:206,7. Application of principles of anatomy to movement of human body.

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.

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.

215 CONCEPTS OF MOTOR DEVELOPMENT AND LEARNING 2 credits
Analysis of concepts fundamental to learning motor activities.

245 INSTRUCTIONAL TECHNIQUES IN ELEMENTARY PHYSICAL EDUCATION 2 credits
Prerequisites: 190,140,193. Supervised teaching of elementary physical education activities to peers. Four class periods per week.

246 INSTRUCTIONAL TECHNIQUES IN SECONDARY PHYSICAL EDUCATION 2 credits
Prerequisites: 146,193 and at least one credit of 110 through 120. Supervised teaching of secondary physical education activities to peer. Four class periods per week.

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.

310 THEORY AND TECHNIQUES OF SOCCER 1 credit
Theory, techniques and organizational procedures for coaching of soccer. Two class periods per week.

311 THEORY AND TECHNIQUES OF TRACK AND FIELD 1 credit
Theory, techniques and organizational procedures for coaching of track and field. Two class periods per week.

312 THEORY AND TECHNIQUES OF BASKETBALL 1 credit
Theory, techniques and organizational procedures for coaching of basketball. Two class periods per week.

313 THEORY AND TECHNIQUES OF BASEBALL/SOFTBALL 1 credit
Theory, techniques and organizational procedures for coaching of baseball and softball. Two class periods per week.

314 THEORY AND TECHNIQUES OF SWIMMING 2 credits
Theory, techniques and organizational procedures for coaching of swimming. One hour lecture, two hours laboratory.

315 THEORY AND TECHNIQUES OF TUMBLING AND GYMNASTICS 1 credit
Theory, techniques and organizational procedures for coaching of gymnastics and swimming. Two class periods per week.

320 THEORY AND TECHNIQUES OF VOLLEYBALL 1 credit
Theory, techniques and organizational procedures for coaching of volleyball. Two class periods per week.

325 THEORY AND TECHNIQUES OF FOOTBALL 1 credit
Theory, techniques and organizational procedures for coaching of football. Two class periods per week.

328 THEORY AND TECHNIQUES OF WRESTLING 1 credit
Theory, techniques and organizational procedures for coaching of wrestling. Two class periods per week.

334 GAMES AND RHYTHM: ELEMENTARY GRADES 2 credits (20 clinical hours)
Prerequisites: 190,601. Physical education activities which may be used by classroom teachers. Theory of motor development. One hour lecture, two hours laboratory.

335 MOVEMENT EXPERIENCES FOR THE ELEMENTARY GRADES 2 credits
Analysis, theory, practical application of basic movement experiences for children. One hour lecture, two hours laboratory.

338 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.

346 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.
341 ADVANCED ATHLETIC INJURY MANAGEMENT 4 credits
Prerequisites: 3100:296.7, 5550:201, 2.4. Advanced athletic training techniques for the
student desiring to become a certified trainer according to the regulations of the National
Athletic Trainers Association.

345 ADAPTED PHYSICAL EDUCATION 2 credits
Prerequisites: 3100:108.7. Current theories and practices relating to needs of physically
handicapped children: emphasis given to underlying philosophy, purposes and
administration.

350 ORGANIZATION AND ADMINISTRATION OF HEALTH
AND PHYSICAL EDUCATION 3 credits
Investigation of necessary procedures for conduct of health education and physical
education programs in schools. Includes organizational considerations, curricular
materials and equipment, and supplies.

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 tournaments, designs, supplies and equipment.
Two hours lecture, two hours laboratory.

356 FIELD EXPERIENCE
Prerequisite: permission of adviser. Practical experience in an area related to physical
education under supervision of faculty member. Student works with current physical
education programs in schools.

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.

430 SENIOR HONORS PROJECT: PHYSICAL EDUCATION
(May be repeated for a total of six credits)
Prerequisites: senior standing in Honors Program and permission of student's preceptor.
Carefully defined individual study demonstrating originality and sustained inquiry.

435/535 ADAPTED PHYSICAL EDUCATION TASKS FOR THE
LEARNING DISABLED CHILD 2 credits
Teaching methods and materials necessary to structure developmental tasks for learning
disabled child; designed for a person preparing to teach elementary school physical
education and special education.

460 PRACTICUM IN PHYSICAL EDUCATION 3-6 credits
Prerequisites: senior standing and permission of adviser. Practical work experience with
certified personnel in a discipline or profession related to physical education. The experience
will be a collaborative effort of the student's adviser, the student, and the agency personnel
directly involved with the practicum.

480 SPECIAL TOPICS: PHYSICAL EDUCATION 1-4 credits
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary
considerations in professional education.

490,1,2,3,690,1,2,3 WORKSHOP 1-3 credits each
Practical, intensive and concentrated involvement with current curricular practices in areas
defined by the student.

494/594 EDUCATIONAL INSTITUTIONS AND FOUNDATIONS 1-4 credits
Practical experience with current or recent curricular practices involving expert resource
person in physical education, and usually financed by private or public funding.

495 STUDENT TEACHING 4-8 credits
Prerequisites: senior status, all major courses completed, 2.50 or grade point average in major.
Supervised teaching experience in a public school for fifteen weeks.

487 INDEPENDENT STUDY 1-2 credits
Prerequisite: permission of adviser. Analysis of specific topic related to current problem in
physical education. May include investigatory procedures, research, or concentrated practical
experience.

Graduate Courses

601 ADMINISTRATION OF HEALTH, PHYSICAL EDUCATION,
ATHLETICS AND RECREATION 3 credits
Techniques of organization, administration and evaluation of health, physical education and
recreation programs. Administrative policies of athletic programs at elementary, secondary,
and collegiate levels.

603 CURRICULUM PLANNING IN HEALTH AND
PHYSICAL EDUCATION 2 credits
Analysis of objectives, procedures and trends in curricula and principles and procedures for
developing sound programs.

605 PHYSIOLOGY OF MUSCULAR ACTIVITY AND EXERCISE 2 credits
Functions of body systems and physiological effects of exercise. Laboratory exercises,
lectures, discussions.

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.

608 SUPERVISION OF PHYSICAL EDUCATION 2 credits
Principles involved in supervision of physical education service programs. Procedures and
Techniques of supervision of service classes at elementary, junior high and senior high
school levels.

609 MOTIVATIONAL ASPECTS OF PHYSICAL ACTIVITY 3 credits
Analysis of factors influencing motivation of motor performance with emphasis on competi-
tion, audience effects, aggression.

655 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.

687 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.

695 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.

696 THESS 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.

OUTDOOR EDUCATION

5560:

430 SENIOR HONORS PROJECT: OUTDOOR EDUCATION
(May be repeated for a total of six credits)
Prerequisites: senior standing in Honors Program and permission of student's preceptor.
Carefully defined individual study demonstrating originality and sustained inquiry.

450/555 APPLICATION OF OUTDOOR EDUCATION
TO THE SCHOOL CURRICULUM 4 credits
Provides knowledge, skills and techniques useful in application of outdoor education to
school curriculum.

452/552 METHODS, MATERIALS AND RESOURCES
FOR TEACHING OUTDOOR EDUCATION 3 credits
Methodologies unique to outdoor education which incorporate a multisensory approach to
learning. Instructional materials and resources which permit expansion of curriculum beyond
the school building.

454 RESIDENT OUTDOOR EDUCATION 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.

456/556 OUTDOOR PURSUITS 4 credits
Investigation and participation in practical experiences in outdoor pursuits.

460 OUTDOOR EDUCATION PRACTICUM 2 credits
Prerequisites: 452/5.4. Closely supervised practical experience in conjunction with regularly
scheduled classroom meetings. Laboratory experience consists of active participation with
an established outdoor education program.

460/590 WORKSHOP: OUTDOOR EDUCATION 1-3 credits
Practical application of contemporary ideas, methods, and equipment related to outdoor
education. Emphasis on participatory involvement in educational practices, utilizing the
natural environment.

494/594 EDUCATIONAL INSTITUTIONS: OUTDOOR EDUCATION 1-4 credits
Practical experience with current research or curricular practices involving expert resource
persons in outdoor education.

497 INDEPENDENT STUDY 1-3 credits
Prerequisites: permission of adviser and supervisor of independent study. Provides varied
opportunities for a student to gain first-hand knowledge and experience with existing outdoor
education programs.

Graduate Courses

600 OUTDOOR EDUCATION RURAL INFLUENCES 3 credits
Prerequisites: 550 or 552. Utilization of resources of rural area as a learning/teaching
environment. Content and methodology appropriate for teaching school-age children in
rural settings.

605 OUTDOOR EDUCATION: SPECIAL TOPICS 2-4 credits
(May be repeated for change in topic)
Prerequisite: permission of instructor. Group and individual study of special topics of
contemporary concern in outdoor education.

800 PRACTICUM IN OUTDOOR EDUCATION 2-4 credits
Prerequisites: 550/2 and permission of adviser. Supervised practical experience with exist-
ing outdoor education programs. In conjunction with practical work student must be regularly
involved with adviser.
HEALTH EDUCATION

5570:

101 PERSONAL HEALTH
2 credits (10 clinical hours)
Application of current principles and facts pertaining to healthful, effective living. Personal health problems and needs of a student.

200 CURRENT TOPICS IN HEALTH EDUCATION
3 credits
Designed to give the teacher of health education the knowledge base necessary to deal factually and comfortably with selected topics in school and community health.

201 CONSUMER HEALTH, WEIGHT CONTROL AND EXERCISE
3 credits
Student will investigate current consumer health problems as they relate to making decisions about the purchase and use of health products and health services available in today's society. And understanding of the maintenance of body weight and how it is affected by a person's knowledge of nutrition and exercise will be included.

203 STRESS, LIFE-STYLE AND YOUR HEALTH
3 credits
Overview of the behavior associated with wellness and disease.

320 COMMUNITY HYGIENE
2 credits
Study of current major public health problems. Organization and administration of official and voluntary agencies and their role in solution of community health problems.

321 ORGANIZATION AND ADMINISTRATION OF SCHOOL HEALTH AND SCHOOL HEALTH SERVICES
4 credits
Methods and techniques utilized in organization and administration of school health program. The role of school and community personnel in detecting and managing health problems of the student explored. Procedures and programs designed to protect and promote the health of school-age youth.

322 METHODS AND MATERIALS OF ELEMENTARY SCHOOL HEALTH EDUCATION
2 credits
Prerequisite: 101. Emphasizes the planning and organization of subject matter for implementation in elementary school health curriculum. Emphasis will be on creative activities and teaching methods.

323 METHODS AND MATERIALS OF SECONDARY SCHOOL HEALTH EDUCATION
2 credits
Prerequisite: 101. Planning and organization of subject matter for secondary school health instruction will be major emphasis. Attention will be given to development of teaching techniques, utilization of instructional media and evaluation procedures in health education.

395 FIELD EXPERIENCE IN HEALTH EDUCATION
1-3 credits
Prerequisite: permission of the adviser. On-site field experience will be conducted in an area related to health education under the supervision of a faculty member. The student will work with current health education programs.

400 ENVIRONMENTAL ASPECTS OF HEALTH EDUCATION
3 credits
Prerequisite: major or minor in health education or instructor's permission. Investigates many aspects of the environment and their influence upon the quality of human life. Major emphasis will be upon the effectiveness of measures for improving the healthful, living environment.

430 SENIOR HONORS PROJECT IN HEALTH EDUCATION
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 designed individual study emphasizing originality and sustained inquiry.

460 PRACTICUM IN HEALTH EDUCATION
2 credits
Prerequisite: permission of the adviser. On-site participation in community health organizations, agencies or resources.

487 INDEPENDENT STUDY IN HEALTH EDUCATION
1-2 credits
Prerequisite: permission of the adviser. Analysis of a specific topic related to a current problem in health education. May include investigative procedure, research or concentrated practical experience.

EDUCATIONAL GUIDANCE AND COUNSELING

5600:

110 CAREER PLANNING
2 credits
Skills necessary to make effective educational and career decisions. Emphasis upon self-understanding, career exploration, career planning, decision making.

410 PERSONNEL SERVICES IN SCHOOLS
2 credits
Prerequisite: senior standing. Introduction to background, role and function, techniques, community agencies and issues in personnel field. For student considering pupil personnel fields, social work.

426/526 CAREER EDUCATION
2 credits
Prerequisite: senior, junior or graduate standing. Examination of current career education models and programs with emphasis on evaluation of career education activities into elementary and secondary curriculum.

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.

450/550 COUNSELING PROBLEMS RELATED TO LIFE THREATENING ILLNESS AND DEATH
3 credits
Prerequisite: permission. Consideration of the global issues, current research, coping and theoretical dimension stressed.

480 SPECIAL TOPICS: EDUCATIONAL GUIDANCE AND COUNSELING
1-4 credits
(May be repeated with a change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

490, 1/2/590, 1.2 WORKSHOP
1-3 credits each
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

493/593 WORKSHOP
1-4 credits
Special instruction designed as in-service and/or upgrading individuals on current issues and practices in counseling.

494/594 COUNSELING INSTITUTE
1-4 credits
In-service programs for counselors and other helping professionals.

Graduate Courses

640 SEMINAR IN COUNSELING
1 credit
Prerequisite: Counselling majors must elect 650 prior to electing 651 and/or within the first ten credits of 5600 coursework. Structured group experience designed to help student assess selection of course in school counseling.

602 INTRODUCTION TO COUNSELING
2 credits
Understanding guidance and counseling principles including organization, operation and evaluation of guidance programs (designed for noncounseling majors).

710 COUNSELING SKILLS FOR TEACHERS
3 credits
Prerequisite: 631 or 633 or permission. The study and practice of selected counseling techniques that can be applied by teachers working with students, parents and colleagues.

629 TOPICAL SEMINAR
1-4 credits
Prerequisite: permission of instructor. Seminar in a topic of current interest in the profession. Staffing will be by department faculty and other professionals in counseling and related fields. A maximum of eight credits may be applied to a degree.

631 ELEMENTARY SCHOOL GUIDANCE
3 credits
Introductory course. Examines guidance and counseling practices.

633 SECONDARY SCHOOL GUIDANCE
3 credits
Introductory course. Examines guidance and counseling practices.

655 COMMUNITY COUNSELING
3 credits
Overview of community and college counseling services; their evaluation, philosophy, organization and administration.

643 COUNSELING: THEORY AND PHILOSOPHY
3 credits
Examination of major counseling systems including client-centered, behavioral, existential, humanistic, theoretical and theoretical dimensions.

645 GROUP TESTING IN HIGHER EDUCATION
3 credits
Study of evaluation measurement procedures in counseling. Counseling theory, development, selection and use of aptitude tests, inventories and rating scales.

647 CAREER COUNSELING: THEORY AND PRACTICE
3 credits
Prerequisite: 631 or 633 or 635 or permission. Study of career development, career decision making, career options and career counseling program development.

648 COUNSELING AND PERSONNEL SERVICES IN HIGHER EDUCATION
3 credits
Prerequisite: 635 or permission of instructor. Counseling services as related to psychological needs and problems of the college student.

651 TECHNIQUES OF COUNSELING
3 credits
Prerequisite: 643 or permission. Study and practice of selected counseling techniques and skills with emphasis on structuring, listening, leading and establishing a counseling relationship.

652 GROUP COUNSELING
3 credits
Prerequisite: 651. Provides knowledge, understanding and skills necessary for conducting group counseling sessions.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>655</td>
<td>INTRODUCTION TO MARRIAGE AND FAMILY THERAPY</td>
<td>3 credits</td>
<td>Overview of the field including exposure to the history, terminology and contributions of significant persons.</td>
</tr>
<tr>
<td>657</td>
<td>CONSULTANT: COUNSELING</td>
<td>3 credits</td>
<td>Prerequisites: 631, 651 or permission. Examination of consultation models with focus on process and product.</td>
</tr>
<tr>
<td>658</td>
<td>ORGANIZATION AND ADMINISTRATION OF GUIDANCE SERVICES</td>
<td>3 credits</td>
<td>Prerequisites: 631 or 653 or permission. Development of a comprehensive articulated guidance and counseling program.</td>
</tr>
<tr>
<td>651</td>
<td>SEMINAR IN GUIDANCE</td>
<td>2 credits</td>
<td>Prerequisites: 645, 647, 653 and 657. Primary models for understanding and modifying children’s behavior in classroom including technique development and renewal of guidance materials and programs.</td>
</tr>
<tr>
<td>665</td>
<td>SEMINAR IN SCHOOL COUNSELING</td>
<td>3 credits</td>
<td>Prerequisites: 633, 643, 645 and 647. Study of specific guidance techniques and materials useful to counselors working with the secondary school student, teacher and parent.</td>
</tr>
<tr>
<td>665</td>
<td>SEMINAR: COUNSELING PRACTICE</td>
<td>3 credits</td>
<td>Prerequisite: 635 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.</td>
</tr>
<tr>
<td>667</td>
<td>MENTAL THERAPY</td>
<td>3 credits</td>
<td>Prerequisite: 655. In-depth study of theories and interventions which focus on the nature and quality of mental relationships.</td>
</tr>
<tr>
<td>668</td>
<td>SYSTEMS THEORY IN FAMILY THERAPY</td>
<td>3 credits</td>
<td>Prerequisite: 655. In-depth exploration of systems theory in family therapy. Major assumptions of systems theory will be examined and implications for interventions will be explored.</td>
</tr>
<tr>
<td>671</td>
<td>COUNSELING CLINIC</td>
<td>1-3 credits</td>
<td>Prerequisite: permission. Close supervision and integration of diagnostic, counseling and consultant skills in clinical setting.</td>
</tr>
<tr>
<td>675</td>
<td>PRACTICUM IN COUNSELING I</td>
<td>4 credits</td>
<td>Prerequisite: 655. Supervised counseling experience with individuals and small groups.</td>
</tr>
<tr>
<td>676</td>
<td>PRACTICUM IN COUNSELING II</td>
<td>2-5 credits</td>
<td>Prerequisite: 675. Advanced supervised counseling experience.</td>
</tr>
<tr>
<td>665</td>
<td>INTERNSHIP</td>
<td>1-4 credits</td>
<td>(May be repeated for a total of six credits). Prerequisite: 676. Paid or unpaid supervised experience in counseling in a work setting. Must also take either 663 or 665 during first semester of internship.</td>
</tr>
<tr>
<td>685</td>
<td>FIELD EXPERIENCE: MASTER’S</td>
<td>1-10 credits</td>
<td>Prerequisites: permission of adviser and department head. Placement in selected setting for purpose of acquiring experiences and/or demonstrating skills related to student’s counseling program.</td>
</tr>
<tr>
<td>667</td>
<td>INDEPENDENT STUDY</td>
<td>1-3 credits</td>
<td>(May be repeated for a total of nine credits). Prerequisite: permission of adviser and department head. Specific area of investigation determined in accordance with student needs.</td>
</tr>
<tr>
<td>669</td>
<td>MASTER’S PROBLEM</td>
<td>2-4 credits</td>
<td>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 guidance and counseling.</td>
</tr>
<tr>
<td>690</td>
<td>RESEARCH DESIGN IN COUNSELING</td>
<td>4-6 credits</td>
<td>Prerequisites: permission of adviser and department head. In-depth study and analysis of counseling problem.</td>
</tr>
<tr>
<td>702</td>
<td>ADVANCED COUNSELING PRACTICUM</td>
<td>4 credits</td>
<td>(May be repeated for a total of twelve credits). Prerequisite: doctoral residency or permission. Examination of theories of individual age group counseling along with supervised counseling experience in selected settings.</td>
</tr>
<tr>
<td>703</td>
<td>ADVANCED SEMINAR IN COUNSELING PSYCHOLOGY</td>
<td>3 credits</td>
<td>Prerequisite: doctoral residency or permission. Examination of major issues in the field such as the counselor as a professional and as a person, and issues, problems and trends in counseling.</td>
</tr>
<tr>
<td>704</td>
<td>RESEARCH DESIGN IN COUNSELING I</td>
<td>3 credits</td>
<td>Prerequisite: doctoral residency or permission. Study of research designs, evaluation procedures and review of current research.</td>
</tr>
<tr>
<td>705</td>
<td>RESEARCH DESIGN IN COUNSELING II</td>
<td>3 credits</td>
<td>Prerequisite: 704. Computer analysis of data related to counseling problem. Development of research hypotheses.</td>
</tr>
<tr>
<td>706</td>
<td>SUPERVISION IN COUNSELING PSYCHOLOGY I, II</td>
<td>3 credits</td>
<td>(Each course) Prerequisites: doctoral residency or permission. Instruction and experience in supervising a graduate student in counseling.</td>
</tr>
<tr>
<td>720</td>
<td>TOPICAL SEMINAR: GUIDANCE AND COUNSELING</td>
<td>1-3 credits</td>
<td>Prerequisite: permission of instructor. A topical study with a variety of disciplinary inputs. 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.</td>
</tr>
</tbody>
</table>

**SPECIAL EDUCATION 5610:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/LEARNING DISABILITIES</td>
<td>1-3 credits</td>
<td>Prerequisite: sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and learning disabled children for 1-3 credits each. This experience is prerequisite to student teaching in each area.</td>
</tr>
<tr>
<td>202</td>
<td>STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/ORTHOPEDICALLY HANDICAPPED</td>
<td>1-3 credits</td>
<td>Prerequisites: sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and orthopedically handicapped children for 1-3 credits each. This experience is prerequisite to student teaching in each area.</td>
</tr>
<tr>
<td>203</td>
<td>STUDENT PARTICIPATION: EDUCABLE MENTALLY RETARDED/TRAINABLE MENTALLY RETARDED</td>
<td>1-3 credits</td>
<td>Prerequisites: sophomore standing and permission. Systematic observation and participation in classes for educable mentally retarded and trainable mentally retarded children for 1-3 credits each. This experience is prerequisite to student teaching in each area.</td>
</tr>
<tr>
<td>205</td>
<td>FIELD EXPERIENCE: SPECIAL EDUCATION</td>
<td>1-3 credits</td>
<td>Prerequisite: upper college standing. Supervised work with youngsters, individually and in groups in school and/or community settings.</td>
</tr>
<tr>
<td>463</td>
<td>STUDENT TEACHING SEMINAR: SPECIAL EDUCATION</td>
<td>1 credit</td>
<td>Corequisite: 495. Support seminar for student teaching experience.</td>
</tr>
<tr>
<td>490</td>
<td>SENIOR HONORS PROJECT: SPECIAL EDUCATION</td>
<td>1-6 credits</td>
<td>(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.</td>
</tr>
<tr>
<td>440/540</td>
<td>DEVELOPMENTAL CHARACTERISTICS OF EXCEPTIONAL INDIVIDUALS</td>
<td>4 credits</td>
<td>Prerequisites: 3750:100 and 5100:250. Etiology, diagnosis, classification, development characteristics of the individual.</td>
</tr>
<tr>
<td>441/541</td>
<td>DEVELOPMENTAL CHARACTERISTICS OF MENTALLY RETARDED INDIVIDUALS</td>
<td>4 credits</td>
<td>Prerequisite: 440/540. Study of etiology, classification and development characteristics of educable mentally retarded, trainable mentally retarded and profoundly retarded individuals.</td>
</tr>
<tr>
<td>443/543</td>
<td>DEVELOPMENTAL CHARACTERISTICS OF LEARNING DISABILITIES</td>
<td>3 credits</td>
<td>Prerequisite: 440/540. Survey of etiology, diagnosis, classification and developmental characteristics of learning disabled individuals.</td>
</tr>
<tr>
<td>444/544</td>
<td>DEVELOPMENTAL CHARACTERISTICS OF INTELLECTUALLY GIFTED INDIVIDUALS</td>
<td>3 credits</td>
<td>Prerequisite: 440/540. Study of etiology, diagnosis, classification and developmental characteristics of intellectually gifted individuals.</td>
</tr>
<tr>
<td>445/545</td>
<td>DEVELOPMENTAL CHARACTERISTICS OF ORTHOPEDICALLY HANDICAPPED INDIVIDUALS</td>
<td>3 credits</td>
<td>Prerequisite: 441/541. Etiology, diagnosis, classification, developmental characteristics of the orthopedically handicapped individuals.</td>
</tr>
<tr>
<td>446/546</td>
<td>DEVELOPMENTAL CHARACTERISTICS OF BEHAVIORALLY DISORDERED INDIVIDUALS</td>
<td>3 credits</td>
<td>Prerequisite: 443/543. Etiology, diagnosis, classification, developmental characteristics of the behaviorally disordered individuals.</td>
</tr>
</tbody>
</table>
450/550 EDUCATIONAL ADJUSTMENT FOR PRESCHOOL AND PRIMARY LEVEL EXCEPTIONAL INDIVIDUALS
Prerequisites: Plan A and B, 441/541 and 443/543, Plan C, 443/543 and 445/545; certification minors, 443/543 and characteristic course in certification focus area. Study of diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of preschool and primary level exceptional children.
3 credits

451/551 EDUCATIONAL ADJUSTMENT FOR INTERMEDIATE LEVEL EXCEPTIONAL CHILDREN
Prerequisite: 450/550 except for secondary certification minors. Diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of intermediate level exceptional children.
3 credits

452/552 EDUCATIONAL ADJUSTMENT FOR SECONDARY LEVEL EXCEPTIONAL CHILDREN
Prerequisite: 451/551. Study of diagnostic prescriptive service delivery systems designed to accommodate developmental patterns of secondary level exceptional children.
3 credits

453/553 RECREATIONAL PROGRAMS FOR EXCEPTIONAL INDIVIDUALS
Study experience which examines crafts and outdoor recreational programming for exceptional individuals in a field setting.
1 credit

454/554 EDUCATIONAL ADJUSTMENT FOR MODERATE, SEVERE AND PROFOUND MENTALLY RETARDED INDIVIDUALS
Prerequisite: 441/541. Study of programs, services and training techniques designed to accommodate developmental patterns of moderate, severe and profoundly mentally retarded individuals.
3 credits

455/555 EDUCATIONAL ADJUSTMENT FOR INTELLECTUALLY GIFTED INDIVIDUALS
Prerequisite: 444/544. Study of programs, services and educational experiences designed to accommodate developmental patterns of intellectually gifted individuals.
3 credits

456/556 CLASSROOM BEHAVIOR MANAGEMENT FOR EXCEPTIONAL INDIVIDUALS
Prerequisite: 451/551 or equivalent. Review, development of behavior management principles, application models for the exceptional.
3 credits

457/557 CLINICAL TEACHING PRACTICUM: CHILDREN WITH LEARNING PROBLEMS (May be repeated for a total of six credits)
Prerequisite: 450/550 or 451/551 or 455/555. Supervised clinical teaching experience with children or small groups of problem learners. Design, training and give practice in diagnostic and remedial teaching techniques and pupil personnel resources.
3 credits

458/558 INTERDISCIPLINARY PROGRAMMING FOR MSRP INDIVIDUALS
Prerequisite: Permission of instructor. A study of the programs, interdisciplinary, educational techniques designed to accommodate the needs of VoRRW multiply handicapped individuals.
3 credits

459/559 SEMINAR: INVITATIONAL STUDIES IN SPECIAL EDUCATION
(May be repeated for a total of four credits)
Topical study with a variety array of disciplinary input. Staffing will be invited members of allied and contributing professionals active in management of exceptional children.
1-2 credits

460/550 WORKING WITH PARENTS OF MSRP INDIVIDUALS
Prerequisite: Permission of instructor. Provides student with the competencies needed to facilitate working with parents to improve school, home adjustment of MSRP individuals.
5 credits

462/552 EDUCATING EXCEPTIONAL CHILDREN IN THE REGULAR CLASSROOM
For non-special education majors. Teaching and administrative personnel in the field. This course focuses on the skills and competencies needed by regular educators in working successfully with mainstreamed exceptional children.
3 credits

490,1,2/590,1,2,3 WORKSHOP (May be repeated for a total of four credits)
Designed to examine special topics in in-service or pre-service education on a needs basis.
1-3 credits each

494/554 EDUCATION INSTITUTES: SPECIAL EDUCATION
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.
1-4 credits

495 STUDENT TEACHING
Concurrent. 403. Student teaching with educable mentally retarded, orthopedically handicapped, or speech handicapped children under supervision of the directing therapist and supervisor.
4-8 credits

497 INDEPENDENT STUDY: SPECIAL EDUCATION
Prerequisite: Permission of advisor and supervisor of the independent study. Specific area of investigation determined in accordance with student's needs.
1-3 credits

SCHOOL PSYCHOLOGY

5620:

490/550 WORKSHOP
Prerequisite: Permission of instructor. Opportune topical experience provided periodically as needed and/or resources become available.
1-2 credits

491,2/551,2 WORKSHOP
Prerequisite: Permission of instructor. Opportune topical experience provided periodically as needed and/or resources become available.
1-3 credits each

494/554 SCHOOL PSYCHOLOGY INSTITUTES
Prerequisite: Permission of instructor. Specifically designed learning experience for program graduate focusing on critical topics.
1-4 credits

Graduate Courses

600 SEMINAR: ROLE AND FUNCTION OF THE SCHOOL PSYCHOLOGIST
Prerequisite: Permission of instructor. Seminar on role and function of school psychologist. The course, tailored to meet individual needs of trainees, is a consideration of professional standards of school psychology practice.
3 credits

601 COGNITIVE FUNCTION MODELS FOR PRESCRIPTIVE EDUCATIONAL PLANNING
Prerequisite: Permission of instructor. Consideration of cognitive development theories and their application for educational programming.
3 credits

602 BEHAVIORAL ASSESSMENT
Prerequisite: permission of instructor. Overview of behavioral theory and its application focusing upon the role of the school psychologist as an agent of behavior change.
3 credits

603 CONSULTATION STRATEGIES IN SCHOOL PSYCHOLOGY
Prerequisite: Permission of instructor. A consideration of consultant roles in the practice of school psychology as related to consultant process and with school and agency personnel, parents and children.
3 credits

610 EDUCATIONAL DIAGNOSIS FOR SCHOOL PSYCHOLOGISTS
Prerequisite: Permission of instructor. Clinical study and application of current assessment approaches applicable in assessment of children's learning problems.
4 credits

611 PRACTICUM IN SCHOOL PSYCHOLOGY
Prerequisite: Permission of instructor. Laboratory experience in psycho-educational study of individual children who have learning problems in school.
630,1 INTERNSHIP IN SCHOOL PSYCHOLOGY: FALL/SPRING
3 credits each
Prerequisite: permission of instructor. Full-time paid work assignment under supervision of a qualified school psychologist for an academic year structured according to provisions of State Department of Education. Additional readings required.

640 FIELD SEMINAR I: ISSUES AND ASSESSMENTS (FALL)
641 FIELD SEMINAR II: CLASSROOM ENVIRONMENT (SPRING)
2 credits each
Prerequisite: permission of instructor. Consideration of pertinent topics in practice of school psychology, with emphasis on field-based problems and issues of a practicing school psychologist.

694 RESEARCH PROJECT IN SPECIAL AREAS
1-3 credits
Prerequisite: permission of adviser. Study, analysis and reporting of school psychology problem.

695 FIELD EXPERIENCE: MASTER'S
1-3 credits
Prerequisite: permission of instructor. Practical school psychology-related experience in school setting.

696 FIELD EXPERIENCE: MASTER'S
2-3 credits
Prerequisite: permission of instructor. Practical school psychology-related experience in appropriate setting other than a school.

697 INDEPENDENT STUDY
1-4 credits
Prerequisite: permission of adviser and supervisor of the independent study. Documentation of specific area of investigation. Nature of the inquiry to be determined by student-supervisor agreement.

698 MASTER'S PROBLEM
2-4 credits
Prerequisite: permission of 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 school psychology.

699 THESIS RESEARCH
4-6 credits
Prerequisite: permission of instructor. Thorough study, analysis and reporting in depth of an educational problem; field projects in special areas; synthesis of existing knowledge in relationship to specific topic.

490/590 WORKSHOP: BILINGUAL/MULTICULTURAL
1-3 credits
Emphasizes development of teaching devices and/or curriculum units, demonstration of teaching techniques, utilization of community resources.

Graduate Course
688 SEMINAR: EDUCATION OF THE CULTURALLY DIFFERENT
2 credits
Survey of educational considerations for schools populated by low income culturally different youth. Field experience in form of variations to agencies serving low-income families required.

EDUCATIONAL ADMINISTRATION
5700:
480 SPECIAL TOPICS: EDUCATIONAL ADMINISTRATION
1-4 credits
(May be repeated with a change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

499,1,2,3/599,1,2,3 WORKSHOP
1-3 credits each
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

494/594 EDUCATIONAL INSTITUTES
1-4 credits
Special courses designed as in-service upgrading programs, frequently provided with the support of national foundations.

Graduate Courses
601 PRINCIPLES OF EDUCATIONAL ADMINISTRATION
3 credits
Theories and practices in administering schools and school systems, with emphasis on administrative process, common problems, career opportunities, getting the first job.

604 SCHOOL AND COMMUNITY RELATIONS
2 credits
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.

605 DECISION-MAKING THEORY AND PRACTICE IN EDUCATIONAL ADMINISTRATION
3 credits
Theories underlying process of decision making in a philosophy, sociology, economics and politics of education. Alternative decisions and the respective consequences. Fundamentals of PIBBS and other decision-making aids.

606 EVALUATION OF EDUCATIONAL INSTITUTIONS
3 credits
Theories and practices involved in processes of delineating, obtaining and providing information for decision making.

607 LEGAL BASIS OF EDUCATION
2 credits
Legal principles underlying education in United States as reflected in statutory provisions, court decisions and administrative orders presented. Ohio school statutes covered in depth.

608 PRINCIPLES OF SCHOOL FINANCE
2 credits
Study of financial operations of school systems including tax and other income, expenditures and budgeting.

610 PRINCIPLES OF EDUCATIONAL SUPERVISION
3 credits
Study of principles, organizations and techniques of supervision with view to improvement of instruction.

611 SUPERVISION OF STUDENT TEACHING
2 credits
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.

620 SECONDARY SCHOOL ADMINISTRATION
3 credits
Prerequisite: 601. Designed to help student gain knowledge and develop skills needed to successfully deal with problems, procedures of organization and administration of secondary school.

631 ELEMENTARY SCHOOL ADMINISTRATION
2 credits
Prerequisite: 601. Problems, procedures and principles of organization, administration and supervision in elementary schools.

694 FIELD EXPERIENCE FOR THE ELEMENTARY ADMINISTRATOR
1-2 credits
(May be repeated for a total of two credits)
On-the-job experience in a public school system working with administrators and/ or supervisors.

695 FIELD EXPERIENCE FOR SUPERVISORS
2 credits
Prerequisite: completion of all coursework except research problem. Designed to help student test and develop understandings and skills in supervision. Student participates in selected task areas which reflect supervisory responsibilities.

MULTICULTURAL EDUCATION
5630:
480 SPECIAL TOPICS: MULTICULTURAL EDUCATION
1-4 credits
(May be repeated with a change in topic)
Prerequisite: permission of instructor. Group study of special topics of critical, contemporary concern in professional education.

481/581 MULTICULTURAL EDUCATION IN UNITED STATES
3 credits
Inquiry into multicultural dimensions of American education. Comparisons of urban, suburban and rural educational settings with reference to socioeconomic differences.

482/582 CHARACTERISTICS OF CULTURALLY DIFFERENT CHILDREN
3 credits
Study of characteristics of culturally different youths with focus on youth in low-income areas. Emphasis on cultural, social, economic and educational considerations and their implications.

483/583 PREPARATION FOR TEACHING CULTURALLY DIFFERENT YOUTH
3 credits
Designed to help prepare trainees to teach culturally different youth from low-income backgrounds. Through use of multimedia 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.

484/584 PRINCIPLES OF BILINGUAL/MULTICULTURAL EDUCATION
3 credits
An introduction to the theoretic, cultural, sociolinguistic bases of bilingual/multicultural education. Legislation, court decisions, program implementation included.

485/585 TEACHING READING AND LANGUAGE ARTS TO BILINGUAL STUDENTS
4 credits
Prerequisite: permission of instructor. Course applies methodologies for teaching reading language arts to the bilingual/multicultural classroom. The bilingual student's native language, culture, stress.

486/586 TEACHING MATHEMATICS, SOCIAL STUDIES AND SCIENCE TO BILINGUAL STUDENTS
3 credits
Prerequisite: elementary education majors, 5200: 333,6,8 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. The bilingual student's native language stressed.

487/587 TECHNIQUES FOR TEACHING ENGLISH AS A SECOND LANGUAGE IN THE BILINGUAL CLASSROOM
4 credits
Prerequisite: permission of instructor. Course includes teaching language skills to Limited English Profficient students in grades K-12. Administration of language assessment tests, selection and evaluation of materials.
686 FIELD EXPERIENCE FOR THE SECONDARY SCHOOL ADMINISTRATOR
Pre-requisite: 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.

687 INDEPENDENT STUDY
(May be repeated for a total of six credits)
Prerequisite: Approval of advisor and supervisor of the independent study. Area of study determined by student's needs.

688 MASTER'S PROBLEM
Pre-requisite: Permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

689 THESIS RESEARCH
Pre-requisite: Permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

701 SCHOOL BUILDING AND CONSTRUCTION
Theories and practices involved in planning school facilities desigued. Includes field explorations of exemplary school buildings.

702 SCHOOL BUSINESS ADMINISTRATION
School business administration as part of local administrative pattern, and as creative planning process designed to facilitate instruction.

703 ADMINISTRATION OF STAFF PERSONNEL
Guidelines, techniques and procedures for helping administrator become a democratic leader. Duties and responsibilities of staff as participants in administrative activity.

704 ADMINISTRATIVE ORGANIZATIONS IN EDUCATION
Study of organizations, strengths and weaknesses of bureaucratic model in administration.

710 PRINCIPLES OF CURRICULUM DEVELOPMENT
Overview of instructional programs of a school in terms of basic purposes, functions and structures necessary to study and interpret these instructional programs.

715 EDUCATIONAL ORGANIZATIONAL INFORMATION PROCESSING
For graduate students majoring in administration. Includes concepts of modern systems and their educational applications.

720 TOPICAL SEMINAR: EDUCATIONAL ADMINISTRATION
May be repeated.
Pre-requisite: Permission of instructor. Topics in selected areas of concern to students, practicing administrators in public, private educational institutions, organizations.

730 SEMINAR IN SCHOOL ADMINISTRATION
Pre-requisite: 601. Focus on recent research in administration and educational administration theory.

731 SEMINAR: PROBLEMS OF THE SCHOOL ADMINISTRATOR
Current administrative problems in educational institutions as perceived by student and practicing school executives. Emphasis on program management, administration and solution. Field visits of resource persons related to classroom.

732 ORGANIZATIONAL COMMUNICATIONS AND THE SCHOOL ADMINISTRATOR
Fundamentals in interpersonal communications. Application of these principles to roles of educational administrators. Skill development in written and spoken communications, with attention to non-verbal communications, simulation and role-playing.

733 THE EDUCATIONAL ADMINISTRATOR AND PLANNED CHANGE

740 THEORIES OF EDUCATIONAL SUPERVISION
Pre-requisites: 601, 602, 610, 720, 723. Exploration and evaluation of various theories of supervision, separate models which implement existing theories.

745 PRACTICUM IN EDUCATIONAL ADMINISTRATION: URBAN SETTING
Pre-requisite: Completion of thirty-four of doctoral program courses. Analysis of uniquenesses of urban setting, e.g., multicultural and pluralist urban populations. Stress on administrator's human relation skills.

746 POLITICS, POWER AND THE SCHOOL ADMINISTRATOR
Pre-requisite: 720. Concepts of political and administrative power and influence on educational planning and decision-making. Administrator as an influence on the power structure for educational benefit.

747 PRACTICUM: COMPETING AND COMPLEMENTARY SOCIAL SYSTEMS
Pre-requisite: 601. Designed to bring educational administrator into direct contact with individuals from other community service delivery systems, e.g., city governments. Methods of interagency collaboration to provide client services.

754 INTERNSHIP IN EDUCATIONAL ADMINISTRATION
May be repeated for a total of six credits.
Pre-requisite: Permission of advisor. Involving experience in educational administration. Includes seminars and written work.

757 FIELD EXPERIENCE FOR THE ELEMENTARY ADMINISTRATOR
Enrolls supervised, on-the-job administration experience in administrative task areas of staff personnel, pupil personnel, curriculum, community relations, finance and physical facilities.

695 FIELD EXPERIENCE FOR THE SUPERINTENDENT
Pre-requisite: Permission of instructor. Cooperative, field-based experience in central office of a school district in which student performs assignments in administrative task areas.

696 FIELD EXPERIENCE IN SCHOOL PLANT PLANNING
Pre-requisite: Approval of instructor. Selection of field experiences. Emphasis on analysis of school enrollments, evaluation of school plants and financial aspects of plant planning.

697 INDEPENDENT STUDY
(May be repeated for a total of six credits)
Pre-requisite: Permission of advisor. In-depth study of a research problem in education. Student must be able to demonstrate critical and analytical skills in dealing with a problem in educational administration.

698 RESEARCH PROJECT IN SPECIAL AREAS
Pre-requisite: Permission of advisor. Specific research problem that required student to apply research skills and techniques to the problem being studied.

699 DISSERTATION
Pre-requisite: Approval of advisor. Specific research problem that required student to apply research skills and techniques to the problem being studied.

SPECIAL EDUCATIONAL PROGRAMS

5800:

440/500 WORKSHOP IN ECONOMIC EDUCATION OR IN SOCIAL STUDIES
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

491/591 WORKSHOP IN ARITHMETIC OR IN PHYSICAL SCIENCE
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

492/592 WORKSHOP IN READING
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

493/593 WORKSHOP ON EXCEPTIONAL CHILDREN
Individual work under staff guidance on curriculum problems, utilization of community resources, planning of curriculum units.

494/594 INTERNATIONAL SCHOOL STUDY
On-the-scene study of education in foreign countries, usually by concentrating on the study of schools in one restricted geographical area.

EDUCATIONAL TECHNOLOGY

5850:

100 INTRODUCTION: PUPIL PERSONNEL WORK
Purposes, needs, scope, character of pupil personnel services.

201 INFORMATIONAL SERVICES IN GUIDANCE AND SPECIAL EDUCATION
Emphasis on organization and status of informational services as related to activities of educational technologist.

204 HUMAN RELATIONS IN EDUCATION
Study of individual and group relationships in educational setting including development of basic interpersonal skills.

207 MECHANICS OF STUDENT APPRAISAL
Introduction to group appraisal with major emphasis on assessing certified personnel in group test administration, scoring, organizing and recording test results.

213 ORIENTATION OF THE EDUCATIONAL TECHNICIAN TO THE SECONDARY SCHOOL
Designed to provide student preparing for role of educational technician with framework for understanding secondary education.

260 SPECIAL EDUCATION TECHNOLOGY
Survey of selected procedures and materials employed in classrooms especially designed and operated for exceptional children.

295 EDUCATION TECHNICIAN FIELD EXPERIENCE
May be repeated once. Supervised field experience in school setting designated for educational technician enrollee only.
HIGHER EDUCATION ADMINISTRATION

5900:

700 INTRODUCTORY ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION 1 credit
Introductory examination of issues, trends, topics and activities in institutions of higher education

715 SEMINAR IN HIGHER EDUCATION: ADMINISTRATION IN HIGHER EDUCATION 3 credits
Prerequisite: 5700:704 or permission. In-depth study of problems, procedures and principles of administration in institutions of higher education. Emphasis is placed on the administrative process and major administrative task areas.

725 SEMINAR IN HIGHER EDUCATION: STUDENT SERVICES 3 credits
Prerequisite: permission. Topics of concern to student specializing in student personnel services in higher education. Topics may differ each semester depending upon specific student needs and interests.

730 HIGHER EDUCATION CURRICULUM AND PROGRAM PLANNING 3 credits
Study of strategies for implementing and monitoring the curricular change process. Broad aspects of higher education program planning shall be examined.

735 INSTRUCTIONAL STRATEGIES AND TECHNIQUES FOR THE COLLEGE INSTRUCTOR 3 credits
Selected topics in instructional theory, techniques and strategies which are appropriate to instructional planning and development of college level courses. Criterion-reference formatting is emphasized, including student achievement testing and evaluation.

745 INDEPENDENT STUDY IN HIGHER EDUCATION 1-3 credits
May be repeated. Prerequisite: permission. Selected area of independent investigation in an area of higher education as determined by advisor and student in relation to student’s academic needs and career goals.

800 ADVANCED ADMINISTRATIVE COLLOQUIUM IN HIGHER EDUCATION 1 credit
May be repeated. Prerequisite: permission. Examination of selected perspectives and topics which pose concerns to participating students.

801 INTERNSHIP IN HIGHER EDUCATION 1-3 credits
May be repeated. Prerequisite: permission; corequisite: 802. Intensive work experience in operations of an institution of higher education, related to student’s own program of studies and professional goals.

802 INTERNSHIP IN HIGHER EDUCATION SEMINAR 1 credit
May be repeated. Prerequisite: permission; corequisite: 801. To be taken in conjunction with internship for synthesis of problems encountered in internship experience and to provide the opportunity to share ideas and experiences from various areas of higher education internship placement.
College of Business Administration

COOPERATIVE EDUCATION

6000:

301 COOPERATIVE EDUCATION

(May be repeated)

For Cooperative Education Students only. Work experience in business, industry, or governmental agency Comprehensive performance evaluation and written report required.

ACCOUNTING

6200:

201 ACCOUNTING I

Introduction to accounting the language of business. Emphasis on basic principles, concepts and terminology of accounting for assets, liabilities and proprietorship.

2 credits

202 ACCOUNTING II

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.

4 credits

317 INTERMEDIATE ACCOUNTING I

Prerequisite: grades of not less than "C" in 201. Introduction to cost accounting, production, equipment and depreciation, inventory, fixed assets and current liabilities.

4 credits

318 INTERMEDIATE ACCOUNTING II

Prerequisite: 317. Study of long-term liabilities and investments, capital stock, retained earnings, accounting changes, funds statement, transfers, leases, statement analysis and price level accounting.

4 credits

355 ACCOUNTING INFORMATION PROCESSING

Introduction to automatic data processing systems in an accounting and management environment. Fundamentals of computer programming presented to students.

3 credits

401 BUDGETING

Prerequisite: 301. Study of principles and policies of budgeting. Emphasis on managerial control of expenses, capital expenditures and related activities.

3 credits

401 ACCOUNTING SURVEY

Prerequisite: permission of instructor. Introductory course for student with no previous accounting background. Essentials of accounting concepts, techniques and terminology for business organizations.

3 credits

402 ADVANCED-COST ACCOUNTING

Prerequisite: 301. Study of use of standard cost procedures, job-order costing procedures and advanced problems in area of cost accounting.

3 credits

410 TAXATION FOR THE NONACCOUNTANT

Provides nonaccountant basic knowledge of federal tax laws as applied to individuals and businesses, not open to accounting majors.

3 credits

420/520 ADVANCED ACCOUNTING

Prerequisite: 318. Examination of accounting theory emphasizing accounting for business combinations, partnerships, foreign operations, non-profit entities, and consolidated statements.

3 credits

425 CURRENT DEVELOPMENTS IN ACCOUNTING


3 credits

430/530 TAXATION I

Prerequisite: 317. Application of current federal tax law to individuals and proprietorships. Types of income, deductions and structure of tax return covered.

3 credits

431/531 TAXATION II

Prerequisite: 430/530. Application of current federal tax law to partnerships, corporations, trusts, estates and gifts, social security taxes and Ohio income, sales and personal property taxes discussed.

3 credits

440/540 AUDITING

Prerequisites: 301, 318, 355 and 6500.332 must be taken prior to or concurrently or permission of instructor. Examination of auditing standards and procedures used by independent auditor in determining whether a firm has fairly represented its financial position.

3 credits

454 INFORMATION SYSTEMS

Prerequisites: 301, 355 and permission of instructor. Focus on development of accounting methods and procedures, installation and improvement of accounting systems and evaluation of automated data processing systems.

3 credits

460 CONTROLLERSHIP PROBLEMS

Prerequisite: 318. Examination of quantitative accounting methods of planning, control and decision making. Standard costing, variance costing and contribution approach to decision making emphasized.

3 credits

470/570 GOVERNMENTAL AND INSTITUTIONAL ACCOUNTING

Prerequisites: 201 or 601, and either senior or graduate standing. Theory and procedures involved in application of fund accounting, budgetary control, appropriations and various accounting systems to governmental units, educational, medical and other non-profit institutions.

3 credits

480/580 ACCOUNTING PROBLEMS

Prerequisite: 318. Independent research or advanced accounting problem in student's specific area of interest.

3 credits

485 CPA PROBLEMS: COMMERCIAL LAW

Prerequisite: permission of instructor. Deals with those general principles of commercial law which appear on CPA examination.

2 credits

486 CPA PROBLEMS: ACCOUNTING PRACTICE

Prerequisite: permission of instructor. Study of methods for solving various types of problems which appear on accounting practice section of CPA examination.

3 credits

497 CPA PROBLEMS: TAXATION

Prerequisite: permission of instructor. Application of current developments in federal income tax law to CPA examination.

1-3 credits

488/588 CPA PROBLEMS: AUDITING

Prerequisite: 440/544 or permission of instructor. Preparation for auditing section of CPA examination, focusing on current developments and use of basic accounting theory to solve advanced accounting problems.

2 credits

491/591 WORKSHOP IN ACCOUNTING

(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.

1-5 credits

495 INTERNSHIP IN ACCOUNTING

Prerequisite: permission of instructor. On-the-job training for student in field of public, industrial or non-profit accounting. Individual assignments made by supervising faculty member.

3 credits

497 HONORS PROJECT

(May be repeated for a total of six credits)

Prerequisite: senior standing in Honors Program. Individual Honors Thesis or creative project related to accounting approved and supervised by member of the department faculty.

1-3 credits

499 INDEPENDENT STUDY IN ACCOUNTING

Prerequisite: permission.

1-3 credits

Graduate Courses

501 FINANCIAL ACCOUNTING

Introductory course for student with no accounting background. Examines accounting principles as applied to financial problems of firm.

3 credits

510 ACCOUNTING MANAGEMENT AND CONTROL

Prerequisite: 601 or equivalent. Investigation of role of accounting as management tool in areas of production, marketing, internal control and capital budgeting with focus on management planning.

3 credits

530 TAX RESEARCH AND PLANNING

Prerequisite: 431 or equivalent. Designed to develop research competence in solving complex tax problems involving federal income, estate and gift tax laws.

3 credits

631 CORPORATE TAXATION I

Prerequisite: 431. Detailed examination of tax problems of corporations and their shareholders. Formation, distribution, reorganization, liquidation and penalty taxes covered.

3 credits

632 TAXATION OF TRANSACTIONS IN PROPERTY

Prerequisite: 431. Explores federal tax implications of gains and losses derived from sales, exchanges and other dispositions of property.

3 credits
352 ESTATE AND GIFT TAXATION 3 credits
Prerequisite: 431. Analyzes provisions of federal estate and gift tax laws and tax consequences of testamentary and lifetime transfers.

357 ADVANCED ACCOUNTING THEORY 3 credits
Prerequisite: 318. Examination of accounting concepts and methods through critical analysis of articles on current trends in profession. Discussion and outside research papers.

360 ADVANCED AUDITING 3 credits
Prerequisite: 440 or 540. Conceptual frameworks and current research on professional and internal auditing. Includes government regulation and litigation, statistics, computer systems, as well as current and prospective developments in auditing.

641 TAXATION OF PARTNERSHIPS AND SUBCHAPTER S CORPORATIONS 3 credits
Prerequisite: 431. Examines intrepretive provisions of subchapters K and S of Internal Revenue Code and use of partnerships and subchapter S corporations for tax planning.

642 CORPORATE TAXATION II 3 credits
Prerequisite: 631. Continuation of 631. Concludes study of subchapter C of Internal Revenue Code with major focus on corporate reorganization.

643 TAX ACCOUNTING 2 credits
Prerequisite: 431. Attention focused on timing of income and expenses for individuals and businesses and its relation to tax planning.

644 INCOME TAXATION OF TRUSTS AND ESTATES 2 credits
Prerequisite: 633. Analysis of income taxation of trusts and estates and their creators, beneficiaries and beneficiaries.

645 ADVANCED INDIVIDUAL TAXATION 3 credits
Prerequisite: 430. In-depth study of some of the more involved areas of individual income taxation.

646 CONSOLIDATED TAX RETURNS 2 credits
Prerequisite: 431. Intensive study of tax provision concerning use of consolidated tax returns.

647 DEFERRED COMPENSATION 3 credits
Prerequisite: 431. Nature, purpose and operation of various forms of deferred compensation examined with much emphasis on pension and profit sharing plans.

648 TAX PRACTICE AND PROCEDURE 2 credits
Prerequisite: 431. In-depth study of administration and procedures of Internal Revenue Service and responsibilities of tax practitioners.

649 STATE AND LOCAL TAXATION 2 credits
Prerequisite: 631. Examines common types of taxes imposed by state and local governments, and includes taxation of multinational businesses.

650 ESTATE PLANNING 2 credits
Prerequisite: 633. Considers entire process of planning the estate with due regard for disposition of property, tax minimization, liquidity requirements and administrative costs.

651 UNITED STATES TAXATION AND TRANSNATIONAL OPERATIONS 2 credits
Prerequisite: 431. Examines United States taxation of foreign income of domestic corporations, citizens and residents, as well as United States income of nonresident aliens and foreign corporations.

652 TAX-EXEMPT ORGANIZATIONS 2 credits
Prerequisite: 431. Analysis of tax aspects of tax-exempt organizations, including nature of and limitations of tax exemption.

653 BUSINESS PLANNING 2 credits
Prerequisite: 631. Uses cases depicting complex problems to permit student to integrate knowledge of taxation.

654 INDEPENDENT STUDY IN TAXATION 1-3 credits
Prerequisite: permission of instructor. Intensive study of a particular topic or limited number of topics not otherwise offered in curriculum.

655 ADVANCED INFORMATION SYSTEMS 3 credits
Prerequisite: 355 and 610. Advanced study of accounting information systems theory, elements, principles, design and implementation. Practical data processing and networking to control flow of information.

670 COST CONCEPTS AND CONTROL 3 credits
Prerequisite: 610. Focus on analysis and control of costs and their uses in decision making. Determination of cost data and efficiency of decision process.

690 INTERNATIONAL ACCOUNTING 3 credits
Prerequisite: 610. Examination of accounting theory and practice from international perspective with emphasis on multinational investment, business and auditing activities and reporting problems.

697 INDEPENDENT STUDY IN ACCOUNTING 1-3 credits
(May be repeated for a total of three credits) Focus on special topics of study and research in accounting on an independent basis.

699 SEMINAR IN ACCOUNTING 3 credits
(May be repeated for a total of six credits) Prerequisite: permission of instructor. Program of independent research in accounting area of student's choice, requiring submission of a finished report within a year.
447 SECURITY ANALYSIS 3 credits
Prerequisite: 343 or permission of instructor. Application of quantitative and qualitative techniques of analysis to limited income and equity securities. Timing changes in portfolio composition.

479 ADVANCED BUSINESS FINANCE 3 credits
Prerequisites: 371 or permission of instructor. Case method utilizing emphasizing application of analytical techniques from texts and journal readings to solution of complex problems in financial management.

481/481 WORKSHOP IN FINANCE 1-3 credits
(May be repeated)
Group studies of special topics. May not be used to meet undergraduate or graduate major requirement in finance. May be used for elect­ive credit only with permission of instructor or department.

485 INTERNSHIP IN FINANCE 1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and term papers required as appropriate.

497 HONORS PROJECT 1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program. Individual Senior Honors Thesis or creative project relevant to finance approved and supervised by member of the department faculty.

499 INDEPENDENT STUDY: FINANCE 1-3 credits
Prerequisite: permission of department head. Provides means for individualized in-de­gth study of financial problems or projects from which student can derive significant benefit.

Graduate Courses

602 MANAGERIAL FINANCE 3 credits
Prerequisite: 6200:201.2 (or 401) and 3250:201.2 (or 600). Emphasis on financial decision-making related to goal of firm specifically, the investment decision, the financing decision and the dividend decision.

623 LEGAL ASPECTS OF BUSINESS TRANS­ACTIONS 3 credits
(Not open to students with six credits of undergraduate business law)
Study of the fundamental legal concepts that apply to business transactions, and the administration of a business.

623 MANAGEMENT OF DEPOSITORY FINANCIAL INSTITUTIONS 3 credits
Prerequisite: 602. Policy determination, administrative decision-making in banks, savings and loans, using computer simulation games.

635 MANAGEMENT OF NON-DEPOSITORY FINANCIAL INSTITUTIONS 3 credits
Prerequisite: 602. Study of policy determination, funds management in non-depository financial institutions such as pension funds, insurance, investment companies.

645 INVESTMENT ANALYSIS 3 credits
Prerequisite: 602 or permission of instructor. Study of the economic and market forces that influence security price. Techniques of analysis used in evaluating limited income and equity securities.

649 PORTFOLIO MANAGEMENT 3 credits
Prerequisite: 645 or permission of instructor. Advanced techniques used by sophisticated individuals, professional managers of large portfolios.

650 ADMINISTERING COSTS AND PRICES 3 credits
Pre-requisite: 2350:650 or equivalent. Provides an understanding of managerial economics. Short- and long-run decisions of firm analyzed. Analyzes impact of costs and prices on business profitability.

655 GOVERNMENT AND BUSINESS 3 credits
Prerequisite: 3250:600 and 6600:600. Public policy with regard to business institutions and issues are considered from an economic, legal, ethical, political framework.

665 COMPARATIVE INDUSTRIAL RELATION­AL 3 credits
Analytic approach to proper allocation of resources. Consideration given to industrial structure and evaluation made of relationship between structure and total economy. Various economic and political systems considered.

674 FINANCIAL MANAGEMENT AND POLICY 3 credits
Prerequisite: 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.

676 MANAGEMENT OF FINANCIAL STRUCTURE 3 credits
Primary attention directed to cost of capital for specific sources of financing.

678 CAPITAL BUDGETING 3 credits
Prerequisite: 674. Attempt to integrate various theories of capital budgeting into comprehensive conceptual scheme. Theoretical concepts and practical application blended for better understanding of capital problems.

679 MERGERS, ACQUISITIONS, CONSOLI­DAT ION, TAKEOVERS: AN INVESTMENT BANKING APPROACH 3 credits
Prerequisite: 674. Emphasis on determination of volume and composition of sources of funds.

681 INTERNATIONAL BUSINESS FINANCE 3 credits
Prerequisite: 602 or equivalent. Financial policies and practices of companies involved in multinational operations. Consideration of working capital and permanent assets, return on investment and cash budgeting for the global firm.

690 SELECTED TOPICS IN FINANCE 3 credits
(May be repeated for a total of 6 credits)
Prerequisite: 674. Provides study of contemporary issues and areas not covered in current finance graduate courses.

697 INDEPENDENT STUDY IN FINANCE 1-3 credits
(May be repeated for a total of three credits)
Focus on special topics of study and research in finance on an independent basis.

698 INDEPENDENT STUDY: BUSINESS LAW 1-3 credits
Focus on special topics of study and research in the legal aspects of business administration.

699 SEMINAR IN FINANCE 3 credits
(May be repeated for a total of six credits)
Prerequisite: 674 and a total of 15 Phase II graduate credits, individual research projects.

MANAGEMENT

6500:

301 MANAGEMENT: PRINCIPLES AND CONCEPTS 3 credits
Prerequisite: Three credits in behavioral science, economics, mathematics, theory, practice in management of human, other economic resources, with extensive coverage of operations systems.

302 INTRODUCTION TO ORGANIZATIONAL BEHAVIOR 3 credits
Prerequisite: 301 and two courses in psychology, sociology. Investigation of applications of behavioral and social sciences as they relate to the individual, group, behavior or organizations.

311 QUANTITATIVE BUSINESS ANALYSIS I 3 credits
Prerequisite: completion of graduate mathematics requirement. Statistical analysis of business data. Includes coverage of probability, theory, probability distributions, sampling, estimation, hypothesis testing.

312 QUANTITATIVE BUSINESS ANALYSIS II 3 credits
Prerequisite: 321. Statistical analysis of business data. Includes variance, regression and correlation, time series, indexed numbers, distribution-free statistics, Bayesian decision making.

322 COMPUTER APPLICATIONS FOR BUSINESS 3 credits
Emphasis on batch and realtime programming. Includes graphics, use of PLOT, simulation in QM, business simulation using BASIC, FORTRAN, assembly language, software, management information systems.

331 PRODUCTION AND SYSTEMS MANAGEMENT 3 credits
Prerequisite: 301 and corequisite: 321. Emphasis on design, analysis of operating systems, utilizing scientific decision-making methodology. Case exercises, projects.

332 PRODUCTION AND OPERATIONS MANAGEMENT 3 credits
Prerequisite: 333 and corequisite: 321. Introduces use of models for production scheduling, materials management, quality control, distribution and projects management includes linear programming, FERT, simulation. Cases, exercises, problems, computer analysis.

341 PERSONNEL MANAGEMENT 3 credits
Prerequisite: two courses in psychology, sociology and 301. Principles, policies, practices in administering functions of recruiting, selecting, screening, compensating, appraising human resources of organizations.

341 PERSONNEL RELATIONS 3 credits
Prerequisite: 311. Analysis of management, union and employee objectives, attitudes and strategy, as they affect conduct of business and economy. Stress placed on group assigned readings and reports.

407 INDEPENDENT STUDY IN SMALL BUSINESS MANAGEMENT 3 credits
Prerequisite: senior standing. Focuses on problems of organizing and operating a small business. Case studies and field experiences.

421 OPERATIONS RESEARCH 3 credits
Examines the use of operations research techniques in managerial decision-making processes, constrained linear optimization, non-linear optimization, network analysis, queuing theory, simulation.

433 BUSINESS OPERATIONAL PLANNING 3 credits
Prerequisites: 322, 332. Application of quantitative techniques for planning overall operations of a firm. Emphasis given to external-internal factors, which influence short- and long-run economic success of the firm.

454 PRODUCTION PLANNING AND CONTROL 3 credits
Prerequisites: 321, 332. Forecasting, materials management, production scheduling, control. Integrates previous courses, provides overall framework including use of control and quantitative methods. Cases and a project in an operating organization.

455 QUALITY CONTROL 3 credits
Prerequisite: 332. Emphasis on statistical techniques essential to controlling product quality, for both time-series and attribute data. Includes control chart methods and acceptance sampling plans.

457 ADVANCED PERSONNEL MANAGEMENT 3 credits
Prerequisite: 341. Advanced study of current issues and problems in field of personnel.
Emphasizes given to current literature and research. Activities may include projects, library research, case studies.

471/571 MANAGEMENT PROBLEMS
3 credits
(Student who has earned credit in 471 is ineligible to register for or earn credit in 472.)
Prerequisites: 332 or 443 and senior standing.
Student applies modern management principles, practices, theory to an actual problem in industry.

472 MANAGEMENT PROBLEMS - PRODUCTION
3 credits
(Student who has earned credit in 472 is ineligible to register for or earn credit in 471.)
Prerequisites: 332 and senior standing.
Student applies modern management principles, practices, and theory to an actual production problem in industry.

473 MANAGEMENT PROBLEMS - PERSONNEL
3 credits
(Student who has earned credit in 473 is ineligible to register for or earn credit in 471.)
Prerequisites: 342 or 443 and senior standing.
Student applies modern management principles, practices, and theory to an actual personnel problem in industry.

480/580 INTRODUCTION TO HEALTH CARE MANAGEMENT
3 credits
Prerequisites: upper college or graduate standing and permission of instructor.
Introduction course for health professionals providing in-depth study of management and principles and concepts as applied to particular health care organizations and health care delivery system. 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 organizations, 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.

482/582 HEALTH SERVICES OPERATIONS MANAGEMENT
3 credits
Prerequisites: upper college or graduate standing and 301 or 600 or 601 or equivalent.
Attention is given to the management of health care organizations and management concepts and techniques in health services organizations.

485/555 SPECIAL TOPICS IN HEALTH SERVICES ADMINISTRATION
1-3 credits
Prerequisite: permission of instructor.
Special topics in health services administration (i.e., management) focusing on historical and/or contemporary managerial/organizational and/or policy/strategy issues as they relate to health care organizations and the health care delivery system. Separate topics may be repeated for a maximum of 6 credits. For those registered for graduate credit, a major research paper is required.

490 BUSINESS POLICY
4 credits
Prerequisites: senior standing (97 credits) and 6200:202, 6400:371, 301: 600:300, and 600:305, 6400:320 or 312, 323, 325
Integrated core business disciplines (accounting, economics, finance, management, marketing) through the use of case analyses. Student evaluates objective and strategy formulation from an administrative viewpoint.

491 WORKSHOP IN MANAGEMENT
1-3 credits
(May be repeated with permission of instructor or department)
Topics and special topics in management. May not be used to meet undergraduate major requirements in management. May be used for elective credits only.

495 COURSE IN BUSINESS ADMINISTRATION
1-3 credits
Prerequisite: permission of instructor.
On-the-job experience with cooperating private and public sector organizations. Individual assignments are made by supervising faculty member. Periodic reports, term papers required as appropriate.

496 HONORS PROJECT
1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in honors program. Individual Senior Honors Thesis or creative project relevant to management approved and supervised by member of the department faculty.

497 INDEPENDENT STUDY - MANAGEMENT
1-3 credits
Prerequisite: senior standing and permission of department head. Provides a vehicle for individualized study in management from which student can derive significant value.

Graduate Courses

600 MANAGEMENT AND PRODUCTION CONCEPTS
3 credits
Introduces basic marketing concepts, stresses the components of marketing programs involves in the operations of profit and non-profit organizations within various macro-environments.

601 QUANTITATIVE DECISION MAKING
3 credits
Prerequisite: upper mathematics. Applies quantitative techniques to business decision making. Topics covered include probability estimation and hypothesis testing, simple and multiple regression and correlation analysis, analysis of variance and nonparametric statistics.

602 COMPUTER TECHNIQUES FOR MANAGEMENT
3 credits
An introduction to computer techniques which will aid the manager in decision making. Elementary programming skills useful for business programming developed.

640 INFORMATION SYSTEMS AND MANAGEMENT
3 credits
Prerequisite: 602 or equivalent. An introduction to systems design, management information systems, data base management, their relationships to problem solving and the organization.

651 PRODUCTIVITY AND QUALITY OF WORKFORCE ISSUES
3 credits
Prerequisite: 352 or permission of instructor.
A comprehensive study of innovations in organizations designed to increase human satisfaction and productivity through changes in human management.

652 ORGANIZATIONAL BEHAVIOR
3 credits
Prerequisite: 600 or equivalent. Study of factors which influence human behavior in business organizations. Emphasis on theories of individual and group behavior, motivation, leadership and communication in organizations.

653 ORGANIZATIONAL THEORY
3 credits
Prerequisite: 652. Leadership styles and organizational settings influencing these styles on individual, group behavior, organizational goal attainment. Analysis of leader's role in the administrative process.

654 INDUSTRIAL RELATIONS
3 credits
Prerequisite: 600. Study of rights and duties of management in dealing with labor and economic consequences of union and management policies and practices.

656 MANAGEMENT OF INTERNATIONAL OPERATIONS
3 credits
Prerequisite: 652 or equivalent. Deals with institutional environment of international business. Parameters of international business system which hold the system together and which individual businessmen cannot materially alter.

657 THE LEADERSHIP ROLE IN ORGANIZATIONS
3 credits
Prerequisite: 652. Analysis and development of leadership theory and thought. Identification of leaders in both formal and informal organizations. Training and development methods for leaders oriented to individual and small group leadership study assignments.

659 OPERATIONS AND STRATEGIC PLANNING
3 credits
Prerequisites: 600, 102 or equivalent. Long-range and short-term planning in organizations and linkage between the two. Planning models are presented of businesses and non-profit organizations.

662 QUANTITATIVE METHODS - OPERATIONS MANAGEMENT
3 credits
Prerequisites: 652 or equivalent. Survey of basic techniques of operations research. Stresses application to functional areas of business with particular emphasis given to production and planning aspects.

663 APPLIED INDUSTRIAL STATISTICS I
3 credits
Prerequisite: 652 or equivalent. Designs for survey estimation and simulation. Simple linear regression analysis, including inference, estimation of model and confidence intervals.

664 APPLIED INDUSTRIAL STATISTICS II
3 credits
Prerequisite: 652. Applications of multiple regression including determination of "best" set of independent variables, correlation models. Analysis of variance models including multivariate models. Experimental designs including randomized block and Latin square designs.

671 ADVANCED OPERATIONS RESEARCH
3 credits
Prerequisite: 652. Designed to present in more depth and breadth certain topics surveyed in 652, with emphasis on application of these techniques to student's own business situations.

672 MANUFACTURING AND OPERATIONS ANALYSIS
3 credits
Prerequisite: 652 or equivalent. Provides an applications forum where skills gained in other manufacturing - quantitative areas of curriculum can be empirically utilized and applied.

685 INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION
1-3 credits
(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.

688 SEMINAR IN HEALTH CARE SYSTEMS MANAGEMENT
3 credits
Prerequisite: 600 or equivalent or permission of instructor. In-depth study of nonprofit health care organizations and health care delivery system. Examination of organizational structure and management and differences between profit and nonprofit health care organizations and traditional business organizations. Study of providers (federal and third party payer), state, and role of governmental programs. Major research paper.

690 SELECTED TOPICS IN MANAGEMENT
3 credits
(May be repeated for a total of 6 credits)
Prerequisite: 652. Selected topics in historical, contemporary and/or operational and functional areas of management.

695 BUSINESS STRATEGY AND POLICY: DOMESTIC AND INTERNATIONAL
3 credits
Prerequisite: to be final course in MBA program. A case-oriented course which focuses on integration of theoretical and practical knowledge acquired in core business courses. Students analyze, evaluate, formulate organization objectives and strategies within domestic and international environmental contexts.

697 INDEPENDENT STUDY IN MANAGEMENT
1-3 credits
(May be repeated for a total of three credits)
Focus on special topics of study and research in management on an independent basis.

699 GRADUATE SEMINAR IN MANAGEMENT
3 credits
(May be repeated for a total of six credits)
Prerequisite: total of 15 Phase II graduate credits. For master's degree candidate in management. Independent study and reading. Leads to finished paper which should be completed within one year from time of matriculation of course.

MARKETING

6600:

300 MARKETING PRINCIPLES
3 credits
Prerequisites: 3250:201, 2 or permission. Broad course integrating commodity, institu-
ional, functional and managerial concepts of marketing process: total framework of economic activity.

310 BUYER BEHAVIOR
3 credits
Prerequisite: 300. Two courses from 3750 or 3850 or permission. Interdisciplinary approach to analysis and interpretation of the nature and dynamics of buying motives, habits and procedures in consumer, industrial, intermediate and institutional markets. Economic, psychological and sociocultural actions and reactions of these buying units are viewed in terms of their decision-making processes as they affect and are affected by strategic and tactical decisions of the marketing organization.

320 PHYSICAL DISTRIBUTION
3 credits
Prerequisite: 300. Basic course in source, movement and storage of goods, including emphasis on economics of transportation and requirements of an effective system.

330 INTERNATIONAL MARKETING
3 credits
Prerequisite: 300. Student concentrates on principles of international trade, balances and import and export distribution machinery. Pinpoints characteristics and potentials of various foreign markets.

340 RETAIL MANAGEMENT
3 credits
Prerequisite: 300. Presents principles of management resulting in service to consumers at profit to retailer. Store location, staffing, planning and control, buying, pricing and promotion explored.

350 ADVERTISING AND MARKETING COMMUNICATIONS
3 credits
Full range of advertising communication elements. Emphasis on role of each element and coordination required of marketing manager in developing successful and systematic program of marketing communications.

360 INDUSTRIAL MARKETING
3 credits
Prerequisite: 300. Focuses on principles of modern marketing management, focuses on development of local, regional, national markets. Emphasis on problems of industrial goods manufacturers.

370 PURCHASING
3 credits
Prerequisite: 3250/3202. Process and activities associated with cost effective buying. Internal management of all materials, equipment needed by manufacturer to produce or provide a service.

380 SALES MANAGEMENT
3 credits
Prerequisite: 350 or 360. Advanced consideration of firm's marketing mix as applied and adjusted to marketing objectives and policies and their implementation and control.

390 MANAGEMENT OF MARKETING CHANNELS
3 credits
Prerequisite: 300. An integrative approach to analysis of marketing channels of distribution to complement the more specialized analyses of retailing, wholesaling and physical distribution. Stresses the interaction of firms comprising a channel and the nature of managerial decisions designed to coordinate the efforts of the group of institutions that make up a channel of distribution.

420/520 LOGISTICS SYSTEMS ANALYSIS
3 credits
Prerequisite: 320, 660. Stresses application of quantitative techniques in design and operation of individual logistics components as well as integration of total logistics system in the firm. Emphasis on student's evaluation and solving of logistics problems.

425/525 INTERNATIONAL BUSINESS ENTERPRISE
3 credits
Prerequisite: 300 or 660. Provides a comprehensive overview of international business with an emphasis on understanding the interactions between factors in the global environment and decision-making of the multinational organization.

430 PROMOTIONAL CAMPAIGNS
3 credits
Prerequisite: 300. Examination of total communications efforts involved in planning, developing and monitoring promotional campaigns. Stresses is placed on understanding the nature and role of advertising, agency and support services.

440/550 PRODUCT PLANNING
3 credits
Prerequisite: 300 or 660. In-depth study of tools and techniques involved in new product development process and management of the product through its life cycle. Emphasis on alternative forms of corporate structures for product development and management, product policies and strategies, and product planning procedures and techniques. Differences between consumer and industrial products.

460 MARKETING RESEARCH
3 credits
Prerequisite: 300, 6500/321. Through lectures, cases and team projects, a student is taught to detect and evaluate actionable forces in the marketplace. Emphasis on investigation appropriate to economics of situation.

465/565 FORECASTING AND QUANTITATIVE METHODS IN MARKETING
3 credits
Prerequisite: 460, 620. Explores the more sophisticated quantitative and forecasting methods, tools, procedures available to marketing researchers/decision makers, how these are applied to marketing problems.

491 WORKSHOP IN MARKETING
1-3 credits
Group studies in special topics in marketing. Not used to meet undergraduate or graduate major requirements in marketing. Used only for elective credit with permission of instructor or department.

485 INTERNSHIP IN MARKETING
1-3 credits
Prerequisite: permission of instructor. On-the-job experience with cooperating private and public sector organizations. Individual assignments made by supervising faculty member. Periodic reports and term papers required if appropriate.

487 HONORS PROJECT
1-3 credits
(May be repeated for a total of six credits)
Prerequisite: senior standing in Honors Program. Individual Senior Honors Thesis or creative project relevant to marketing. Approved and supervised by member of the department faculty.

499 INDEPENDENT STUDY: MARKETING
1-3 credits
Prerequisite: permission of instructor. Provides a means for individualized in-depth marketing problem or problems from which student can derive significant benefit.

Graduate Courses

600 MARKETING CONCEPTS
3 credits
Assessment of basic marketing principles involved in business and industry. Required of all non-business undergraduates, may not be selected for Phase II credit.

620 STRATEGIC MARKETING MANAGEMENT
3 credits
Prerequisite: 600 or equivalent. Managerial assessments of opportunities, threats are explored as are the development and management of appropriate strategic marketing plans and their tactical implementation.

630 INTERNATIONAL MARKETING POLICIES
3 credits
Prerequisite: 620. Explores problems of formulating and implementing marketing strategies and tactics within complex and changing multi-national organizations and international markets. A planning framework is emphasized.

640 MARKETING INFORMATION SYSTEMS AND RESEARCH
3 credits
Prerequisites: 620, 6500/660, 610. Explores managerial development and maintenance of systematic methods for locating, acquiring, processing, analyzing and utilizing marketing information for marketing decision making.

650 CONSUMER BEHAVIOR
3 credits
Prerequisite: 620. Methods of identifying and analyzing final industrial and institutional markets are explored. Focus is placed upon theoretical models, research tools, appropriate marketing responses.

655 MARKETING COMMUNICATIONS
3 credits
Prerequisite: 620. Total range of marketing communication tools are examined, individually, in the context of the planning, development and implementation of systemic marketing communications programs.

680 MARKETING THEORY
3 credits
Prerequisite: 620. Designed to apply those theoretical works from areas of economics, psychology, sociology and cultural anthropology which have relevance to a general theory of marketing.

690 SEMINAR IN INTERNATIONAL BUSINESS
3 credits
Prerequisite: 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.

697 INDEPENDENT STUDY IN MARKETING
1-3 credits
(May be repeated for a total of three credits)
Focuses on special topics of study and research in marketing on an independent basis.

699 SEMINAR IN MARKETING
3 credits
(May be repeated for a total of six credits)
Prerequisite: a total of 15 Phase II graduate credits. Capstone course permits M.B.A. candidate to undertake a carefully delineated program of independent study and reading which leads to a finished major paper.
COOPERATIVE EDUCATION
7000:

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.

ART
7100:

100 SURVEY OF HISTORY OF ART I 4 credits
Architecture, sculpture, painting and minor arts from Primitive sources through Gothic time in Europe.

101 SURVEY OF HISTORY OF ART II 4 credits
Prerequisite: 100. Architecture, sculpture, painting and minor arts from Renaissance through 1960s, primarily in Western art. Development of photography and its application as art form integrated into artistic styles of twentieth century.

105 UNDERSTANDING ART 3 credits
Uses different societies have found for art and how social and technological levels of the society have affected the kind of art they make.

120 FUNDAMENTALS OF SCULPTURE 3 credits
A study of sculpture through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

121 THREE-DIMENSIONAL DESIGN 3 credits
Introduction to meaning of "design" and act of designing in real space. Study of naturally occurring form, structure and process.

130 FUNDAMENTALS OF SCREEN PRINTING 3 credits
A study of screen printing through lecture and studio experiences. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

131 INTRODUCTION TO DRAWING 3 credits
Freehand drawing experience with an orientation to elements and principles of visual organization. Limited media.

140 FUNDAMENTALS OF ACRYLIC PAINTING 3 credits
A study of the acrylic painting medium through lecture, demonstration and studio activity. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

144 TWO-DIMENSIONAL DESIGN 3 credits
Experimentation with forms of decorative organization of visual elements on a two-dimensional surface. Study of visual theory including color theory. Lecture and studio experience.

150 FUNDAMENTALS OF CERAMICS 3 credits
A study of ceramics through lecture and studio experiences. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

160 FUNDAMENTALS OF JEWELRY 3 credits
A study of jewelry making through lecture and studio for the non-art major. No credit toward major in art.

170 FUNDAMENTALS OF PHOTOGRAPHY 3 credits
A study of photography through lecture, demonstration and studio work. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

180 FUNDAMENTALS OF GRAPHIC DESIGN 3 credits
A study of graphic design through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

190 FUNDAMENTALS OF OFF-LOOM WEAVING 3 credits
A study of off-loom weaving through lecture and studio work in a variety of media. An exploration and enrichment opportunity for the non-art major. No credit toward major in art.

191 DESIGN 2 credits
Basic principles of creative design and color theory. Discussion and studio. No credit toward major or teaching major.

213 INTRODUCTION TO LITHOGRAPHY 3 credits
Prerequisites: 131, 144 or 231. Use of lithographic stone and metal plate as printing media. Stone and plate preparation, lithographic drawing, materials and techniques. Paper registration and printing press covered. Emphasis on aesthetic theory, technique and related history.

214 INTRODUCTION TO SCREEN PRINTING 3 credits
Prerequisites: 131, 144 or 231. Silk screen printmaking. Theory and use of stencil process. Positive and negative block-out techniques. Photo stencil registration and printing procedures. Emphasis on aesthetic theory, technique and related history.

215 INTRODUCTION TO RELIEF PRINTING 3 credits
Prerequisites: 131, 144 or 231. Printmaking using found objects, synthetic materials, as well as traditional woodcut and mezzotint engraving. Emphasis on aesthetic theory, technique and related history.

216 INTRODUCTION TO INTAGLIO PRINTING 3 credits
Prerequisites: 131, 144 or 231. Intaglio printmaking using drypoint engraving, aquatint and soft-ground techniques. Emphasis on aesthetic theory, technique and related history.

221 DESIGN APPLICATIONS 3 credits
Prerequisite: 121. Application of creative design skills to problems of utilitarian function in human-designed and produced items. May include product design/prototype development, furniture design and construction, display design, etc.

222 INTRODUCTION TO SCULPTURE 3 credits
Prerequisite: 121. Exploration of aesthetic factors influencing sculptural statements. Development of proficiency in the use of tools, materials and techniques.

231 DRAWING II 3 credits
Prerequisite: 131. Continuation of 131. In-depth exploration of wide range of techniques and media. Attention to controlled descriptive drawing and space illusion and their aesthetic applications.

232 INSTRUMENT DRAWING 3 credits
Creative use of mechanical drafting processes for visually descriptive purposes. Proficiency in use of mechanical drafting instruments stressed. Both practical and theoretical drawing styles undertaken.

233 LIFE DRAWING 3 credits
Prerequisite: 131. Perceptual problems in drawing from the live model. Study of skeletal, muscular, mechanical nature of human figure and replication of this knowledge to the resolution of aesthetic problems.

244 COLOR CONCEPTS 3 credits
Prerequisites: 121 or 144 or 286 or 2240:124. Lecture and studio experiences giving information concerning perception of color, additive color phenomena of light, subtractive color phenomena of pigments and dyes, color notation systems and psychophysic effects of color.

245 INTRODUCTION TO POLYMER ACRYLIC PAINTING 3 credits
Prerequisites: 131, 144. Technique, aesthetic problems involved in polymer acrylic painting. Student pursues, through lecture-tour experimentation, transparent and opaque aspects of this water-based paint.

246 INTRODUCTION TO WATERCOLOR PAINTING 3 credits
Prerequisites: 131, 144. Studio course in theory and technique of watercolor painting. Study of traditional transparent watercolor methods, and experimentation with less conventional approaches to aqueous media.

247 INTRODUCTION TO OIL PAINTING 3 credits
Prerequisites: 131, 144. Study of technical and aesthetic problems involved in oil painting. A painterly orientation toward plasticity of form as mediated by color.

254 INTRODUCTION TO CERAMICS 3 credits
Studio/laboratory course exploring potentials of hand-building techniques in both sculptural and functional forms. Clay processing, glaze application and practical kiln firing.

266 INTRODUCTION TO JEWELRY 3 credits
Studio experience in which student is introduced to properties of metals, processes of silver smithing and design and production of jewelry.

268 ENAMELING ON METAL 3 credits
Prerequisite: 296. Studio course in which student investigates inherent aesthetic qualities of color and texture resulting when molten, colored glass is applied to metal surfaces.

275 INTRODUCTION TO PHOTOGRAPHY 3 credits
Lecture, studio and laboratory course. Techniques and aesthetics are studied using both 4x5 and 35mm cameras. A 35mm camera with full manual control is required.

282 ARCHITECTURAL PRESENTATIONS 3 credits
Prerequisites: 131, 144 or 286 or 2240:124. Study and studio practice in architectural design and presentation methods. Both residential and commercial designs and the development of graphic presentations of interior and exterior concepts. Emphasis on professional presentations, renderings of interiors, methods of illustrative and photographic presentations.

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 selecting drawing and presentation methods and processes.

284 INTRODUCTION TO GRAPHIC DESIGN 3 credits
Prerequisites: 131 and 232. Studio experience in use of tools and materials of commercial graphic art. Elementary design problems in commercial graphic design.

286 COMMERCIAL DESIGN THEORY 3 credits
Prerequisite: 284. Basic course in visual problem solving emphasizing visual movements in,
386 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.

293 INTRODUCTION TO WEAVING 3 credits
Development of visual perception and manual dexterity through on- and off-loom techniques. Experimentation with various materials.

306 ART SINCE 1845 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, media, textile, ceramics, printmaking and graphic design.

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 the seventeenth century until approximately 1850.

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.

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.

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.

317 PRINTMAKING II 3 credits
(May be repeated for a total of 12 credits with a different process)
Prerequisites: 213 or 14 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.

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.

322 INTERMEDIATE SCULPTURE 2 credits
(May be repeated for a total of nine credits)
Prerequisite: 222 or permission. Continuation of 222. Addresses more advanced techniques. May include fabrication, casting, carving, or assemblage.

331 DRAWING II 3 credits
Prerequisites: 141, 231.3. 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.

333 ADVANCED LIFE DRAWING 3 credits
Prerequisite: 233.1. 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 interaction.

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: 235,3 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.

354 CERAMICS II 3 credits
Prerequisite: 254. Wheel throwing of both functional and sculptural form. Experimentation in glaze characteristics and firing experience with both gas and electric kilns. Emphasis on technique, studio procedures and critical evaluation of each student’s progress.

346 METALSMITHING II 3 credits
(May be repeated for a total of six credits)
Prerequisite: 266. Continuation of experiences presented in 266 with further development of skills and expansion of technical knowledge.

368 ADVANCED ENAMELING 3 credits
(May be repeated for a total of nine credits)
Prerequisite: 266. Continuation of 266. Development of personal aesthetic values. Advanced techniques with metal foil, champleve, cloisonne, enameled and iridescent processes.

375 PHOTOGRAPHY II 3 credits
Prerequisites: 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.

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 photographic abstractions.

380 GRAPHIC VIDEO 3 credits
Prerequisites: Junior standing in graphic design or mass mediacommunication 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.
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.

123 CLOTHING CONSTRUCTION
3 credits
Basic theory and methods of garment construction including design, pattern alterations, diverse fabrics and special construction techniques. Two hours lecture, four hours laboratory.

122 EARLY CHILDHOOD NUTRITION
2 credits
Emphasis on nutrition as component of Early Childhood program. Nutrition principles discussed in relation to total and young child. Prenatal and infant nutrition studied. Food as learning experience, menu planning, purchasing, sanitation, food labeling, storage and parent involvement included. For Family and Child Development Option, and an educational technology student.

123 NUTRITION FUNDAMENTALS
3 credits
Study of fundamental concepts of nutrition; emphasis on nutrients and requirements at different stages of the individual's life cycle.

141 FOOD FOR THE FAMILY
3 credits
Application of nutrition to meal planning, problems in selecting, budgeting and preparing food, meal service.

147 HOME ECONOMICS SURVEY
1 credit
Survey of history and development of home economics with emphasis on professional and career opportunities.

158 INTRODUCTION TO INTERIOR DESIGN AND FURNISHING
3 credits
Introduction to home furnishings involving topics such as furniture, upholstery, lighting, wall treatments, floor coverings, television, arrangement, selection and accessorizing. Lecture/Laboratory.

159 FAMILY HOUSING
2 credits
Study of housing alternatives related to stages in the family life cycle. Also overview of physical aspects of house construction, maintenance, heating, cooling, lighting systems, wiring and kitchen design. Lecture/Laboratory.

201 RELATIONAL PATTERNS IN MARRIAGE AND FAMILY
3 credits
Study of marital interaction in various life styles with emphasis on self-concept, changing roles, developmental tasks, family life cycles and sociocultural influence on individual and family.

204 SURVEY OF APPLIED HOME ECONOMICS IN THE COMMUNITY
1 credit
Study directed and observation of ongoing community and business programs in home economics and family ecology related areas including housing, home management, family financial management, food and nutrition, clothing, child development, parent effectiveness, and handicapping conditions through family life cycle. Weekly two hour local tour in addition to class sessions.

218 FAMILY HEALTH AND HOME NURSING
2 credits
Overview of strategies for promotion of positive physical, mental and emotional health across individual and family life cycles. Emphasis on preventative strategies as well as home care procedures.

245 BASIC FOOD THEORY AND APPLICATION
5 credits
Prerequisites: 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.

255 FATHERHOOD: THE PARENT ROLE
2 credits
Overview of development of stereotyped behavior as it affects the father role and his interactive relationships with other family members. Directives for family life education, research, theory and social policy.

265 CHILD DEVELOPMENT
3 credits
Physical, social, mental and emotional development of child from prenatal through five. Observation in child care and preschool centers.

275 PLAY AND CREATIVE EXPRESSION ACTIVITIES
4 credits
Prerequisite: 325. 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.

290 ADMINISTRATION OF CHILD CARE CENTERS
3 credits
Prerequisites: 265, 275 or permission of instructor. Study of principles, concepts and procedures involved in working with children in preschool programs. Curriculum, innovation and implementation, parent involvement, observation and recording of children's progress.

295 DIRECT EXPERIENCES IN THE HOSPITAL
1 credit
Prerequisite: permission of adviser. Individual learning experiences for students with patients, their families and the hospital personnel in various hospital settings under the direction of hospital and university staff.

301 CONSUMER EDUCATION
3 credits
Study of consumer needs, concerns and problems as related to individual consumer to consumers in the market economy and to the complex society in which families function.

305 ADVANCED CONSTRUCTION AND TAILORING
3 credits
Prerequisite: 123. Advanced theory and principles in construction of couture garment. Construction of coat or suit jacket utilizing custom tailor techniques. Two hours lecture, two hours laboratory.

311 CONTEMPORARY NEEDLE ARTS
3 credits
Use of appropriate textiles, yarns and needles in creation of various items for purposes of enhancing leisure time or as earning skills. Lecture/Laboratory.

313 INTRODUCTION TO FOOD SYSTEMS MANAGEMENT
3 credits
Prerequisite: 245 or permission. Corequisite: 314. Introductory course in management of dietary food service systems which relates to achievement of nutrition care goals.

314 INTRODUCTION TO FOOD SYSTEMS MANAGEMENT - CLINICAL
1 credit
Prerequisite: CUP student only, corequisite: 313, 416. Demonstration of food preparation techniques in production areas of community facilities and rendering of basic responsibility for production supervision; identification of resources involved in total management of base hospital's food service system.

316 SCIENCE OF NUTRITION
4 credits
Prerequisites: 133, 3150/129, 3150/203. In-depth characterization of composition, metabolism and physiological functions of nutrients. Analysis and interpretation of current literature; assessment of nutrition counseling techniques.

317 HISTORIC COSTUME
3 credits
Chronological study of costume from ancient to modern times as source of inspiration for contemporary dress and the theory with consideration of cultural forces that affected the development. Lecture.

329 INTRODUCTION TO NUTRITION IN MEDICAL SCIENCE
4 credits
Prerequisite: 316. Analysis of therapeutic healthcare concepts. Consideration of nutritional implications of pathological conditions, construction of diets for specific disorders.

329 INTRODUCTION TO NUTRITION IN MEDICAL SCIENCE - CLINICAL
2 credits
Prerequisites: 316. CUP student only. Corequisite: 328. Clinical experiences in area hospitals for application of principles of nutritional care learned in 328.

331 HISTORY OF TEXTILES AND FURNISHINGS
2 credits
An in-depth study of textiles and furnishings which focuses on the social, economic and political effects of technological and aesthetic developments from antiquity through the 20th century.

339 THE FASHION INDUSTRY
3 credits
Prerequisite: 121. Sophomore standing. Overview of fashion industry including growth, promotion and impact of cultural influences. Review of international and American fashion scenes. Lecture/Discussion.

340 MEAL SERVICE
2 credits
Prerequisite: 345, 316 or 133 or 141. Preparation of meals in rotation including menu planning, meal preparation and service; appropriate forms of service for various types of meals. Preparation of foods from various parts of the world.

358 TAILORING FOR MEN
3 credits
426 NUTRITION IN MEDICAL SCIENCE——CLINICAL 3 credits (credit/non-credit)
Prerequisites: 329, CUP students only; corequisite: 426. Clinical experience in hospitals applying of principles of nutritional care learned in 426.

430 COMPUTER-ASSISTED FOOD SERVICE MANAGEMENT 3 credits
Use of computer programs in application of management concepts for food service systems.

431 INTERIOR DESIGN I: RESIDENTIAL 3 credits
Prerequisite: 433. Continuation of Interior Design I with an emphasis on both residential interior design and commercial interior design, and the development of the critical skills necessary to function effectively as a residential designer.

432 INTERIOR DESIGN II: CONTRACT 3 credits
Prerequisite: 433. Completion of Interior Design I with an emphasis on both residential interior design and commercial interior design, and the development of the critical skills necessary to function effectively as a residential designer.

435 PRINCIPLES AND PRACTICES OF INTERIOR DESIGN 3 credits
Study of the business aspects of interior design business procedures, manufacturing of interior furnishings and principles and psychology of marketing home furnishings.

440/540 FAMILY CRISIS 3 credits
Study of family stress and crisis, including internal and external variables, and their influence on degree of disorganization, coping and recovery. Includes theory, research and application dimensions.

442/542 HUMAN SEXUALITY 3 credits
Prerequisites: 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.

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 is affected by the nature, structure and quality of the family as a social institution.

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 challenging facing the profession and all home economists.

448 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.

450 DEMONSTRATION TECHNIQUES 2 credits
Prerequisite: Major only. Provides practical experience in organization and presentation of demonstrations. Emphasis on competencies in coordination of materials, motion and speech in presentation.

451/551 CHILD IN THE HOSPITAL 4 credits
Prerequisite: 265, comparable course or permission of instructor. Seminar dealing with special needs and problems of hospitalized children and family. Literature related to effects of separation, illness and stress. Examination of strategies for coping.

455/555 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.

458 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 embroidery, applique, drawing, quilting, patchwork, cutwork and other related textile arts by machine

460/560 ORGANIZATION AND SUPERVISION OF CHILD CARE CENTERS 3 credits
Theory, principles and procedures involved in establishing and operating centers for infants, toddlers, preschool and school age children.

465/565 COMMUNITY NUTRITION I 3 credits
Prerequisite: 316; corequisite: 465. Major food and nutrition related problems in the community. Emphasis on community assessment program implementation and evaluation; rationales for nutrition services.

481 COMMUNITY NUTRITION II — CLINICAL 1 credit (credit/noncredit)
Prerequisite: CUP students only; corequisite: 481. Field placement in area agencies offering nutrition services. Study of agency goals, organization and philosophy of nutritional care.

482 COMMUNITY NUTRITION II 3 credits
Prerequisite: 486. Food and nutrition-related problems on a national and international level. Emphasis on legislation, nutrition policies, controversies, cultural differences and educational approaches.

483 COMMUNITY NUTRITION II — CLINICAL 1 credit
Prerequisite: CUP student only; corequisite: 486. Field placement in area agencies offering nutrition services. Study of agency goals, organization and philosophy of nutritional care.

484/584 ORIENTATION TO THE HOSPITAL SETTING 2 credits
Prerequisite: 265, comparable course or permission of instructor. Focuses on hospital as a major social institution, introduces procedures and functions of the hospital; role played by various hospital personnel with cursory knowledge of medical terminology, common childhood diseases, illnesses and injuries.

485/585 SEMINAR IN HOME ECONOMICS 1-3 credits
Prerequisite: permission of instructor. Exploration and evaluation of current developments in selected areas.
602 FAMILY IN LIFE SPAN PERSPECTIVE

605 FAMILY DYNAMICS

607 CHILD

651 FAMILY AND CONSUMER LAW

655 FAMILY AND CONSUMER LAW

665 WORKSHOP IN HOME ECONOMICS AND FAMILY ECOLOGY

610 CHILD DEVELOPMENT THEORIES

616 CHILD DEVELOPMENT

618 INFANT AND CHILD NUTRITION

620 DEVELOPMENTAL PARENT-CHILD INTERACTIONS

620 FAMILY DYNAMICS

620 FAMILY IN LIFE SPAN PERSPECTIVE

620 FAMILY IN TRANSITION

620 FAMILY PROJECTS IN HOME ECONOMICS AND FAMILY ECOLOGY

690 INDIVIDUAL INVESTIGATION OF CHILD DEVELOPMENT

699 THESIS

7500:

100 FUNDAMENTALS OF MUSIC

101 INTRODUCTION TO MUSIC THEORY

102 VARIOUS CHILDBEARING TECHNIQUES WITH SPECIAL EMPHASIS ON MATERNAL NUTRITION AND PHYSIOLOGY

103 TRENDS IN MUSIC

104 CLASS PIANO I

105 CLASS PIANO II

106 CLASS VOICE I

107 CALLIGRAPHY

108 MUSIC LITERATURE I, II

109 MUSIC LITERATURE III

110 CLASS GUITAR FOR NON-MUSIC MAJORS

111 NARRATIVE MUSIC AND ITS ORIGINS

112 THEORY I

113 THEORY II

114 CHILDREN'S MUSIC

115 CONCEPTUAL FRAMEWORKS IN FAMILY ECOLOGY

116 INTERNET IN HOME ECONOMICS AND FAMILY ECOLOGY

117 INDIVIDUAL INVESTIGATION IN FAMILY DEVELOPMENT

118 MUSIC PRODUCTION

120 JAZZ IMPROVISATION I

121 JAZZ IMPROVISATION II

122 THE MUSIC INDUSTRY: A SURVEY OF PRACTICES AND OPPORTUNITIES
Graduate Courses

601 CHORDAL LITERATURE 2 credits
Prerequisite: permission of instructor. Study in depth of style, structure, technical demands, manner of setting text, and special performance problems found in mastersworks by great composers of nine centuries.

604 DEVELOPMENT OF OPERA 2 credits
Prerequisite: permission of instructor. Growth and development of opera from 1600 to present. Includes detailed examination of stylic and structural changes as well as performance practices.

608 SEMINAR IN MUSIC OF THE WESTERN HEMISPHERE 2 credits
Prerequisite: permission of instructor. Designed to develop understanding of peoples and cultures of Western Hemisphere through study of music of each major area. Research and writing in areas of special interest.

611 FOUNDATIONS AND PRINCIPLES OF MUSIC EDUCATION 3 credits
Prerequisite: permission of instructor. Study of basic philosophical, historical, sociological, psychological and pedagogical concepts in public school music programs function.

612 PRACTICES AND TRENDS IN MUSIC EDUCATION 3 credits
Prerequisite: permission of instructor. In-depth exploration of innovative practices and trends in music education. Findings of research and practice related to prevailing situations in public/private school programs.

614 MEASUREMENT AND EVALUATION IN MUSIC 2 credits
Prerequisite: permission of instructor. Study and application of principles of music include, music achievement, and correlation evaluation. Elementary statistics for music test interpretation and construction explored.

615 MUSICAL STYLES AND ANALYSIS I 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in western music from period of Gregorian chant through music of Palestrina, Josquin and others of late Renaissance.

616 MUSICAL STYLES AND ANALYSIS II 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in western music from Monteverde through early Beethoven.

617 MUSICAL STYLES AND ANALYSIS III 2 credits
Prerequisite: permission of instructor. Detailed study of compositional techniques and stylistic traits observed in western music from period of late Beethoven through Mauer and Straus.

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 twelfth century.

619 THEORY AND PEDAGOGY 2 credits
Prerequisite: permission of instructor. Methodology of theory teaching in twentieth century focus on differing philosophies of theory instruction as noted from subject. Recent innovations and techniques of teaching, such as programmed material, computer-assisted instruction studied.

620 COMPUTER ANALYSIS IN MUSIC 2 credits
Prerequisite: permission of 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.

621 MUSIC HISTORY SURVEY: MIDDLE AGES AND RENAISSANCE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of all aspects of music of Middle Ages and Renaissance. Research and writing in areas of special interest.

622 MUSIC HISTORY SURVEY: BAROQUE 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of baroque music; study in depth of specific examples, from recordings, scores and live performances. Continuation and synthesis of approaches normal to study of music history. Selected readings related to each student's particular field of interest.

623 MUSIC HISTORY SURVEY: CLASSICAL AND ROMANTIC 2 credits
Prerequisite: permission of instructor. Historical and stylistic analysis of classical and romantic 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 field of interest.

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.

625 GRADUATE BIBLIOGRAPHY AND RESEARCH IN MUSIC 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in music for academic and professional purposes. Bibliographic research in specialized field.

630 TEACHING AND LITERATURE: BRASS INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in teaching techniques and appropriate literature.

631 TEACHING AND LITERATURE: WOODWIND INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in teaching techniques and appropriate literature.

632 TEACHING AND LITERATURE: PERCUSSION INSTRUMENTS 2 credits
Prerequisite: permission of instructor. To prepare an experienced instrumental music educator in new trends of percussion education.

633 REPERTOIRE AND PEDAGOGY: PIANO AND HARPSCORION 2 credits
Prerequisite: permission of instructor. The examination of piano and harpsichord literature in historically chronological order with special attention to its pedagogical value and stylistic affinities.

634 TEACHING AND LITERATURE: STRING INSTRUMENTS 2 credits
Prerequisite: permission of instructor. Research in current trends and issues in teaching techniques and appropriate literature.

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.

655 VOCAL PEDAGOGY 3 credits
Prerequisite: permission of instructor. In-depth study of subjects dealing with the teaching of voice. Physiology of vocal instrument, principles governing vocal production and application of vocal pedagogy.

656 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 of important composers of both major countries.

677 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.

686 GRADUATE RECITAL 2 credits
Prerequisite: permission of instructor. Recital prepared and presented as a requirement for any appropriate degree option. The recital document is to be written in conjunction with the recital and in 699 for the additional credit.

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 elective option.

MUSICAL ORGANIZATIONS

7510:

No fee is charged for enrollment of a qualified student in music organizations. Enrollment may be repeated for specific requirements for an undergraduate student in music, consult page 165 of the Music Department Handbook.

101 CONCERT CHOIR 1 credit
Mixed choir. 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 Choirs. Major conducted ensemble.

102 UNIVERSITY CHORUS/SYMPHONY 1 credit
Membership by audition. Prospective members are advised to contact Department of Music two weeks prior to beginning of term. Major, weekly rehearsals and performance experience required. Performing with Akron Symphony Orchestra. Major conducted ensemble.

103 UNIVERSITY SYMPHONY ORCHESTRA 1 credit
Membership by audition. Organization devoted to study of orchestral literature. Full-length concerts as well as special university appearances. Major conducted ensemble.

104 UNIVERSITY BAND 1 credit
Includes Symphonic Band/White Ensemble and Concert Band as major conducted ensembles. Marching Band (fall semester only) and Variety Band. Membership in all bands open to all university students by audition with Director of bands.

105 CHORAL ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for chamber vocal ensemble from all periods of music history. Frequent public concerts. Designed for persionnel with good music reading ability and previous choral experience.

106 BASS ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for bass ensemble from all periods of music history. Frequent public concerts. Designed for advanced bass players.

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.

108 OPERA WORKSHOP 1 credit
Membership by audition. Staged and dramatic group study of excerpts from operatic repertoire. Includes annual production of standard opera and/or contemporary chamber work.

109 PERCUSSION ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for various percussive instruments. Develops skill in ensemble performance.

246 The University of Akron
110 WOODWIND ENSEMBLE 1 credit
Membership by audition. Study and performance of woodwind literature from all periods and various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.

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.

112 MEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for male voices in ensemble.

113 WOMEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for female voices in ensemble.

114 KEYBOARD ENSEMBLE 1 credit
Membership by audition. Designed to perform repertoire for small orchestra. Open to student of advanced ability.

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.

116 GUITAR ENSEMBLE 1 credit
Membership by audition. Provides experience in conducted ensemble performance for guitarists. Major conducted ensemble.

117 COLLEGIUM MUSICUM 1 credit
Membership by audition. Organization devoted to study of orchestral literature. Includes Symphony Band/Wind Ensemble and Concert Band as major conducted ensembles. Membership in Bands open to university student by audition with director of bands.

118 SMALL ENSEMBLE - MIXED 1 credit
Membership by audition. Designed to perform variety of music written for mixed voices in ensemble.

161 GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for small orchestra. Open to student of advanced ability.

162 UNIVERSITY CHORUS: SYMPHONY 1 credit
Membership by audition. Prospective members are advised to contact Department of Music for dates and time of audition. Membership in Bands open to university student by audition with director of bands.

163 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.

164 UNIVERSITY BAND 1 credit
Includes Symphony Band/Wind Ensemble and Concert Band as major conducted ensembles. Membership in Bands open to university student by audition with director of bands.

165 CHORAL ENSEMBLE 1 credit
Membership by audition. Study and performance of literature written for chamber vocal ensemble from all periods of music history. Frequent public concerts. Designed for persons with good vocal ability and previous choral experience.

166 BRASS ENSEMBLE 1 credit
Membership by audition. Study and performance of literature written for brass ensemble. Full-length concerts as well as special university appearances. Major conducted ensemble.

167 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.

168 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 works. For advanced vocalists and instrumentalists.

169 PERCUSSION ENSEMBLE 1 credit
Membership by audition. Study and performance of literature for various percussion groups, develops skills in ensemble performance.

170 WOODWIND ENSEMBLE 1 credit
Membership by audition. Study and performance of woodwind literature from all periods and various combinations of woodwinds. Develops performance skills and knowledge of woodwind literature.

171 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.

172 MEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for male voices in ensemble.

173 WOMEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for female voices in ensemble.

174 COLLEGIUM MUSICUM 1 credit
Membership by audition. Organization devoted to study of orchestral literature. Includes Symphony Band/Wind Ensemble and Concert Band as major conducted ensembles. Membership in Bands open to university student by audition with director of bands.

1750 JAZZ ENSEMBLE 1 credit
Membership by audition. Provides experience in conducted ensemble performance for guitarists. Major conducted ensemble.

176 SMALL ENSEMBLE - MIXED 1 credit
Membership by audition. Designed to perform variety of music written for mixed voices in ensemble.

177 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.

178 MEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for male voices in ensemble.

179 WOMEN'S GLEE CLUB 1 credit
Membership by audition. Designed to perform variety of music written for female voices in ensemble.

**APPLIED MUSIC 7520:**

A student must contact the Department of Music and consult with the applied music instructor before registering for applied music.

A music major must perform annually before an applied music jury on each instrument studied privately for credit. The non-music major studying applied music will appear before a jury at the discretion of the private teacher.

Credit is earned on the basis of two credits per semester for one 30-minute lesson per week and 10 minutes practice per day. Enrollment may be repeated each semester for credit.

021-66 APPLIED MUSIC FOR NONMAJORS 2-4 credits each
For a student below minimum level of performance skills expected for credit at 100 level or above. Designed for those with limited background in applied study who wish to take lessons for their own pleasure, satisfaction and/or elective credit in nonmusic programs. Not to be counted for credit in any music major programs of study.

021 PERSUSSION 02 CLASSICAL GUITAR 023 HARP 024 VOICE 026 ORGAN 027 VIOLIN 028 VIOLA 029 CELLO 030 STRING BASS 031 TRUMPET/CORNET 032 FRENCH HORN 033 TROMBONE 034 BARITONE 035 Tuba 036 FLUTE/PICCOLO 037 OBOE/ENGLISH HORN 038 CLARINET/BASS CLARINET 039 BASSOON/CONTRABASSOON 040 SAXOPHONE 041 HARP/CHORD 042 COMPOSITION 051 JAZZ PERCUSSION 052 JAZZ GUITAR 053 JAZZ ELECTRIC BASS 056 JAZZ PIANO 057 JAZZ TROMPET 058 JAZZ TROMBONE
057 JAZZ SAXOPHONE
058 JAZZ COMPOSITION

121-441/544-541 APPLIED MUSIC FOR MUSIC MAJORS

The following courses are intended for students majoring in one of the programs in the
Department of Music. Course levels correspond approximately to class standing: 100 for
students with no previous music study; 200 for transfer students, 200 for sophomore, etc.) A student who
arranges to take these courses must meet the prerequisites for each course as posted in the Course Catalog.

168-368-368 JAZZ COMPOSITION
171-271-271 JAZZ PERCUSSION
172-272-272 JAZZ PIANO
173-273-273 JAZZ ELECTRIC BASS
174-274-274 JAZZ GUITAR

175-275-275 JAZZ TRUMPET
176-276-276 JAZZ TROMBONE
177-277-277 JAZZ ELECTRIC BASS
178-278-278 JAZZ GUITAR

179-279-279 JAZZ TRUMPET
180-280-280 JAZZ TROMBONE
181-281-281 JAZZ COMPOSITION

COMMUNICATION

COMMUNICATION

7600:

102 SURVEY OF MASS COMMUNICATION

3 credits

Considers entire field of contemporary American mass communication. Presents and
explains functions of agencies through which news, views and entertainment reach
the general public.

115 SURVEY OF COMMUNICATION THEORY

3 credits

Presents models of major forms of speech communication. Discusses elements of
models, their interaction and their function in the human communication system.

201 NEWS WRITING

3 credits

Prerequisites: 102, ability to type. Writing of news stories; applying theory through discussion, illustrative
material, actual writing for publication.

254 EDITING

3 credits

Prerequisites: 201, ability to type or permission. Copyreading, headline writing, proofreading,
makeup, type and typography, printing machines and processes, newspaper methods
and systems.

206 FEATURE WRITING

3 credits

Prerequisites: 201, ability to type or permission. Short newspaper and magazine articles,
preparation of articles for publication, human interest situations, extensive writing with
classes discussion.

224 LISTENING

1 credit

Prerequisite: permission. Techniques and approaches involved in understanding the listening
process and practice of listening improvement techniques.

225 INTERVIEWING

1 credit

Prerequisites: 224, or permission. A concentrated study of the principles of interviewing and
application of these principles at varied settings (especially those crucial to media study).

277 NONVERBAL COMMUNICATION

3 credits

Focussed study of the principal aspects of non-verbal communication in public, group and
interpersonal settings.

288 INTERCOLLEGiate FORENSICS

1 credit

(May be repeated)

Study and techniques of contest speech and debate, including techniques of research
presentation. Required participation in University's forensics program.

235 INTERPERSONAL COMMUNICATION

3 credits

Prerequisites: 115. Theory and practice in interpersonal communication concepts and
principles, Special topics in communication apprehension, Assertive communication, com-

munication dyads and trends, and transactional communication.

245 ARGUMENTATION

3 credits

Prerequisite: 115 or permission of instructor. Study of process of developing and
defending inferences and arguments in oral communication settings. Includes study and
practice of evidence, reasoning, case construction, refutation and rebuttal.
252 PERSUASION 3 credits
Prerequisite: 115 or permission. Emphasis on understanding persuasion theory and practice. Includes information analysis of motivational appeals and introduction to propaganda analyses.

270 VOICE TRAINING FOR MEDIA 2 credits
Prerequisite: 115 and permission. Safe and effective use of the vocal instrument in its specific application to radio, television and film.

285 MEDIA PRODUCTION TECHNIQUES 3 credits
Prerequisite: 115 or permission. Techniques, limitations and potentials of film production. A student learns script writing, directing, lighting and camera; practical production experience in studios and on location.

288 FILM PRODUCTION 3 credits
Prerequisite: 281 or permission. Focus on the production of film and television. Emphasis on the practical application of the elements of film and television production.

291 RADIO PRODUCTION 3 credits
Prerequisite: 281. Study of radio production techniques and the functional operation of AM and FM radio stations. Includes practical production experience in studio.

293 TELEVISION PRODUCTION 3 credits
Prerequisite: 281 or permission. Focus on the production of television. Emphasis on the practical application of the elements of television production.

301 ADVANCED NEWS WRITING 3 credits
Prerequisite: 201 or permission. Advanced course in writing and editing news, features and analysis for print media. Behavioral approach to communication of information and ideas.

303 PUBLICITY WRITING 2 credits
Prerequisite: 201 or permission. Emphasis on writing press releases and promotional materials for various media.

309 PUBLICATIONS PRODUCTION 3 credits
Prerequisite: 281. Consideration of variety of processes for reproducing printed work including photoengraving, lithography, letterpress, rotogravure, mimeographing.

325 INTERCULTURAL COMMUNICATION 3 credits
Study of effect on verbal communication process of existence of cultural barriers. Includes study of verbal and nonverbal communication in transnational, informal international and diplomatic communicative settings.

335 ORGANIZATIONAL COMMUNICATION 3 credits
Study of organizational communication principles and practices. Focus on communication within organizations and the impact of communication on organizational effectiveness.

344 PUBLIC DECISION MAKING 3 credits
Prerequisite: 115 or permission. Emphasis on understanding and participating in the communication processes essential to public decision making.

351 BUSINESS AND PROFESSIONAL SPEAKING 3 credits
Prerequisites: 1100-006 or 6. Practical improvement in speaking skills used in business settings.

355 FREEDOM OF SPEECH 3 credits
Survey of freedom of speech and its relationship to contemporary issues in American society.

357 SPEECH IN AMERICA 3 credits

361 AUDIO RECORDING TECHNIQUES 3 credits
Prerequisite: 250. Basic principles of sound, human hearing and the techniques of recording. Theory and laboratory training, recording of voice and instrumental performance.

365 MASS MEDIA-COMMUNICATION INTERNSHIP 1-6 credits
(May be repeated for a total of eight credits) Prerequisite: 24 credits in departmental courses and permission. Provides student with supervised experience in the field. Credit to be determined by the department prior to the term for which credit is to be received.

368 ADVANCED TELEVISION PRODUCTION 3 credits
Prerequisite: 283. In-depth study of role of producer in complex of developing a television program from conception to completion.

384 MASS MEDIA-COMMUNICATION RESEARCH 3 credits
Prerequisites: 102, 15. Fundamental concepts and methods of survey research, and the application and interpretation of survey data in Communication and in media operations.

385 AMERICAN FILM HISTORY: THE BEGINNING TO 1945 2 credits
Prerequisite: 102 or permission. Emphasis on the development of the American film industry and its influence on American culture.

386 AMERICAN FILM HISTORY: 1945 TO THE PRESENT 3 credits
Prerequisite: 385 or permission. Continuation of student's survey of film history and film concepts begun in 385.

397 RADIO AND TV WRITING 3 credits
Prerequisite: 281. Practical application of script writing principles and techniques in actual writing scripts for commercials, announcements, comedy, drama, news and documentaries.

398 HISTORY AND STRUCTURE OF BROADCASTING 3 credits
Prerequisite: 280. Growth of broadcasting in America; historical evolution of approaches to programming, news and financing of broadcasting operations.

399 RADIO STATION PROGRAMMING AND OPERATIONS 3 credits
Prerequisites: 282, 398. History and development of broadcasting from early formation to current trends; role of the manager in programming a station.

400 HISTORY OF JOURNALISM IN AMERICA 3 credits
A review and analysis of the history of journalism in America, focusing primarily on newspapers, magazines, radio, television.

401 PHOTO EDITING 3 credits
Prerequisite: 309. Use of the photographic as a reporting tool. Creativity in photographic selection and layout in photo stories, consisting of print and photographs in a communication effort.

403 COMMUNICATION IN PUBLIC RELATIONS 3 credits
Prerequisite: 309. Emphasis on written and visual communication techniques used in public relations programs. Emphasis placed upon research, planning, promotional messages and evaluation of program.

405 MEDIA COPYWRITING 3 credits
Prerequisites: 102, 494. Ability to type or permission. Emphasis on principles and techniques of copywriting and the preparation of advertisements.

433 MASS MEDIA-COMMUNICATION PRACTICUM 1-12 credits
(May be repeated for a total of 12 credits) Prerequisite: permission from a departmental committee on special projects. Selected faculty-directed independent study projects. Appropriate documentation of project must be submitted to departmental committee and written permission obtained before registering for project.

450 SPECIAL TOPICS IN MASS MEDIA-COMMUNICATION 3 credits
(May be repeated for a total of nine credits) Prerequisite: permission of instructor. Special interest topics in mass communication, journalism, public relations. Supplemented in courses in the University's Communication Department.

454/554 THEORY OF GROUP PROCESSES 3 credits
Prerequisite: 344 or permission. Survey of communication theory and communication processes as applied to individual and group projects.

465 NON-BROADCAST MEDIA 3 credits
Prerequisites: 201 or 206, 387 and permission of instructor. Focus on production of print and non-broadcast media. Emphasis on editing, layout and design.

470 ANALYSIS OF PUBLIC DISCOURSE 3 credits
Prerequisites: 245, 52 or permission. Emphasis on the role of media in public discourse.

471/711 THEORIES OF RHETORIC 3 credits
Prerequisite: 115. Study of key figures in history of rhetorical theory, stressing theories among theories of rhetoric.

484 REGULATIONS IN MASS MEDIA 3 credits
Concentration on government regulations and self-regulatory bodies in broadcasting, film and print media.

485 SENIOR HONORS PROJECT IN MASS MEDIA-COMMUNICATION 1-6 credits
(May be repeated for a total of six credits) Prerequisites: senior standing in Honors Program; advisor must approve proposal. Independent study project leading to completion of Senior Honors Thesis or other original work.

486 BROADCAST SALES AND MANAGEMENT 3 credits
Prerequisite: successful completion of Business Communication. Emphasis on the role of the salesperson in broadcasting.

488 ADVANCED FILM PRODUCTION 3 credits
Prerequisites: 288 and permission of instructor. Advanced study in film. Includes study of 35 mm, 16 mm and Super-8 mm color and black and white, sound and silent film. Emphasis on individual production.

489 DOCUMENTARY FORM IN FILM AND TELEVISION 3 credits
Prerequisites: 288 and permission of instructor. Advanced study in film and television. Emphasis on research, production and analysis of a documentary film project.

490/690 MASS MEDIA-COMMUNICATION WORKSHOP 1-3 credits
(May be repeated for a total of six credits) Prerequisites: advanced standing and permission. Group study or projects investigating a specific problem in media not covered by other coursework.
COMMUNICATION DISORDERS

7700:

100 MANUAL COMMUNICATION I
Prerequisites: 271 and 2210:104 or permission of instructor. Study of different communication systems employed by the deaf, characteristics, similarities, and differences. Introduction to American Sign Language.

110 INTRODUCTION TO SPEECH DISORDERS
Overview of various types of speech disorders; their incidence, etiology and characteristics. Basic concepts and principles underlying speech pathology.

111 INTRODUCTION TO PHONETICS
Introduction to international phonetic alphabet, and overview of articulatory phonetics.

120 INTRODUCTION TO AUDIOLOGY/AURAL REHABILITATION
Introduction to fields 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.

121 PSYCHO-SOCIAL ASPECTS OF DEAFNESS
Prerequisite: 120. The effects of deafness on the emotional, social, motor and intellectual development of the individual; the effects of deafness on interpersonal relationships.

130 BASES OF COMMUNICATION DISORDERS
Introduction to linguistic bases of speech and language hearing and articulation. Nature of hearing problems.

215 APPLIED PHONETICS

221 INTRODUCTION TO SPEECH SCIENCE
Study of anatomical, physiological and physical principles involved in production, transmission and reception of speech signal.

222 INTRODUCTION TO THE DEAF CULTURE AND ITS ORIGINS
Prerequisites: 2210:103 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 deaf to the development of deaf culture.

223 THE COMPREHENSIVE ROLE OF THE DEAF CHILD AND ADULT
Introduction to acquisition of speech and language hearing and pronunciation by deaf children. Principles and techniques for language assessment and instruction will be covered.

225 SPEECH AND LANGUAGE DEVELOPMENT
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.

240 AURAL REHABILITATION
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.

241 PRINCIPLES OF ACOUSTICS
Prerequisite: 140. Introduction to psychoacoustic principles which underlie basic audiometric tests, principles of speech audiology, masking and impedance audiometry.
250 OBSERVATION AND CLINICAL METHODS 2 credits
Prerequisite: to be taken concurrently with 251. Introduction to clinical procedures, analysis of preparation and structure essential to a successful therapy session and observation of therapy within several different settings.

271 LANGUAGE OF SIGNS I 3 credits
Expository and receptive skills in manual communication; introduction to various sign systems: philosophy of total communication and orientation: aspects of deafness: conversational sign language and developing signed and pre-orthography skills. Laboratory.

321 SPEECH PATHOLOGY I 4 credits
Prerequisites: 110, 210. Study of disorders of articulation, voice and swallowing including etiology, symptomatology, evaluation and therapeutic procedures.

322 SPEECH PATHOLOGY II 4 credits
Prerequisites: 110, 310/264. Survey of currently basic speech disorders: cleft palate, cerebral palsy: aphasia and dysarthria: including etiology, symptomatology, evaluation and therapeutic procedures.

330 LANGUAGE DISORDERS 4 credits
Prerequisite: 250. Elucidation, identification, evaluation, intervention for syndromic: cognitive: interpenetrating language disorders of children. Disorders viewed as overlaps or sequence of central nervous system dysfunction or emotional disturbance.

346 AUDIOLOGIC EVALUATION 2 credits
Prerequisite: 341. "Test battery" approach to audiological: emphasis: techniques of case finding and handling of difficult-to-test cases: competency with all tests in the battery required.

356 CLINICAL PRACTICUM: ARTICULATION 1 credit
(May be repeated for a total of two credits)

351 CLINICAL PRACTICUM: LANGUAGE 1 credit
(May be repeated for a total of two credits)
Prerequisites: 250, 330. Supervised clinical practice in language. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

352 CLINICAL PRACTICUM: AURAL REHABILITATION 1 credit
(May be repeated for a total of two credits)
Prerequisites: 240, 250. Supervised clinical practice involving rehabilitation. Emphasis on therapy procedures, diagnostic techniques and preparation of reports.

370 LANGUAGE OF SIGNS II 1 credit
Prerequisite: 271 or permission of instructor. Advances in sign language interpreting with emphasis on sign vocabulary acquisition and development of expressive and receptive skills. Stress on conversed skill building in connecting with deaf adults.

430/330 ASPECTS OF NORMAL LANGUAGE DEVELOPMENT 3 credits
(Not open to communicative disorders major)
Introduction to acquisition and development of con-preservation and production of language: phonologically: semantically and syntactically. Relates language acquisition to perceptual development of child and other functions of language in individual, family and school.

450 INTRODUCTION TO SPEECH AND HEARING DISORDERS 3 credits
Prerequisite: senior status. Introductory course devoted to discussion: 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.

451 CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY 1 credit
(May be repeated for a total of two credits)
Prerequisites: 250, 340. Supervised clinical practice in hearing disorders: Diagnostic procedures and preparation of reports.

460/560 SPEECH AND HEARING DISORDERS IN THE PUBLIC SCHOOLS 2 credits
(NOT open to communicative disorders major)

461 ORGANIZATION AND ADMINISTRATION: PUBLIC SCHOOL SPEECH AND HEARING PROGRAMS 2 credits
Prerequisite: senior standing. Open to major in communicative disorders only. Designed for speech and hearing clinicians who plan to work in public school system. Covers: referral and areas with particular reference to public school setting: case selection: scheduling: individual and group therapy: in-service training for classroom teachers: parent counseling: and certification and program standards as set up by the Ohio Department of Education.

486 SEMINAR IN COMMUNICATIVE DISORDERS 2 credits
Prerequisite: senior standing. Provides a vehicle for guided study and discussion of various communicative disorders.

487 SPECIAL PROJECTS: COMMUNICATIVE DISORDERS 1-3 credits
(Not open to communicative disorders major)
Prerequisite: permission of instructor. Individual or group projects related to any of the problems of communicative disorders.

483 COMMUNICATION DISORDERS: GERIATRIC POPULATION 3 credits
(Not open to communicative disorders major)
Examination of communication disorders that exist in geriatric population. Focus on etiology, symptomatology and inorganic rehabilitative procedures. Designed for a student interested in the aging population.

490/590 WORKSHOP: COMMUNICATIVE DISORDERS 1-3 credits
(Not open to communicative disorders major)
Prerequisite: permission. Group investigation of particular phase of speech pathology and/or audiology not offered by other courses.

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 outside The University of Akron and the Akron Hospital. On-the-job experience with special-case populations.

496 SENIOR HONORS PROJECT: SPEECH PATHOLOGY AND AUDIOLOGY 1-3 credits
(Not open to a total of six credits)
Prerequisite: enrollment in the Honors Program, senior standing and major in communicative disorders.

Graduate Courses

501 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.

510 INSTRUMENTATION IN SPEECH PATHOLOGY AND AUDIOLOGY 2 credits
Prerequisites: 250, 264. Principles and use of clinical: and research instrumentation in speech and hearing.

511 RESEARCH METHODS IN COMMUNICATIVE DISORDERS I 3 credits
Introduction to experimental design in field of communicative disorders.

512 RESEARCH METHODS IN COMMUNICATIVE DISORDERS II 2 credits
Prerequisite: 411. Advanced experimental methods: development in research study.

519 COMMUNICATION DISORDERS: ADULT DYSARTHRIA AND APAXIA 3 credits

520 ARTICULATION 2 credits
Historical background: current theories and research related to etiology: diagnosis and treatment of articulatory disorders.

521 COMMUNICATIVE DISORDERS IN CLEFT PALATE 2 credits
Historical background: current theories and research related to etiology: diagnosis and treatment of cleft palate.

522 COMMUNICATIVE DISORDERS IN MENTAL RETARDATION 2 credits
Historical background: current theories and research related to etiology: diagnosis and treatment of mental retardation.

523 COMMUNICATIVE DISORDERS IN CEREBRAL PALSY 2 credits
Historical background: current theories and research related to etiology: diagnosis and treatment of cerebral palsy.

524 APHASIA 2 credits
Historical background: current theories and research related to etiology: diagnosis and treatment of adult aphasia.

525 LANGUAGE DEVELOPMENT: NORMAL AND DISORDERED 3 credits
Survey of research on normal: developed language skills.

626 VOICE PATHOLOGY 3 credits
Prerequisite: permission of instructor. Diagnosis and current research related to normal function as well as the etiology: diagnosis and therapy of various disorders of voice.

672 STUTTERING: THEORIES AND THERAPIES 3 credits
Readings and discussion of selected theories and therapies.

678 TOPICS IN DIFFERENTIAL DIAGNOSIS OF SPEECH AND LANGUAGE DISORDERS 2 credits
Prerequisite: permission of director of Speech and Hearing Center.

691 ORAL HEALTH PROFESSIONALS IN CLINICAL AND EXPERIMENTAL AREAS OF SPEECH PATHOLOGY AND AUDIOLOGY 2 credits
Prerequisite: permission of instructor. Selected current topics in clinical: and experimental areas of speech pathology and audiology. Emphasis on review of current and historical literature.

693 LANGUAGE SKILLS IN CHILDREN: ASSESSMENT AND INTERVENTION 3 credits

694 SEMINAR IN LANGUAGE AND SPEECH OF THE HEARING IMPAIRED 2 credits

695 ADVANCED CLINICAL TESTING 4 credits
Theoretical basis for pure-tone: speech tests: masking: and audiometric measurement: Review of current: and historical literature relative to above tests.

696 SPECIAL TESTS/MEDICAL AUDIOLOGY 4 credits
Prerequisites: 252 or permission of instructor. Underlying psychoacoustic: principles: of administration: and interpretation of various tests: relationship between otology and audiology: application of clinical audiology in medical environment.
ADVANCED ELECTRONYSTAGMOGRAPHY
Prerequisite: six graduate audiology credits or permission of instructor. Components of amplification systems; methods of evaluating hearing aid performance.

ADVANCED CLINICAL PRACTICUM: DIFFERENTIAL DIAGNOSIS
(May be repeated for a total of three credits)
Supervised clinical practicum in diagnostic procedures.

ADVANCED CLINICAL PRACTICUM: VOICE
Supervised clinical practicum in voice disorders.

ADVANCED CLINICAL PRACTICUM: FLUENCY
Supervised clinical practicum in fluency disorders.

ADVANCED CLINICAL PRACTICUM: DIAGNOSTIC AUDIOLOGY
Supervised clinical practicum in diagnostic procedures.

ADVANCED CLINICAL PRACTICUM: ARTICULATION
Supervised clinical practicum in articulation disorders.

ADVANCED CLINICAL PRACTICUM: LANGUAGE
Supervised clinical practicum in language disorders.

ADVANCED CLINICAL PRACTICUM: REHABILITATIVE AUDIOLOGY
Supervised clinical practicum in hearing rehabilitation.

EXPERIMENTAL AUDIOLOGY
Prerequisite: six graduate audiology credits or permission of instructor. Review of instrumentation and research techniques. Study of significant literature in the field.

EXPERIMENTAL AUDIOLOGY
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.

Prerequisite: 276 or permission. Basic concepts and methods of social work practice, particularly relating to understanding and working with individuals and families.

Social work practice in the community, organization and social planning as social work process in assisting problems and developing programs to meet needs.

Prerequisite: 276 or permission. Social Work practice knowledge and skills, social welfare institutions and social policy in relation to women's issues and concerns in the United States.

FIELD EXPERIENCE SEMINAR
Prerequisite: 451 and permission: corequisite: 495. Careful examination and integration of academic understanding and professional methodology into professional practice.

SOCIAL WORK ETHICS
Prerequisite: 276 or permission Social Worker's Code of Ethics as applied to practices, problems and issues in social work.

HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT FOR SOCIAL WORKERS
Prerequisite: 276 or permission; 3750.130 recommended, for 530: permission, biopsychosocial knowledge applied to social work. Emphasis on social workers' understanding of and use of individual interaction and growth within family as a system, groups, roles, organizations, community and culture.

SOCIAL WORK RESEARCH
Prerequisites for 440, 276 or permission, 4570.512, 5152, or permission: 540. Social work practiced 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.

SOCIAL POLICY ANALYSIS FOR SOCIAL WORKERS
Prerequisites for 440, 276 or permission, for 545: Undergraduate social work degree or permission. Descriptive, analytic, and construction of social policy in social services; understanding forces and processes which establish social policies, to predict consequences of social policies and to establish goals for social policy development integrated into effective social work methodology.

SOCIAL WORK IN MENTAL HEALTH
Supervised practicum in mental health settings.

SOCIAL WORK WITH FAMILIES
Prerequisite: 276 or permission. Professional social work practice in families. The dynamics of family systems, assessment of family function and dysfunction, professional helping processes.

SOCIAL WORK IN JUVENILE JUSTICE
Prerequisite: 276 or permission. The theory and practice of social workers 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.

SOCIAL WORK IN HEALTH SERVICES
Supervised practicum in health services.

ADVANCED PRACTICE WITH INDIVIDUALS
Prerequisite: 401 or permission. Advanced professional development of direct and indirect strategies and techniques of intervention to aid individuals in improving psychosocial functioning.

ADMINISTRATION AND SUPERVISION IN SOCIAL WORK
Prerequisite: 401 or permission. Preparation for use of supervision, staff development, and program planning in a social work agency. Examinations of the social work welfare agency in the community as it affects its organizational setting and program implementation problems.

LAW FOR SOCIAL WORKERS
Prerequisite: 276 or permission. Legal terminology, theories, principles, organization and procedures of laws will be explored along with the relationship between social work and law and comparisons of the theoretical bases of the two professions.
480/580 SPECIAL TOPICS IN SOCIAL WORK AND SOCIAL WELFARE
Prerequisites: permission of instructor. Analysis of current social work and social welfare theory and policy settings, innovative interventions and trends in delivery systems in relation to selected areas of concern. Topics and credits variable.

490/590 SOCIAL WORK WORKSHOP
(May be repeated for a total of six credits)
Prerequisites: permission of instructor. Group investigation of a particular phase of social work or social welfare not offered by other courses in curriculum.

495 FIELD EXPERIENCE IN SOCIAL AGENCY
(Two credits minimum and eight credits maximum toward a consecutive semester's work)
Prerequisites: 401 and permission. Confident placement in a selected community or social service agency for supervised experience with individuals, groups, and communities in family service, health care, corrections, community development, mental health, civil welfare, public welfare, and similar social welfare settings. Student must register interest and receive permission to take the course with the course instructor during early part of semester preceding enrollment. For senior major in social work.

497/597 INDIVIDUAL INVESTIGATIONS IN SOCIAL WORK
Prerequisites: permission and prearrangement with instructor. Individual investigation, research, and or projects in an area of interest in social welfare theory or institutional operations in social work practice under guidance of social work faculty member. Preparation of research paper appropriate to nature of work. For social work major.

499 SENIOR HONORS PROJECT IN SOCIAL WORK
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.

THEATRE
7800:
102 INTRODUCTION TO THEATRE
Aesthetic of theatre—stage theatre, opera/theatre, musical/theatre, dance theatre and television. History and nomenclature. Laboratory required.

103 INTRODUCTION TO TECHNICAL THEATRE
Introduction to elements of technical production: personnel, organization, scheduling, shop processes, techniques, and capabilities. Laboratory required.

104 INTRODUCTION TO STAGE DESIGN
Introduction to basic design principles involving floor plans, elevations, and renderings for design of stage scenery, laboratory.

151 VOICE FOR THE STAGE
Speech improvement as it specifically applies to the stage. This course is concerned with the proper techniques and principles of vocal production in their practical application to stage performance.

172 ACTING I
Introduction to fundamentals of acting through the investigation of the body as an instrument for the stage. Improvisation and basic scene study.

202 STAGE MAKEUP
Theory and practice in the application of stage makeup for both character and character. Lecture/Laboratory.

253 SCENE PAINTING
The development of skills and knowledge of stage scenic painting required for the theatre designer and technician. Laboratory required.

265 BASIC STAGECRAFT I
Basic stagecraft including equipment construction and handling of two-dimensional scenery and the theatrical hardware. Laboratory required.

266 BASIC STAGECRAFT II
Prerequisites: 265. Aspects of stagecraft including the construction and handling of three-dimensional scenery and the rigging of scenic units. Laboratory required.

271 DIRECTING I
Prerequisites: 265. Aspects of stagecraft including the construction and handling of three-dimensional scenery and the rigging of scenic units. Laboratory required.

282 PERIOD MOVEMENT AND DANCE
Medieval and Early Renaissance style and manners. Studio and lecture.

334 STAGE COSTUME CONSTRUCTION
Study and practice of stage costume construction techniques.

335 INTRODUCTION TO STAGE COSTUME HISTORY AND DESIGN
Study of historical costume and the designer. Costumes designed for each historical period in class. Period patterns drafted and constructed during designated laboratory hours.

336 HISTORY AND CONSTRUCTION OF PERIOD FURNISHING FOR THE STAGE
Survey of historic furniture and room interior styles, with emphasis on practical stage applications. Study of prop construction materials and techniques. Wood, steel, foam and plastics, basic woodworking, upholstery, lighting, lighting, and lighting techniques.

337 ADVANCED VOICE FOR THE STAGE I
Prerequisite: 151. Vocal training through interpretation and analysis of various theatrical styles.

338 ADVANCED VOICE FOR THE STAGE II
Prerequisite: 337. Continuation of 337.

339 ADVANCED STAGECRAFT
Prerequisite: 265. Aspects of advanced stagecraft: flying scenery, processes and techniques of rigging, lighting, and sculptured stages. Lighting and scenic techniques laboratory required.

365 STAGE DESIGN
Prerequisite: 106. The art of stage design: its elements, techniques, principles.

376 HISTORY OF THEATRE I: GREEK-RENAISSANCE
Prerequisite: 100 or permission. Development of theatre in Greece and Rome. Medieval and Renaissance. With emphasis on culture of each period, dramatists, plays, stage conventions, architecture.

377 THE AMERICAN THEATRE: PLAYS, PLAYWRIGHTS AND PLAYwrightS
Study of American theatre, from its beginning in seventeenth century to present. Emphasis on achievement in twentieth century.

378 DIRECTING II
Prerequisites: 271 and permission. Advanced course in practical techniques of staging play from major theatrical periods as well as principles of working with the actor.

380 ACTING II
Prerequisites: 172. Continuation of 172. Further emphasis on the psychology of the actor and development of performance techniques through scene study.

381 ACTING III
Prerequisite: 373. Further in-depth actor training with emphasis on the language and interpretation of Shakespeare through scene study.

386 THEATRE ORGANIZATION AND MANAGEMENT
Prerequisite: 100. Study of successful organization and management of nonprofessional theatre operation.

433 SPECIAL TOPICS IN THEATRE ARTS
Prerequisite: 100. Study of selected social, ethical, and aesthetic issues relating to the theatre arts. Supplementing courses listed in General Bulletin.

434 MUSICAL THEATRE PRODUCTION
Prerequisite: 373. Designed to make the musical theatre performer a part of the total creative process involved in mounting a stage musical. May be taught in conjunction with the production of a musical as a special semester-long musical project.

435 STAGE COSTUME DESIGN
Prerequisite: 335. Tents of fashion and figure drawing, stage costume rendering, and practical design assignments.

438 STYLES OF SCENIC DESIGN
Prerequisite: 365. Theatrical scenic design and scenography.

439 STYLES OF STAGE COSTUME DESIGN
Prerequisite: 435. The art and style of costume design for the stage and the many proprieties necessary to produce the stage costume for theatrical effects.

440 MOVEMENT FOR ACTORS I
Prerequisite: 172. Specialized physical training for the actor.

441 MOVEMENT FOR ACTORS II
Prerequisite: 440. Specialized training, integrating the actor's physical and vocal instrument.

462/562 PLAYWRITING
Prerequisite: permission. Plays of dramatic construction learned through analysis of playwright's art as well through writing of individual dramatic compositions.

464 STAGE LIGHTING
Prerequisite: 211. Outlined the historical practices of stage lighting. Among these discussed are colored light and color theory, electricity and electrical safety, dimming and control systems, other aspects of craft of effective stage lighting.
603 SPECIAL TOPICS IN ACTING IV
Prerequisite: advanced standing or permission. Group study or group projects investigating the material for the production of a full-length play. Term paper or project required. (May be repeated for a total of three credits.)

607 STUDIES IN DRAMATIC PRACTICE I
Development of dramatic literature and its relationship to the social, political, religious, and cultural influences of varying cultures from classical Greece to the Restoration and its relationship to the physical theatre.

608 STUDIES IN DRAMATIC PRACTICE II
Development of dramatic literature and its relationship to the social, political, religious, and cultural influences of varying cultures from the sixteenth century to modern times and its relationship to the physical theatre.

665 AUDIENCE FOR THE ARTS: RESEARCH/ANALYSIS
Examination of both qualitative and quantitative methods of researching today's audience and support for the arts/cultural institutions, such as arts councils, foundations. Research projects that students have written.

666/7520:124, permission. A scene study course in analyzing and performing specific plays, with emphasis on the physical theater. (May be repeated as different subject areas are covered, but no more than four credits may be applied toward M.A. degree)

667/567 STUDY
Prerequisite: permission of instructor. Faculty supervised work experience program in which student participates in an arts management situation with a selected cultural organization.

699 THESIS RESEARCH/PRODUCTION DOCUMENT
Prerequisite: permission of graduate director. Graduate study and research for the production of a full-length play. The student will be responsible for the complete production of the play, including the director and stage management. (May be repeated for a total of six credits.)

7810:

100 PRODUCTION LABORATORY DESIGN/TECHNICAL
Provides student with practical experience in technical aspects of theatre. Includes assignments in set design and drafting, stage lighting, and costume construction.

110 PERFORMANCE LABORATORY
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes actual public performance of assigned role.

200 PRODUCTION LABORATORY DESIGN/TECHNICAL
Provides student with practical experience in technical aspects of theatre. Students will undertake assignments in such areas as set construction, stage lighting, and costume construction.

210 PERFORMANCE LABORATORY
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes actual public performance of assigned role.

300 PRODUCTION LABORATORY DESIGN/TECHNICAL
Provides student with practical experience in technical aspects of theatre. Students will undertake assignments in such areas as set construction, stage lighting, and costume construction.

310 PERFORMANCE LABORATORY
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes actual public performance of assigned role.

400 PRODUCTION LABORATORY DESIGN/TECHNICAL
Provides student with practical experience in technical aspects of theatre. Includes preparation for the production of a full-length play.

410 PERFORMANCE LABORATORY
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes public performance of assigned role.

T HEATRE ORGANIZATIONS

Graduate Courses

601 INTRODUCTION TO GRADUATE STUDIES
3 credits
Exploration of the basic research tools and methods appropriate to the discipline, including utilization of the computer. Guidelines for writing thesis and preparing production document.

602 SPECIAL TOPICS IN THEATRE ARTS
1-4 credits
May be repeated at different subject areas. (May not be repeated for more than 12 credits.)

611 PROBLEMS IN DIRECTING
2 credits
Advanced directing course, with special emphasis on staging of complex plays from different periods of dramatic literature.

612 PROBLEMS IN CONTEMPORARY ACTING
3 credits
Study of problems confronting advanced actors in contemporary plays.

615 HISTORY OF THEATRE
3 credits
History of the development of theatre, including its evolution in different cultures and time periods.

616 HISTORY OF THEATRE OF STAGE LIGHTING
3 credits
Historical survey of the development of stage lighting in various cultural contexts.

617 ADVANCED TECHNICAL THEATRE
2 credits
Detailed problems in setting up productions, including set design, lighting, and costume construction.

618 SEMINAR IN STAGE COSTUME DESIGN
3 credits
Prerequisites: undergraduate experience in costume design or permission of instructor. Study of special problems in costume design for musicals, opera, or other theatrical productions. (May be repeated for a total of four credits.)

622 SEMINAR IN SCENE DESIGN
3 credits
Prerequisite: 373. Undergraduate or graduate experience in costume design or permission of instructor. Study of problems in costume design, portfolio projects, research of noted designers, and the study of the theatre space as a new scenic environment.

641 AMERICAN THEATRE
2 credits
Study of American theatre: plays, plays, and plays from colonial times to present. Term paper or project required.

651 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/cultural institutions, such as arts councils, foundations. Research projects that students have written.

652 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.

656/568 CHILDREN'S THEATRE
3 credits
Study of theatre for children, audience, plays, and scenery and lighting design for children's theatre. A full-length play for children produced by the class may culminate the course.

658 PROBLEMS IN LIGHTING DESIGN
3 credits
Prerequisite: 465. Advanced study of stage lighting technique and optical effects. (May be repeated for a total of six credits.)

660 PRODUCTION PRACTICUM/DESIGN/TECHNOLOGY
1-2 credits
Prerequisite: permission of instructor. Practice in selected production design/technology, including utilization of the computer. Guidelines for writing thesis and preparing production document.

661 PROBLEMS IN DIRECTING
2 credits
Advanced directing course, with special emphasis on staging of complex plays from all periods of dramatic literature.

662 PROBLEMS IN CONTEMPORARY ACTING
3 credits
Study of problems confronting advanced actors in contemporary plays.

663 HISTORY OF THEATRE
3 credits
History of the development of theatre, including its evolution in different cultures and time periods.

664 HISTORY OF THEATRE OF STAGE LIGHTING
3 credits
Historical survey of the development of stage lighting in various cultural contexts.

665 AUDIENCE FOR THE ARTS: RESEARCH/ANALYSIS
2 credits
Examination of both qualitative and quantitative methods of researching today's audience and support for the arts/cultural institutions, such as arts councils, foundations. Research projects that students have written.

666/568 CHILDREN'S THEATRE
3 credits
Study of theatre for children, audience, plays, and scenery and lighting design for children's theatre. A full-length play for children produced by the class may culminate the course.

667/567 STUDY
Prerequisite: permission of instructor. Faculty supervised work experience program in which student participates in an arts management situation with a selected cultural organization.

680 STUDIES IN DRAMATIC PRACTICE II
3 credits
Development of dramatic literature and its relationship to the social, political, religious, and cultural influences of varying cultures from the sixteenth century to modern times and its relationship to the physical theatre.

683 GROWTH RESEARCH/READINGS
May be repeated for a total of nine credits. Prerequisite: permission. Individual research of independent readings under supervision of member of graduate faculty.

689/589 SEMINAR IN THE ROLE OF THE ARTS ADMINISTRATOR
3 credits
In-depth examination of roles of arts administrator/manager including theatre, opera, ballet, arts organizations and performing arts halls/centers. Guest lecturers. Term paper required.

690 LEGAL REGULATIONS AND THE ARTS
2 credits
Analysis of legal framework of arts administration. Introduction to selected areas of law relevant to arts management, including legislation, cases and scholarly materials.

698 ARTS MANAGEMENT INTERNSHIP
1-3 credits
May be repeated for a total of three credits. Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes public performance of assigned role.

699 THESIS RESEARCH/PRODUCTION DOCUMENT
4-6 credits
May be repeated for a total of six credits. Prerequisite: permission of graduate director. Graduate study and research for the production of a full-length play. The student will be responsible for the complete production of the play, including the director and stage management. (May be repeated for a total of six credits.)

7810:

100 PRODUCTION LABORATORY DESIGN/TECHNICAL
1 credit
Provides student with practical experience in technical aspects of theatre. Students will undertake assignments in such areas as set construction, stage lighting, and costume construction.

110 PERFORMANCE LABORATORY
1 credit
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes actual public performance of assigned role.

200 PRODUCTION LABORATORY DESIGN/TECHNICAL
1 credit
Provides student with practical experience in technical aspects of theatre. Students will undertake assignments in such areas as set construction, stage lighting, and costume construction.

210 PERFORMANCE LABORATORY
1 credit
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes actual public performance of assigned role.

300 PRODUCTION LABORATORY DESIGN/TECHNICAL
1 credit
Provides student with practical experience in technical aspects of theatre. Students will undertake assignments in such areas as set construction, stage lighting, and costume construction.

310 PERFORMANCE LABORATORY
1 credit
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes actual public performance of assigned role.

400 PRODUCTION LABORATORY DESIGN/TECHNICAL
1 credit
Provides student with practical experience in technical aspects of theatre. Includes preparation for the production of a full-length play.

410 PERFORMANCE LABORATORY
1 credit
Prerequisite: permission of project supervisor and graduate theatre coordinator. Provides student with practical performance experience in conjunction with University Theatre productions. Includes actual public performance of assigned role.

Graduate Courses

601 PRODUCTION PRACTICUM/DESIGN/TECHNOLOGY
1-2 credits
May be repeated for a total of four credits. Prerequisite: permission of instructor. Practice in selected production design/technology.
## Performance Practicum

1-2 credits

Prerequisite: permission of project adviser. Recognition of work undertaken by the student, when performing a role in a theatre production. Credit assigned and work supervised by faculty project supervisor.

### Dance as an Art

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.

### Dance Analysis I

2 credits

Required of all dance majors; for first two years. Lecture/Laboratory. Understanding the body and its relation to technique.

### Dance Analysis II

2 credits

Prerequisite: 116 or permission. Continuation of 116. Lecture/Laboratory. Use of body in dance techniques as a student, future teacher or performer.

### Introduction to Contemporary Dance I

2 credits

(May be repeated for a total of four credits) For novice dancers and teachers wishing to explore contemporary styles and techniques.

### Introduction to Contemporary Dance II

2 credits

(May be repeated for a total of four credits) Prerequisite: permission. Continuation of 119. Expansion of contemporary movement and techniques.

### Ballet Technique I

2 credits

(May be repeated for a total of ten credits) Prerequisite: permission. Fundamental theory, vocabulary, structure, placement.

### Introduction to Ballet I

2 credits

(May be repeated for a total of four credits) Emphasis on body placement, muscular awareness.

### 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.

### 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 entering the Contemporary Technique I.

### 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.

### Ballet Technique II

2 credits

(May be repeated for a total of 20 credits) Prerequisite: permission. Continuation of 122, expanding theory on vocabulary, structure, placement.

### Fundamental Ballet Technique

2 credits

(May be repeated for a total of six credits) Prerequisite: permission. Continuation of 124.5. Emphasis on barre and developing strength.

### Contemporary Technique I

2 credits

(May be repeated for a total of 12 credits) Prerequisite: permission. Expanding the basic contemporary dance techniques.

### Chorography I

2 credits

Prerequisite: permission of the instructor. Study and practical application of choreographic principles in the areas of rhythm, phrasing, spatial awareness, and body and eye focus.

### Chorography II

2 credits

Prerequisites: 216 and permission of the instructor. Continuation of 216 with emphasis on established and traditional choreographic forms, including theme and variation, the suite and fugue and the narrative.

### Dance Notation

2 credits

Beginning study of Labanotation method of recording movement, and preparation for beginning examination of the Notation Bureau.

### Ballet Technique III

2 credits

(May be repeated for a total of 30 credits) Prerequisite: permission. Continuation of 222. Emphasis on technique, style and line.

### Jazz Dance Technique I

2 credits

Enriches basic jazz techniques and styles, including East Indian, Afro-Cuban, Early American Ho-Down and Folklore styles. Also, Soft-Step, Charleston and Early Balinese.

### Tap Technique I

2 credits

Emphasizes basic tap combinations and routines, tap terminology and methods for recording combinations. Special clothing/shoes required.

### Contemporary Technique II

3 credits

(May be repeated for a total of 12 credits) Prerequisite: permission. Continuation of 229. Expanded development of contemporary techniques.

### Jazz Dance Technique II

2 credits

Prerequisite: 224, 316. A study of more complex routines, including syncopation, classical tap and style (Astaire, Kelly, Vernon, Draper, Frпон), special clothing/shoes.

### Special Topics in Dance

1-4 credits

(May be repeated for different subject areas) Prerequisite: permission. Continuation of 322. Professional level of technique.

### History of the Dance

2 credits

Study of important developments in dance form pre-history to Renaissance.

### 20th Century Dance

2 credits

Prerequisite: dance major or permission. Investigation of changes in styles and techniques and their influence on current choreography.

### Development of Dance

2 credits

Romantic and higher-era and their influence on current dance.

### Techniques of Teaching Dance I

2 credits

Prerequisite: dance major or permission. Practical work in the basic principles of elementary teaching.

### Techniques of Teaching Dance II

2 credits

Prerequisite: 426 or permission. Continuation of 426. Projects in teaching of elementary training.

### Workshop in Dance

1-3 credits

(May be repeated for a total of eight credits) Prerequisite: advanced standing or permission. Group study or group projects investigating particular phases of dance not covered by other courses in curriculum.

### Dance Organizations

#### Courses of Instruction

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical Ballet Ensemble</td>
<td>1 credit*</td>
</tr>
<tr>
<td>Character Ballet Ensemble</td>
<td>1 credit*</td>
</tr>
<tr>
<td>Contemporary Dance Ensemble</td>
<td>1 credit*</td>
</tr>
<tr>
<td>Jazz Dance Ensemble</td>
<td>1 credit*</td>
</tr>
<tr>
<td>Musical Comedy Ensemble</td>
<td>1 credit*</td>
</tr>
<tr>
<td>Opera Dance Ensemble</td>
<td>1 credit*</td>
</tr>
</tbody>
</table>

*Any 910 course may be repeated for credit. Total credit for graduation may not exceed 12 credits. Open to majors and non-majors. Full-time dance majors required to enroll in one organization each semester.

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**Dance Organizations 7910:**

101. **Classical Ballet Ensemble**
   
102. **Character Ballet Ensemble**

103. **Contemporary Dance Ensemble**

104. **Jazz Dance Ensemble**

105. **Musical Comedy Ensemble**

106. **Opera Dance Ensemble**

*Any 910 course may be repeated for credit. Total credit for graduation may not exceed 12 credits. Open to majors and non-majors. Full-time dance majors required to enroll in one organization each semester.*
107 EXPERIMENTAL DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of Avante Guarda dances.

1 credit

108 CHOREOGRAPHER'S WORKSHOP
By audition only. Participation in rehearsal and preparation for public performance of student dances.

1 credit

109 ETHNIC DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of ethnic dance repertoire.

1 credit

Any 7910 course may be repeated for credit. Total credit for graduation may not exceed 12 credits. Open to majors and non-majors.

110 PERIOD DANCE ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of dances from specific historical periods such as the Renaissance or Baroque eras.

1 credit

111 TOURING ENSEMBLE
By audition only. Participation in rehearsal and preparation for public performance of dances prepared for touring purposes.

1 credit

*Any 7910 course may be repeated for credit. Total credit for graduation may not exceed 12 credits. Open to majors and non-majors.
Nursing 8200:

101 INTRODUCTION TO NURSING

1 credit

Designed to introduce student to nursing. Emphasis on historical perspective as basis for modern trends in profession of nursing.

102 INTRODUCTION TO BACCALAUERATE NURSING FOR THE NON-TRADITIONAL STUDENT

1 credit (15 lecture hours)

Prerequisite: Registered Nurse. Emphasis on role socialization for RN's seeking a baccalaureate in nursing. Explores concepts incorporated in the philosophy, conceptual framework, and curriculum structure of the baccalaureate nursing program.

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.

300 NURSING: HEALTH

12 credits


405 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 through utilizing scientific research approach.

430 NURSING: DIMINISHED HEALTH I

12 credits

Prerequisite: 100, 200, 300. Man's maladaptation throughout life cycle. Emphasis on his interactions within an ecosystem approach. Nursing process utilized to view this life stage as holistic man's adaptation.

431 NURSING: DIMINISHED HEALTH II

10 credits

Prerequisites: 102, 200, 300, 220. Assists student in applying knowledge and skill for an integrated approach to nursing process in various settings and to develop roles of leadership and change-agent utilizing teaching/learning process.

405 HEALTH MAINTENANCE NURSING

6 credits

Prerequisites: 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.

415 DIMINISHED HEALTH NURSING

5 credits

Prerequisites: 101, 301, 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.

420 NURSING: SYNTHESIS

10 credits

Prerequisites: 100, 200, 300, 320. Provides student with independent practice opportunity. Emphasis on providing student with practice in an area of his/her choice. Guidance and direction provided to student as necessary by preceptor.

430/530 HEALTH CARE (CURRENT YEAR): ISSUES AND NURSING

2 credits

Prerequisite: Acceptance in the College of Nursing Program or instructor's permission. Demonstration of the state of health care delivery in the United States today and their ramifications and implications for nursing.

430/HONOR PROJECT

1-3 credits per semester

Prerequisite: senior standing in Honor Program and nursing major. A creative project, independent study or research relevant to nursing which is supervised by a faculty preceptor and/or sponsor.

483/583 SPECIAL TOPICS: NURSING

1-4 credits

May be repeated as new topic is presented. May not be used to meet major requirements for the major in nursing. May be used for elective credit.

Graduate Courses

605 THEORETICAL BASIS FOR FAMILY HEALTH NURSING

3 credits

Prerequisites: Acceptance in the Family Health Nursing graduate program. Study of concepts and theories common to nursing. Provides a firm basis for family health nursing within the ecological-phenomenological perspective.

619 NURSING INQUIRY

3 credits

Prerequisites: 503 and 5470:664. Philosophies of science and ethics, concept formation and theory development shall be studied. Research in family health nursing within the ecological-phenomenological perspective shall be implemented.

630 FAMILY HEALTH APPRAISAL

3 credits

Prerequisite: 603. Seminar and practicum will be used to study health appraisal. The focus will be on the health of families and families as units of the life span.

631 FAMILY HEALTH NURSING I

4 credits

Prerequisites: 603 and 619. Theory and practice of family health nursing focusing on concepts, theories and practice relative to families and to individuals within the ecological-phenomenological perspective.

632 FAMILY HEALTH NURSING II

4 credits

Prerequisites: 603, 619 and 622. Continuation of 622.

634 NURSING OF FAMILIES WITH CHILDREN

3 credits

Focuses on the young and middle aged adult within the family structure. Focuses on the application of the nursing process with the family and to individuals and families within the family structure.

635 NURSING OF FAMILIES WITH ADOLESCENT MEMBERS

3 credits

Analysis of the young and middle aged adult within the family structure. Focuses on the application of the nursing process with the adolescent and to individuals and families within the family structure.

636 NURSING OF FAMILIES WITH ADULT MEMBERS

3 credits

Analysis of the young and middle aged adult within the family structure. Focuses on the application of the nursing process with the family and to individuals and families within the family structure.

626 HEALTH PERSPECTIVE OF THE EXPANDING FAMILY

3 credits

Focuses on the nursing analysis of the process of family expansion as the individual member's accommodation to that process and relevant health issues.

629 FINANCIAL MANAGEMENT FOR NURSING ADMINISTRATION

3 credits

Prerequisite: acceptance in the Family Health Nursing Program or by faculty permission. Emphasis on financial management for nursing administration. Focus is on cost containment and implications for family health nursing.

630 HUMAN RESOURCES IN NURSING SETTINGS

3 credits

Prerequisite: acceptance in the Family Health Nursing graduate program or instructor's permission. Identifies and examines major issues related to human resources in nursing settings. The focus is on those situations where family health nursing is the core of practice, education and research.

707,1 SPECIAL TOPICS

2 credits each

Prerequisite: completion of all required core courses. Selected topics and areas of interest to faculty, student available as electives.

708 INDEPENDENT STUDY

1-4 credits

Available for the graduate student to select an area of nursing for practice and is considered as an option for the following nursing elective credit and leadership role of nursing elective credit.

763 NURSING OF FAMILIES WITH OLDER MEMBERS

3 credits

Prerequisite: graduate standing. This course focuses on the diversity of older adults born by older adults in various family situations such as the new family, the multi-generational family, the family with a widow or widower, 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.

775 CULTURE, ETHNICITY AND HEALTH CARE

3 credits

Increase cultural sensitivity by exposure of culturally diverse health values, beliefs, practices. Life styles of selected ethnic groups, factors affecting the health of individuals in ethnic communities; health care choices of ethnically diverse populations shall be examined from an ecological-phenomenological perspective.

600 FAMILY HEALTH NURSING LEADERSHIP SEMINAR:

3 credits

DIRECT CARE WITH FAMILIES

Corequisites: 630, 613, 5223. Examines family health nursing practice. Utilizing the ecological-phenomenological perspective, to identify and explore practice issues and goals.
687: FAMILY HEALTH NURSING LEADERSHIP PRACTICUM: ADMINISTRATION 3 credits
Prerequisite or Corequisite: 623. Prerequisite: 622. Expanding the leadership role of family health nurse from philosophical perspectives of administration. Utilizes theoretical frameworks to develop and identify administrative goals within the ecological-phenomenological perspective.

688 FAMILY HEALTH NURSING LEADERSHIP SEMINAR: ADMINISTRATION 1 credit
Prerequisites: 681, 689. Similarities and differences of the family health nurse leadership roles in administration, education, direct care with families within the ecological-phenomenological perspective are examined.

699 THESIS RESEARCH 1-4 credits
Prerequisites: 613, 622. Corequisites: 622. Family health nursing research in which selected philosophies, theories, concepts are investigated within the ecological-phenomenological perspective.
Course of Instruction 259

School of Law

LAW 9200:

623 ADMINISTRATIVE PROCESS
Prerequisite: 604. Traditional politico-legal theories of separation of powers and the administrative process; proceedings for rule-making and adjudication; conclusions of administrative determinations. 3 credits

624 AIR LAW
Law of modern air transportation in international and domestic flight and emerging area of outer space. 3 credits

625 ANTI TRUST LAW
Fundamentals of antitrust: questions of evidence in price fixing and boycotts under the Sherman Act, resale restrictions and tie-ins, scope of antitrust law and certain exceptions. 3 credits

626 BASIC BUSINESS ASSOCIATIONS
Ricarious liability; Employment relationships and scope: Authority and apparent authority; Misrepresentation by an agent; Undisclosed principal. Ratification: Elements of partnership and other unincorporated business associations. 3 credits

627 COMMERCIAL LAW I
The course focuses on Uniform Commercial Code with emphasis on Articles 2, 3 and 9 together with the appropriate cognate areas such as the Bankruptcy Act, the Uniform Fraudulent Conveyance Act, the Tax Law Act and the FTC Holder Rule. 3 credits

628 COMMERCIAL TRANSACTIONS: SALES
Law of sales of personal property under Article 2 of Uniform Commercial Code and under prior uniform acts relevant to the modern law of sales. 3 credits

629 COMMERCIAL LAW II
Prerequisite: 627. Continuation of 627. 3 credits

630 ADMINIALTY
History and jurisdiction of and practice in admiralty; carriage by water and connected transport; collision; salvage and insurance claims for personal injury and death claims; maritime lien. 3 credits

631 CONFLICT OF LAWS
Problems of application of private law in juridical relations containing one or more foreign law elements. Jurisdiction and enforcement. 3 credits

632 CORPORATIONS
An 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. 4 credits

635 CREDITORS RIGHTS

636 DEVELOPMENT OF LAW AND LEGAL INSTITUTIONS
Hypo-logical introduction to Anglo-American legal system. 2 credits

637 EQUAL OPPORTUNITY LAW
Legal developments, primarily federal, affecting discrimination in employment, housing and public accommodation. The major emphasis of the course will be on equal employment opportunity law. 3 credits

638 FAMILY LAW
Major areas of family law; theories that have influenced its development. Functions performed by various agencies which seek to effect a non-judicial settlement of domestic problems. Adoption. 3 credits

640 FEDERAL ESTATE AND GIFT TAXATION
Federal estate and gift taxation: relation between federal income tax and federal taxes on estates and gifts. 3 credits

641 FEDERAL INCOME TAXATION I
Survey of federal income tax law with primary emphasis on individual income. May be taken independently of 642. 2 credits

642 FEDERAL INCOME TAXATION II
Prerequisite: 641. Survey of federal income tax law applicable to corporations. 3 credits

643 FEDERAL JURISDICTION AND PROCEDURE
Prerequisite: 602. Congress, the federal courts and the Constitution; appellate and collateral review; federal diversity; admiralty and maritime law; jurisdictional and tying state actions; choice of law, federal-common law. 3 credits

644 FINANCING STATE AND LOCAL GOVERNMENT
Planning, programming and budgeting; state and federal programs, local taxes; use of public authorities and special districts; property tax limits. Debt issues. State supervision of local finance. 2 credits

645 GOVERNMENT CONTRACTS
Prerequisite: 606. Contracting with governmental units, primarily federal, including sovereign power to contract and limitations thereon; contract formation and performance clauses and litigation, considering applicable statutes, regulations, and executive orders. 3 credits

646 INJURED TO RELATIONS
Prerequisites: 606 and 617. Theories of liability for invasion of non-personal and non-property interests arising in three-party situations. Tort remedies available for physical, appropriational and disseminating harms to tangible, intangible, and political relations. 2 credits

647 JUVENILE LAW
Study of laws relating to juveniles (neglect, dependency, delinquency). 3 credits

61 CIVIL PROCEDURE I
Survey of procedure in state and federal courts. Jurisdiction, pleading motions, joinder of parties and causes of action. Judgments. Trial and appellate practice. 3 credits

62 CIVIL PROCEDURE II
Prerequisite: 601. Continuation of 601. 3 credits

603 CONSTITUTIONAL LAW I
Governmental authority and its distribution under Constitution. Introduction to individual rights and liberties. 3 credits

604 CONSTITUTIONAL LAW II
Prerequisite: 603. Continuation of 603. Rights, privileges and immunities under the Constitution. 3 credits

605 CONTRACTS I
Nature and purpose of contract law. Formation, consideration, contractual alternatives, remedies of consent. Causality. Stare of Frauds. 3 credits

606 CONTRACTS II
Prerequisite: 605. Construction Breach, and associated remedies. Rescission. Reformation. Third party interests. 3 credits

607 CRIMINAL LAW
Nature and scope of criminal liability studied in light of modern developments. The act, mens rea, causation, and purpose. Homicide, other crimes, defenses, and defenses to liability. 3 credits

608 EVIDENCE
Covers basic evidence law with emphasis on the Federal Rules of Evidence and state rules patterned thereon. 3 credits

610 GENERAL WRITING REQUIREMENT
0 credits (credit/0 credit) [May be repeated]
To fulfill the school's General Writing Requirement, as set forth in the faculty-rated statement (paragraphs A, B, and C), degree-seeking students are required to register for the 610 no credit course at the same time as registering for a credits course that qualifies as fulfilling the School's writing requirement. 0 credits

612 LEGAL PROFESSION
Legal profession as an institution. Responsibilities of lawyers. Duties and privileges. Professional qualifications. 2 credits

614 PROPERTY I
Possession, means by which title may be obtained, fixtures, eminent domain, estates in land, concurrent ownership, the deed, the mortgage, the land contract. 3 credits

615 PROPERTY II
Prerequisite: 614. History of land law; Stature of Frauds; recording; title; registration; covenants for title; adverse possession; landlord-tenant relationship; mediation requiring land use easements; licences; private restrictions; water rights. 3 credits

616 Torts I
Survey of basic tort law and its function, impact of insurance and notions of allocating cost of unintended causation harm to tort doctrines key to negligence. 3 credits

617 Torts II
Prerequisite: 616. Continuation of 616. 3 credits

618 LEGAL RESEARCH
Familiarization with basic legal publications and computer assisted legal research necessary to perform legal research. 1 credit

619 BASIC LEGAL COMMUNICATIONS
Introduction to basic skills in written expression and analysis in a legal context through preparation of research, memoranda and other written assignments. 2 credits

620 INTERMEDIATE LEGAL COMMUNICATIONS
Enhancement of legal writing skills through an argumentative brief and other writings: development of oral advocacy skills through oral presentation of an argument based on a brief. 1 credit

621 ACCOUNTING FOR LAWYERS
A study of the underlying assumptions and principles of financial information prepared in accordance with generally accepted accounting principles and the evaluation of such information in terms of its significance to users of such information. 3 credits

622 ADMINISTRATION OF CIVIL JUSTICE
Administration of civil justice relating to processes of criminal law to objectives of criminal correction. Effects of federal constitutional provisions on criminal procedure. 3 credits
649 INTERNATIONAL LAW  
Nature and breadth of international law, sources and subjects, relation to municipal law, international organizations.

650 LABOR LAW  

651 LABOR ARBITRATION AND COLLECTIVE BARGAINING  
Prerequisite: 650. Law and practice of labor arbitration and collective bargaining, including study of grievance arbitration procedures pursuant to collective bargaining agreements.

652 LAND USE PLANNING  
Prerequisite: 616. Assumptions, doctrine and implications of planning law, zoning, legal and administrative problems involved in allocating and developing land located in metropolitan areas.

653 LAW AND SOCIAL CHANGE  
Examination and study of influence of law on society and society on law to illuminate contemporary developments in law and social institutions.

654 LAW OF CONSUMER CREDIT  
Recommended: 627 & Consumer law and credit transactions and their regulation, including specific statutory and administrative approaches dealing with problems of individual consumers and classes of consumers.

655 LAW REVIEW INTERNSHIP  
1 credit (credit/noncredit)  
Prerequisite: completion of first year and institution peculiars upon scholarship or demonstrated writing skills. Origination, preparation of citations of recent cases, recent case analysis and critical correction of casenotes or comments of others (if approved). Credits for 655, 618, 66, 98 not to exceed ten.

657 LAW REVIEW STAFF  
(May be repeated twice)  
Prerequisite: 655. Preparation of comment or article of publishable quality. Credit for 655, 618, 66, 98 not to exceed ten.

658 LAW REVIEW EDITORIAL BOARD  
1 credit (credit/reviewer)  
Prerequisites: 650 and election to Editorial Board. One credit per term. To serve on Akron Law Review Editorial Board. Total credits for 655, 618, 66, 98 not to exceed ten.

659 LAWYER AS NEGOTIATOR  
2 credits  
Prerequisite: 662. Planning negotiations and determination of strategies to effect object, weighing legal, economic, behavioral, ethical and sociological factors which condition outcomes.

660 LABOR RELATIONS LAW IN THE PUBLIC SECTOR  
3 credits  
Collective bargaining in public (governmental) sector; forming and joining unions, establishing bargaining relationships, duty to bargain, union security arrangements, collective action, impasse resolution and enforcement of collective agreements.

661 LEGAL CONTROL OF THE ENVIRONMENT  
3 credits  
Substantive and procedural aspects of legal control of air and water pollution. Common law precedents, federal and state statute law, federal administrative agencies; civil actions; constitutional consideration; federal tax incentives.

662 LEGAL REGULATION OF COMPETITION  
3 credits  
Study of the manner in which regulation of competitive processes in the public sector is regulated and private unregulated sectors of the economy.

663 LEGISLATION  
2 credits  
Process in context of legislative organization, policy formation, drafting, statutory construction, constitutional limitation, subjective and normative, cultural and historical interpretation, legislative drafting problems.

664 LOCAL GOVERNMENT LAW  
3 credits  

665 MODERN REAL ESTATE TRANSACTIONS  
Prerequisite: 615. Real estate transactions such as: (a) condemnation, cooperative, lease and sales tactics, high credit leases, lease-hold mortgage, construction loan and syndication, with major emphasis on financing and related tax considerations.

666 MOOT COURT  
1 credit (credit/noncredit)  
(May be repeated twice)  
Credit for participation by brief writing or written argumentation in intramural National Moot Court. Judging intercollegiate or other approved moot court competitions. Not open to first-year students. Total credits for courses designated Moot Court (666, 654, 650) not to exceed ten. Credit for 656, 66, 94, 96, 98 not to exceed ten.

667 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, infringement and unfair competition.

668 REMEDIES I  
3 credits  
Equitable remedies, strict liability, and restitution remedies for injuries to tangible property, and economic, dignitary and personal interests including wrongful death. May be taken independently of 669.

669 REMEDIES II  
2 credits  
Prerequisite: 668. Disgorgement and remedies for deception, duress, undue influence, hardship, unconscionability, misrepresentation and fraud, claims for contract and tort liability involving contract, and personal injury.

670 SEMINAR IN CRIMINAL PROCESS  
Prerequisite: 622. Study of criminal process; including detention to prosecute, grand jury, preliminary hearing, motion to suppress, discovery, plea bargaining, jury trials and double jeopardy.

671 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.

672 SEMINAR IN BUSINESS PLANNING  
3 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.

673 SEMINAR IN COMPARATIVE LEGAL SYSTEMS  
3 credits  
Study of contemporary foreign legal systems by discussion of basic problems in specific areas or comparative naps.

674 SEMINAR IN CORRECTIONS AND PRISONERS' REMEDIES  
3 credits  
Study of theoretical and practical aspects of sentencing, punishment, treatment, relief and alternatives thereto, developments in field of prisoners' rights and remedies.

675 SEMINAR IN ESTATE PLANNING  
3 credits  
Prerequisites: 641, 686, or permission of instructor. Relevant tax and non-tax problems in planning of estates and examination of dispositive devices in accomplishing objectives of clientele.

676 SEMINAR IN INTERNATIONAL TRANSACTIONS AND RELATIONS  
3 credits  
Legal problems in doing business abroad. Entry, holding, possession, economic activity and choice of incorporated firm; restrictive practices, currency and exchange, European Common Market, relations being developed and developing countries.

677 SEMINAR IN JUDICIAL ADMINISTRATION  
2 credits  
Problems and practices in selection, tenure and removal of judges, selection and responsibilities of court administrators, the effect of devices and procedures used to expedite movement of cases through litigation process; analysis of suggested reforms.

678 SEMINAR IN JURISPRUDENCE  
3 credits  
Examination and evaluation of principal theories of legal philosophy. Theories are frequently confronted in connection with concrete problems and are evaluated in light of various goal values.

679 SEMINAR IN LABOR LAW  
2 credits  
Prerequisite: 655. Selective issues in labor law and labor relations such as union offerings, union democracy, bargaining in public sector, discrimination in employment and topical affairs.

680 DEFERRED COMPENSATION AND EMPLOYEE BENEFIT PLANS  
3 credits  
Recommended: 633, 642. Employee benefit plans; qualified pension and profit-sharing plans under Internal Revenue Code. Non-qualified contracts involving independent employees.

681 SEMINAR IN LEGAL PROBLEMS OF THE DISADVANTAGED  
2 credits  
Selected legal problems of persons disadvantaged by such factors as age, illness, mental incompetence and poverty.

682 SEMINAR IN POLITICAL AND CIVIL RIGHTS  
1 credits  
Prerequisite: 602. Study of some basic problems in relationship of individuals to government in protection of rights of minority groups.

683 SEMINAR IN PRODUCT LIABILITY  
3 credits  
Prerequisite: 617. Recommended: 627. Liability for defective products and development of legal theories and remedies. Examination of governmental regulation of dangerous and defective products.

684 SEMINAR IN SELECTED LEGAL PROBLEMS  
1 credits  
May be repeated. Analysis of special or current legal problems offering opportunities for legal research, effective integration of legal and nontax moral values, and expository legal writing.

685 WILLS, TRUSTS AND ESTATES I  
2 credits  
Intermediate course in instruction of wills, trusts, advancement of legal techniques and probate of wills, probate and administration of trusts, gifts to charity, will substitutes, future interests, powers of appointment, class gifts.

686 WILLS, TRUSTS AND ESTATES II  
2 credits  
Prerequisite: 665. Continuation of 665.

687 SEMINAR IN SELECTED PROBLEMS IN EVIDENCE  
2 credits  
Prerequisite: 608. Designed to give the student an extensive practical working knowledge of modern evidence law, in order to further implement the instructions given in the basic Evidence course.

688 ADVANCED LEGAL COMMUNICATIONS  
1 credit  
Prerequisites: 619, 20. Review and analysis of written legal analysis and argumentation through performance of drafting assignments; including preparation of a written exposition on a proposed solution to a drafting problem. Required course for all students.

689 APPELLATE ADVOCACY  
1 credit  
Prerequisite: 619, 70, 81. Development of skills in written and oral advocacy through handling an appellate case from the receipt of trial record through oral argument.

690 INTRODUCTION TO TRIAL ADVOCACY  
3 credits  
Prerequisite: 608. Fundamental techniques of trial preparation; direct examination, cross examination, introduction of exhibits, objections, opening statements and closing arguments.
691 SELECTED PROBLEMS, INTERNATIONAL LAW 2 credits
Prerequisite: 646. Topical international problems and use of international law research materials in dealing with concrete international legal problems; analysis and preparation of short legal opinions.

692 ADVANCED TRIAL ADVOCACY 3 credits
Prerequisite: 690. Preparation and actual trial of two civil cases and two criminal cases; jury selection; ethical and political considerations of trial advocacy.

693 PROBATE PRACTICE 2 credits
Prerequisite: 685, 690. Interstate and testamentary administration, including the probating of a will, presentation of claims, the inventory, settlement, and distribution and will contests. The Ohio Probate Code will be the model.

694 REGIONAL MOOT COURT 1 credit (credit/noncredit)
Prerequisite: open only to members of the National Moot Court Team competing or alternates in the National Appellate Advocacy Competition (NAAC) Spring Regional Competition. Each person enrolled for credit will be required to: do substantial research on the brief problem; prepare preliminary drafts of arguments; participate in practice rounds for oral presentations. Total credits for courses designated Moot Court (666, 694, 5) not to exceed four. Credit for 656, 7, 8, 666, 694, 5, 6, 7, 8 not to exceed ten.

695 NATIONAL MOOT COURT 2 credits (credit/noncredit)
Prerequisite: open only to National Moot Court Team members or alternates in the National Moot Court Competition. Each person enrolled for credit will be required to read and grade all intramural competition briefs; listen to and judge oral arguments in intramural competition; do substantial research or current National Moot Court problem; prepare drafts of brief; write a final brief, practice oral arguments. Total credits for courses designated Moot Court (666, 694, 5) not to exceed four. Credit for 656, 7, 8, 666, 694, 5, 6, 7, 8 not to exceed ten.

696 CLINICAL SEMINAR I 2-3 credits (credit/noncredit)
Prerequisite: successful completion of 28 credit hours and permission of clinical director. Application of legal knowledge to practical problems in supervised public law office contexts. May be taken independently of 697. Credit for 656, 7, 8, 666, 694, 5, 6, 7, 8 not to exceed ten. Credit for 696, 7, 8 not to exceed six credits.

697 CLINICAL SEMINAR II 2-3 credits (credit/noncredit)
Prerequisite: 696. Continuation of 696.

698 INDIVIDUAL STUDIES AND RESEARCH 2 credits
(May be repeated for a total of four credits)
With permission of dean, special problems, projects or research may be taken for credit under supervision of member of faculty. Credit for 656, 7, 8, 666, 694, 5, 6, 7, 8 not to exceed ten.

699 NORMALIZED STATUTORY DRAFTING 1 credit
This course studies a technique of drafting which was first developed for computer use but which has been found to be of great value for drafting generally.
Board of Trustees

Sept. 1984

ME. BENJAMIN G. AMMONS, 1200 Firestone Parkway, Akron, Ohio 44317 (Term expires 1983).
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Sept. 1984

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WILLIAM A. FRANZIS, Assistant Dean of Buchtel College of Arts and Sciences, Ph.D.
THOMAS W. GETZINGER, University Auditor and Assistant to the Vice President for Business and Finance, M.B.A.
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DUDLEY C. JONES, Jr., Associate Dean for Academic Advising Services in the University College, M.Ed.
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ROBERT L. MCKEE, Assistant Dean of Wayne General and Technical College, M.A.
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HENRY NETLING, Controller, B.S.B.A.
WILLIAM T. NICHOLS, Assistant Dean of Continuing Education and Public Services, Ed.D.
JAMES G. OSWALD, Director of University Publications, B.S.Ed., B.A.
JOHN W. OWEN, Director of Admissions, M.A.
ALBERT M. AKAT, Associate Dean of the School of Law, J.D.
GEORGE E. PAYNER, Director of University Information Services, M.A., Ed.
DONALD E. SARATINO, Director of Auxiliary Services and Programs, M.A., Ed.
FREDERICK J. STURM, Associate Dean of the Community and Technical College, Ed.D.
ROBERT C. SULLIVAN, Assistant Dean of Law for Placement and Internal Functions, M.Ed.
STUART M. TERRAS, Director of Institutional Studies and Research, M.A.
FRANK B. THOMAS, Director of Computer Services, Ph.D.
KATHRYN VEGO, Associate Dean of Continuing Education and Public Services/Outreach Coordinator, M.S.Ed.
THOMAS VUKOVICH, Assistant Dean of the University College, Ph.D.
JOSEPH M. WALTON, Associate Dean of Graduate Studies and Research, Ph.D.
JOHN S. WATT, Associate Provost, Ph.D.
PAUL S. WINGARD, Associate Dean of Buchtel College of Arts and Sciences, Ph.D.
Emeritus Faculty
Sept. 1984

NORMAN P. AUBURN, President Emeritus of the University, Professor Emeritus of Political Science and Consultant (1951) (Ret. as President 1971; Consultant 1971) B.A. (University of Cincinnati, 1937); LL.D. (Pittsburgh, 1962); University of Liberia, 1939; M.A. (University of Tokyo, 1940); Ed.D. (University of Tokyo, 1941).


IRENE HORNUNG, Assistant Professor Emeritus of Biology (1946) (1970) St. John’s Hospital School of Nursing, R.N., 1925; B.S.N., Western Reserve University, 1934.


DONATO INNOCENZIO, Professor Emeritus of Modern Languages (1938) (1986) B.A. Broadview College, M.A., Ph.D., Northwestern University, 1938.


DON A. KEISTER, Distinguished Professor Emeritus of Eng in (1951) (1971) B.A. The University of Akron; Ph.D. Case Western Reserve University, 1951.


ALBERTO KIMOKO, Associate Professor Emeritus of Geology (1968) (1983) B.S. Case Western Reserve University; M.A., Northwestern University; Ph.D. University of Illinois, 1960.


WILL LIPTCOMBE, Associate Professor Emeritus of Mathematics (1971) (1982) B.S. Ferris State College; M.S., Ohio State University, 1926.


COLEMAN J. MAJOR, Dean Emeritus of the College of Engineering; Professor Emeritus of Chemical Engineering (1964) (December 1979) B.S. University of Illinois; Ph.D., Cornell University, 1941.

ANDREW W. MALUKOE, Professor Emeritus of Physical Education (February 1945) (1983) B.S. The University of Akron; M.A. Kent State University, 1949.

GEORGE J. MANOS, Associate Professor Emeritus of Civil Engineering (1957) (1986) B.S.E.E., M.S.E. University of Akron; B.S., Ph.D., University of Cincinnati; 1934.


JAMES MCCLAIN, Professor Emeritus of Electrical Engineering (1964) (1976) B.A., The University of Akron; M.A., Western Reserve University; Ph.D. The Ohio State University, 1909.

RUTH MESSENGER, Assistant Professor Emeritus of English (1968) (1982) B.A. Wellesley College; Ph.D. The University of Akron; M.A., Ph.D., Case Western Reserve University, 1976.


ESTELLE B. NAES, Dean Emeritus of the College of Nursing; Professor Emeritus of Nursing (1966) (1981) S.N., S.N., M.S.N., Ph.D., Case Western Reserve University, 1932; RN.

SAMUEL C. NEWMAN, Associate Professor Emeritus of Sociology (1951) (1973) B.A. University of Pittsburgh; M.A., Oberlin College; Ph.D., The Ohio State University, 1939.


ROBERT T. O’HENY, Dean Emeritus of the College of Arts and Sciences; Professor Emeritus of Physics (July 1970) (1977) B.A. Assumption College; M.S., Ph.D., University of Michigan, 1947.


DOUGLAS E. CAMERON, Professor of Mathematical Sciences (1969) B.A., Miami University; M.S., The University of Akron; Ph.D., Virginia Polytechnic Institute, 1970.

GERALD R. CAMP, Associate Professor of Data Processing (March 1969) B.A., Case Western Reserve University; M.S., J.D. The University of Akron, 1980.

THOMAS A. CAMPBELL, Assistant Professor of Physical Education (August 1966) B.S.Ed., M.S.Ed., The University of Akron, 1970.

RICHARD E. CAPLAN, Associate Professor of Communication (1980) B.A., Michigan State University, M.A., Ph.D., Wayne State University, 1975.


Marilyn Jean Carrell, Director of Career Planning and Placement (October 1972) B.S.Ed., The University of Akron, 1972.

CAREEN A. CARNO, Dean of the Evening College and Summer Sessions, Professor of Education (July 1979) B.S.Ed., Baden-Baden State College; M.S.Ed., The University of Akron; Ph.D. Case Western Reserve University, 1965.


EUGENIA CARROLL, Assistant Professor of Dance; Director of Dance Institute (1977) Ottago Medical Institute of Munich, 1949.

ROBERT C. CARSON, Associate Professor of Mathematical Sciences, Deputy Industrial Security Supervisor (July 1963) B.S., Purdue University; Ph.D., University of Wisconsin, 1953.


Dana F. Castle, Associate Professor of Law (March 1974) B.S. Corcelli, J.D., The University of Akron, 1973.

Grace L. Cattell, Associate Professor of Nursing (1983) B.S.University of Miami; M.P.H., Ph.D. University of Pittsburgh, 1981.

Jeanne Cecella, An associate of Undergraduate International Bureaus (October 1983) B.A., Hiram College; M.A., Middlebury College; M.S.Ed., The University of Akron.

Cathy M. Ceccio, Instructor in Nursing (1963) A.A.S. Perkins University; B.A., Cornell College; M.A. University of Illinois; M.S.N. Medical College of Ohio-Toldeo, 1983.

Joseph F. Ceccio, Associate Professor of English (1978) B.A. Loyola College; M.S., Ph.D., University of Illinois, 1975.

Janet L. Chamberlain, Instructor in Nursing (1979) B.S., University of Michigan; M.S., The University of Akron.

Tomatis M. Chandler, Professor of Home Economics (1971) B.A., New Mexico Highlands University, M.S., Ph.D., Texas Women's University, 1970.

Tse-Yung chang, Professor of Civil Engineering (1970) B.S.E.E. National Taiwan University; M.S., Ph.D. University of California, 1966.

Weijen Chang, Instructor in Biology (1970) B.S., National Taiwan University; M.S., University of California, 1961.


Choi S. Chen, Professor of Electrical Engineering (1966) B.S.E.E. National Taiwan University; M.S., Ph.D. University of Rochester, 1967; P.E., Ohio.

Chun-Fu Chen, Professor of Electrical Engineering (February 1968) B.S. National Taiwan University; M.S. University of Tennessee, Ph.D. Vanderbilt University, 1968; P.E., Ohio.

Huey-Tsuh Chen, Assistant Professor of Sociology (1984) B.A. M.A., National Taiwan University, Ph.D. University of Massachusetts, 1981.

Mary Elizabeth Cheshrown, Assistant Director of the Institute for Civic Education (June 1965) B.A., The University of Akron: 1949.

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